

# PRINCETON PLASMA PHYSICS LAB

Purchase Order Number:

S005243-F

Part Number:

VVSA PORTS

Part Name:

VVSA PORT EXTENSIONS  
FOR LOT 1

MTM Work Order Number:

65678/7.0



*Major*

**Tool & Machine, Inc.**

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

Item#	Document Description / Material Description / File Name / Heat Lot
1	CERTIFICATE OF CONFORMANCE

**110030 - CF BLANK FLANGE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
2	188	10	10	Certificate of Conformance: / 110030 - CONFLAT BLANK FLANGE, 8.0 DIA. - MC107848.TIF / CERTIFIED
3	191	10	10	Certificate of Conformance: / 110030 - CONFLAT BLANK FLANGE, 8.0 DIA. - Same as Item #2 / CERTIFIED
4	220	10	10	Certificate of Conformance: / 110030 - CONFLAT BLANK FLANGE, 8.0 DIA. - Same as Item #2 / CERTIFIED
5	223	10	10	Certificate of Conformance: / 110030 - CONFLAT BLANK FLANGE, 8.0 DIA. - Same as Item #2 / CERTIFIED

**110032 - CF BLANK FLANGE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
6	204	10	10	Certificate of Conformance: / 110032 - CONFLAT BLANK FLANGE, 10.0 DIA. - MC108994.TIF / CERTIFIED
7	210	10	10	Certificate of Conformance: / 110032 - CONFLAT BLANK FLANGE, 10.0 DIA. - Same as Item #6 / CERTIFIED

**110058 - CF FLANGE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
8	200	10	10	Certificate of Conformance: / 110058 - CONFLAT BLANK FLANGE, 12.0 DIA. - MC107054.TIF / CERTIFIED
9	200	10	10	Non-Conformance: 17237 Customer document: SUBMITTAL - car04477.pdf

**190019 - BOLT SET**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
10	97	10	10	Certificate of Conformance: / 190019 - BOLT SET.500-20 X 3.0 SST HHCS,WASH, NUT - MC107847.TIF / CERTIFIED

**401000 SPECIAL - CF HALF NIPPLE 2.5" LONG**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
11	110	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - MC107040.TIF / CERTIFIED
12	119	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED
13	130	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED
14	149	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED
15	196	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED
16	201	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED

**480FAN100-G-E - CF FLANGE 6"**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
17	262	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - MC111127.TIF / 920183
18	263	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
19	264	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
20	265	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
21	266	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
22	267	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183

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23	275	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
24	276	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
25	283	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
26	284	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183
27	285	10	10	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED - Same as Item #17 / 920183

**480FAN160-G-E - CF FLANGE 8"**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
28	268	10	10	Material Certification: / 480FAN160-G-E - WELD FLANGE, 8CF, FIXED, TAPPED - MC111259.TIF / 920135
29	270	10	10	Material Certification: / 480FAN160-G-E - WELD FLANGE, 8CF, FIXED, TAPPED - Same as Item #28 / 920135
30	277	10	10	Material Certification: / 480FAN160-G-E - WELD FLANGE, 8CF, FIXED, TAPPED - Same as Item #28 / 920135
31	278	10	10	Material Certification: / 480FAN160-G-E - WELD FLANGE, 8CF, FIXED, TAPPED - Same as Item #28 / 920135

**480FAN200-G-E - CF FLANGE 10"**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
32	273	10	10	Material Certification: / 480FAN200-G-E - WELD FLANGE, 10CF, FIXED, TAPPED - MC111128.TIF / 920014
33	274	10	10	Material Certification: / 480FAN200-G-E - WELD FLANGE, 10CF, FIXED, TAPPED - Same as Item #32 / 920014

**480FAN250-G-E - CF FLANGE 12"**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
34	269	10	10	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED - MC111125.TIF / 920014
35	271	10	10	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED - Same as Item #34 / 920014
36	272	10	10	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED - Same as Item #34 / 920014
37	279	10	10	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED - Same as Item #34 / 920014
38	280	10	10	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED - Same as Item #34 / 920014

**480FBL080-E - CF FLANGE 4.625"**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
39	281	10	10	Material Certification: / 480FBL080-E - BLANK FLANGE, 4.625CF, FIXED - MC111126.TIF / 920135
40	282	10	10	Material Certification: / 480FBL080-E - BLANK FLANGE, 4.625CF, FIXED - Same as Item #39 / 920135

**DOME SKIRT**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
41	257	10	10	Material Certification: / INCONEL 625_5 - PLATE,NICKEL ALLOY .375" THK - mc109674.tif / 2650 4 6997
42	257	30		Inspection Data Checklist: 3 steps
43	258	10	10	Material Certification: / INCONEL 625_5 - PLATE,NICKEL ALLOY .375" THK - Same as Item #41 / 2650 4 6997
44	258	30		Inspection Data Checklist: 3 steps

**PORT DOME**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
45	4	22		Inspection Data Checklist: 3 steps
46	4	24		Map(s): X-RAY MAP - MC115447.TIF

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47	4	24	Certification: X-RAY CERT - MC111320.TIF
48	5	22	Inspection Data Checklist: 3 steps
49	5	24	Certification: X-RAY CERT - MC111321.TIF
50	5	24	Map(s): X-RAY MAP - MC115448.TIF

**SE120-004 4-1 SW BLANK - PORT 4-1 SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
51	124	10	10	Material Certification: / SE120-004 4-1 SW BLANK - PORT 4-1 SW FLAT BLANK - mc109053.tif / 2650 5 6805
52	139	10	10	Material Certification: / SE120-004 4-1 SW BLANK - PORT 4-1 SW FLAT BLANK - Same as Item #51 / 2650 5 6805

**SE120-004 4-1 SW - PORT 4-1 SIDEWALL Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
53	124	20		Certificate of Conformance: - mc112408.tif
54	139	20		Certificate of Conformance: - MC111587.TIF

**SE120-004 4-2 SW BLANK - PORT 4-2 SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
55	125	10	10	Material Certification: / SE120-004 4-2 SW BLANK - PORT 4-2 SW FLAT BLANK - mc109057.tif / 2650 5 6805
56	140	10	10	Material Certification: / SE120-004 4-2 SW BLANK - PORT 4-2 SW FLAT BLANK - Same as Item #55 / 2650 5 6805

**SE120-004 4-2 SW - PORT 4-2 SIDEWALL Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
57	125	20		Certificate of Conformance: - Same as Item #53
58	140	20		Certificate of Conformance: - Same as Item #54

**SE120-004 4-3 SW BLANK - PORT 4-3 SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
59	135	10	10	Material Certification: / SE120-004 4-3 SW BLANK - PORT 4-3 SW FLAT BLANK - mc108540.tif / 2650 4 6737
60	141	10	10	Material Certification: / SE120-004 4-3 SW BLANK - PORT 4-3 SW FLAT BLANK - Same as Item #59 / 2650 4 6737

**SE120-004 4-3 SW - PORT 4-3 SIDEWALL Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
61	135	20		Certificate of Conformance: - Same as Item #53
62	141	20		Certificate of Conformance: - Same as Item #53

**SE120-004 4-4 SW BLANK - PORT 4-4 SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
63	136	10	10	Material Certification: / SE120-004 4-4 SW BLANK - PORT 4-4 SW FLAT BLANK - mc108539.tif / 2650 4 6737
64	142	10	10	Material Certification: / SE120-004 4-4 SW BLANK - PORT 4-4 SW FLAT BLANK - Same as Item #63 / 2650 4 6737

**SE120-004 4-4 SW - PORT 4-4 SIDEWALL Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
65	136	20		Certificate of Conformance: - Same as Item #53



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66    142    20            Certificate of Conformance: - Same as Item #53

**SE120-004 4-5 SW BLANK - PORT 4-5 SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
67	137	10	10	Material Certification: / SE120-004 4-5 SW BLANK - PORT 4-5 SW FLAT BLANK - mc109056.tif / 2650 5 6796
68	143	10	10	Material Certification: / SE120-004 4-5 SW BLANK - PORT 4-5 SW FLAT BLANK - Same as Item #67 / 2650 5 6796

**SE120-004 4-6 SW BLANK - PORT 4-6 SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
69	138	10	10	Material Certification: / SE120-004 4-6 SW BLANK - PORT 4-6 SW FLAT BLANK - mc118206.TIF / 2650 5 6796
70	144	10	10	Material Certification: / SE120-004 4-6 SW BLANK - PORT 4-6 SW FLAT BLANK - Same as Item #69 / 2650 5 6796

**SE120-004 12-1 SW BLANK - PORT 12A SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
71	31	10	10	Material Certification: / SE120-004 12-1 SW BLANK - PORT 12-1 SW FLAT BLANK - mc109051.tif / 2650 5 6805
72	113	10	10	Material Certification: / SE120-004 12-1 SW BLANK - PORT 12-1 SW FLAT BLANK - Same as Item #71 / 2650 5 6805

**SE120-004 12-1 SW - PORT 12- SIDEWALL LARGE RADIUS Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
73	113	20		Certificate of Conformance: - mc112352.tif

**SE120-004 12-2 SW BLANK - PORT 12A SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
74	32	10	10	Material Certification: / SE120-004 12-2 SW BLANK - PORT 12-2 SW FLAT BLANK - mc109052.tif / 2650 5 6805
75	114	10	10	Material Certification: / SE120-004 12-2 SW BLANK - PORT 12-2 SW FLAT BLANK - Same as Item #74 / 2650 5 6805

**SE120-004 12-2 SW - PORT 12-2 SIDEWALL Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
76	32	20		Certificate of Conformance: - Same as Item #73
77	114	20		Certificate of Conformance: - Same as Item #73

**SE120-004 NB SW BLANK - PORT NB SIDEWALL BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
78	26	10	10	Material Certification: Trace ID: 122988 / SE120-004 NB SW BLANK - PORT NB SIDEWALL BLANK - mc118207.tif / 2650 5 6820
79	26	10	10	Material Certification: / SE120-004 NB SW BLANK - PORT NB SIDEWALL BLANK - mc109033.tif / 2650 5 6820
80	27	10	10	Material Certification: / SE120-004 NB SW BLANK - PORT NB SIDEWALL BLANK - Same as Item #79 / 2650 5 6820
81	27	10	10	Material Certification: Trace ID: 122989 / SE120-004 NB SW BLANK - PORT NB SIDEWALL BLANK - Same as Item #78 / 2650 5 6820

**SE120-004 PORT 2 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
82	180	10	10	Material Certification: / VVSA PORT 2 TUBE - TUBE, 4" O.D. X 0.25" WALL - mc111112.tif / 132793
83	180	20		Inspection Data Checklist: 1 steps
84	180	30		Map(s): X-RAY MAP - MC115232.TIF

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85	180	30		Certification: X-RAY CERT - MC111796.TIF
86	180	50		Inspection Data Checklist: 1 steps
87	183	10	10	Material Certification: / VVSA PORT 2 TUBE - TUBE, 4" O.D. X 0.25" WALL - Same as Item #82 / 132793
88	183	20		Inspection Data Checklist: 1 steps
89	183	30		Map(s): X-RAY MAP - MC115231.TIF
90	183	30		Certification: X-RAY CERT - MC111792.TIF
91	183	50		Inspection Data Checklist: 1 steps

**SE120-004 PORT 2A - PORT EXT. 2A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
92	6	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 2B - PORT EXT. 2B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
93	7	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 4A - PORT 4A SUB-ASSEMBLY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
94	8	30		Inspection Data Checklist: 22 steps
95	8	40		Inspection Data Checklist: 3 steps
96	8	70		Map(s): X-RAY MAP - mc113146.tif
97	8	70		Certification: X-RAY CERT - Same as Item #96
98	8	80		Inspection Data Checklist: 9 steps
99	8	120		Inspection Data Checklist: 6 steps

**SE120-004 PORT 4B - PORT 4B SUB-ASSEMBLY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
100	9	30		Inspection Data Checklist: 22 steps
101	9	40		Inspection Data Checklist: 3 steps
102	9	70		Certification: X-RAY CERT - MC113142.TIF
103	9	70		Map(s): X-RAY MAP - Same as Item #102
104	9	80		Inspection Data Checklist: 9 steps
105	9	120		Inspection Data Checklist: 6 steps

**SE120-004 PORT 5 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
106	186	10	10	Material Certification: / VVSA PORT 5 TUBE - TUBE, 6.0 OD X .188 WALL - mc107834.tif / 2650-4-6731
107	186	20		Inspection Data Checklist: 1 steps
108	186	30		Map(s): X-RAY MAP - MC115230.TIF
109	186	30		Certification: X-RAY CERT - MC110343.TIF
110	186	34		Inspection Data Checklist: 2 steps
111	189	10	10	Material Certification: / VVSA PORT 5 TUBE - TUBE, 6.0 OD X .188 WALL - Same as Item #106 / 2650-4-6731

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112	189	20		Inspection Data Checklist: 1 steps
113	189	30		Map(s): X-RAY MAP - MC115229.TIF
114	189	30		Certification: X-RAY CERT - MC110341.TIF
115	189	34		Inspection Data Checklist: 2 steps

**SE120-004 PORT 5A - PORT EXT. 5A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
116	10	10		Inspection Data Checklist: 2 steps
117	187	10	10	Non-Conformance: 17240 Customer document: CUSTOMER SUBMITTAL - car04472.pdf

**SE120-004 PORT 5B - PORT EXT. 5B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
118	11	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 6 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
119	192	10	10	Material Certification: / VVSA PORT 6 TUBE - TUBE, 10.0 OD X .250 WALL - mc107793.tif / 2650 4 6731
120	192	20		Inspection Data Checklist: 1 steps
121	192	30		Certification: X-RAY CERT - MC110334.TIF
122	192	30		Map(s): X RAY MAP - MC115422.TIF
123	192	34		Inspection Data Checklist: 2 steps
124	197	10	10	Material Certification: / VVSA PORT 6 TUBE - TUBE, 10.0 OD X .250 WALL - Same as Item #119 / 2650 4 6731
125	197	20		Inspection Data Checklist: 1 steps
126	197	30		Map(s): X-RAY MAP - MC115421.TIF
127	197	30		Certification: X-RAY CERT - MC110333.TIF
128	197	34		Inspection Data Checklist: 2 steps

**SE120-004 PORT 6A - PORT EXT. 6A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
129	12	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 6B - PORT EXT. 6B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
130	13	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 7 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
131	202	10	10	Material Certification: / VVSA PORT 7 TUBE - TUBE, 8.0 OD X .188 WALL - MC107833.TIF / 2650-4-6731
132	202	20		Inspection Data Checklist: 1 steps
133	202	30		Certification: X-RAY CERT - MC110330.TIF
134	202	30		Map(s): X-RAY MAP - mc115423.tif
135	202	34		Inspection Data Checklist: 2 steps

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136	208	10	10	Material Certification: / VVSA PORT 7 TUBE - TUBE, 8.0 OD X .188 WALL - Same as Item #131 / 2650-4-6731
137	208	20		Inspection Data Checklist: 1 steps
138	208	30		Certification: X-RAY CERT - MC110332.TIF
139	208	30		Map(s): X RAY MAP - MC115424.TIF
140	208	34		Inspection Data Checklist: 2 steps

**SE120-004 PORT 7A - PORT EXT. 7A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
141	14	10		Inspection Data Checklist: 2 steps
142	203	10	10	Non-Conformance: 17233 Customer document: SUBMITTAL (SAME AS 17237) - car04482.RTF
143	207	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED

**SE120-004 PORT 7B - PORT EXT. 7B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
144	15	10		Inspection Data Checklist: 2 steps
145	209	10	10	Non-Conformance: 17233 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #142
146	211	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED

**SE120-004 PORT 8 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
147	212	10	10	Material Certification: / VVSA PORT 8 TUBE - TUBE, 4" O.D. X 0.25" WALL - mc111113.tif / 132793
148	212	20		Inspection Data Checklist: 1 steps
149	212	30		Map(s): X-RAY MAP - MC115227.TIF
150	212	30		Certification: X-RAY CERT - MC111790.TIF
151	212	50		Inspection Data Checklist: 1 steps
152	215	10	10	Material Certification: / VVSA PORT 8 TUBE - TUBE, 4" O.D. X 0.25" WALL - Same as Item #147 / 132793
153	215	20		Inspection Data Checklist: 1 steps
154	215	30		Certification: X-RAY CERT - MC111791.TIF
155	215	30		Map(s): X-RAY MAP - MC115228.TIF
156	215	50		Inspection Data Checklist: 1 steps

**SE120-004 PORT 8A - PORT EXT. 8A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
157	16	10		Inspection Data Checklist: 2 steps
158	214	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - MC108146.TIF / CERTIFIED

**SE120-004 PORT 8B - PORT EXT. 8B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
159	17	10		Inspection Data Checklist: 2 steps
160	217	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED

**SE120-004 PORT 9 - PORT EXT. SUB-ASSY**

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Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
161	218	10	10	Material Certification: / VVSA PORT 9 TUBE - TUBE, 6.0 OD X .188 WALL - MC107834.TIF / 2650-4-6731
162	218	20		Inspection Data Checklist: 1 steps
163	218	30		Map(s): X-RAY MAP - mc115425.tif
164	218	30		Certification: X-RAY CERT - MC110337.TIF
165	218	34		Inspection Data Checklist: 2 steps
166	221	10	10	Material Certification: / VVSA PORT 9 TUBE - TUBE, 6.0 OD X .188 WALL - Same as Item #161 / 2650-4-6731
167	221	20		Inspection Data Checklist: 1 steps
168	221	30		Map(s): X RAY MAP - MC115426.TIF
169	221	30		Certification: X-RAY CERT - MC110338.TIF
170	221	34		Inspection Data Checklist: 2 steps

**SE120-004 PORT 9A - PORT EXT. 9A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
171	18	10		Inspection Data Checklist: 2 steps
172	219	10	10	Non-Conformance: 17240 Customer document: CUSTOMER SUBMITTAL - Same as Item #117

**SE120-004 PORT 9B - PORT EXT. 9B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
173	19	10		Inspection Data Checklist: 2 steps
174	222	10	10	Non-Conformance: 17240 Customer document: CUSTOMER SUBMITTAL - Same as Item #117

**SE120-004 PORT 10 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
175	225	10	10	Material Certification: / VVSA PORT 10 TUBE - TUBE, 10.0 OD X .250 WALL - MC107793.TIF / 2650 4 6731
176	225	20		Inspection Data Checklist: 1 steps
177	225	30		Certification: X-RAY CERT - MC110324.TIF
178	225	30		Map(s): X RAY MAP - mc115438.tif
179	225	34		Inspection Data Checklist: 2 steps
180	230	10	10	Material Certification: / VVSA PORT 10 TUBE - TUBE, 10.0 OD X .250 WALL - Same as Item #119 / 2650 4 6731
181	230	20		Inspection Data Checklist: 1 steps
182	230	30		Certification: X-RAY CERT - MC110323.TIF
183	230	30		Map(s): X RAY MAP - MC115436.TIF
184	230	34		Inspection Data Checklist: 2 steps

**SE120-004 PORT 10A - PORT EXT. 10A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
185	20	10		Inspection Data Checklist: 2 steps
186	228	10	10	Certificate of Conformance: / 110058 - CONFLAT BLANK FLANGE, 12.0 DIA. - Same as Item #8 / CERTIFIED
187	228	10	10	Non-Conformance: 17237 Customer document: SUBMITTAL - Same as Item #9
188	229	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

**SE120-004 PORT 10B - PORT EXT. 10B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
189	21	10		Inspection Data Checklist: 2 steps
190	233	10	10	Certificate of Conformance: / 110058 - CONFLAT BLANK FLANGE, 12.0 DIA. - Same as Item #8 / CERTIFIED
191	233	10	10	Non-Conformance: 17237 Customer document: SUBMITTAL - Same as Item #9
192	234	10	10	Certificate of Conformance: / 401021 SPECIAL - DEL-SEAL CF HALF NIPPLE (SPECIAL LENGTH) - Same as Item #11 / CERTIFIED

**SE120-004 PORT 11A - PORT EXT. 11A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
193	22	10		Inspection Data Checklist: 2 steps
194	235	10	10	Material Certification: / INCONEL 625_112 - PIPE, ALLOY 625, 2.5" SCH 10 - mc108425.tif / 26504674

**SE120-004 PORT 11B - PORT EXT. 11B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
195	23	10		Inspection Data Checklist: 2 steps
196	238	10	10	Material Certification: / INCONEL 625_112 - PIPE, ALLOY 625, 2.5" SCH 10 - Same as Item #194 / 26504674

**SE120-004 PORT 12A - PORT 12A SUB-ASSEMBLY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
197	2	30		Inspection Data Checklist: 4 steps
198	2	40		Inspection Data Checklist: 3 steps
199	2	70		Certification: X-RAY CERT - MC115223.TIF
200	2	70		Map(s): X-RAY MAP - Same as Item #199
201	2	80		Inspection Data Checklist: 11 steps
202	2	120		Inspection Data Checklist: 7 steps
203	299	30		Certification: X-RAY CERT - MC115225.TIF
204	299	30		Map(s): X-RAY MAP - Same as Item #203

**SE120-004 PORT 12B - PORT 12B SUB-ASSEMBLY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
205	3	30		Inspection Data Checklist: 4 steps
206	3	40		Inspection Data Checklist: 3 steps
207	3	70		Certification: X-RAY CERT - MC112734.TIF
208	3	70		Map(s): X-RAY MAP - Same as Item #207
209	3	80		Inspection Data Checklist: 11 steps

**SE120-004 PORT 15 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
210	241	10	10	Material Certification: / VVSA PORT 15 TUBE - TUBE, 4" O.D. X 0.25" WALL - mc111107.tif / 132793
211	241	20		Inspection Data Checklist: 1 steps
212	241	30		Map(s): X-RAY MAP - MC115247.TIF
213	241	30		Certification: X-RAY CERT - MC111816.TIF

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

214	241	50		Inspection Data Checklist: 1 steps
215	244	10	10	Material Certification: / VVSA PORT 15 TUBE - TUBE, 4" O.D. X 0.25" WALL - Same as Item #210 / 132793
216	244	20		Inspection Data Checklist: 1 steps
217	244	30		Map(s): X-RAY MAP - MC115246.TIF
218	244	30		Certification: X-RAY CERT - MC111818.TIF
219	244	50		Inspection Data Checklist: 1 steps

**SE120-004 PORT 15A - PORT EXT. 15A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
220	24	10		Inspection Data Checklist: 2 steps
221	243	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED

**SE120-004 PORT 15B - PORT EXT. 15B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
222	25	10		Inspection Data Checklist: 2 steps
223	246	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED

**SE120-004 PORT 17 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
224	166	10	10	Material Certification: / VVSA PORT 17 TUBE - TUBE, 4" O.D. X 0.25" WALL - mc111109.tif / 132793
225	166	20		Inspection Data Checklist: 1 steps
226	166	30		Certification: X-RAY CERT - MC118859.TIF
227	166	30		Map(s): X-RAY MAP - Same as Item #226
228	166	50		Inspection Data Checklist: 1 steps
229	174	10	10	Material Certification: / VVSA PORT 17 TUBE - TUBE, 4" O.D. X 0.25" WALL - Same as Item #224 / 132793
230	174	20		Inspection Data Checklist: 1 steps
231	174	30		Certification: X-RAY CERT - MC111808.TIF
232	174	30		Map(s): X-RAY MAP - MC115244.TIF
233	174	50		Inspection Data Checklist: 1 steps

**SE120-004 PORT 17A - PORT EXT. 17A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
234	162	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 17B - PORT EXT. 17B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
235	164	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 18 - PORT EXT. SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
236	171	10	10	Material Certification: / VVSA PORT 18 TUBE - TUBE, 4" O.D. X 0.25" WALL - MC111111.TIF / 132793
237	171	20		Inspection Data Checklist: 1 steps

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

238	171	30		Certification: X-RAY CERT - MC111795.TIF
239	171	30		Map(s): X-RAY MAP - MC115243.TIF
240	171	50		Inspection Data Checklist: 1 steps
241	177	10	10	Material Certification: / VVSA PORT 18 TUBE - TUBE, 4" O.D. X 0.25" WALL - mc111111.tif / 132793
242	177	20		Inspection Data Checklist: 1 steps
243	177	30		Certification: X-RAY CERT - MC111798.TIF
244	177	30		Map(s): X-RAY MAP - MC115242.TIF
245	177	50		Inspection Data Checklist: 1 steps

**SE120-004 PORT 18A - PORT EXT. 18A SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
246	163	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT 18B - PORT EXT. 18B SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
247	165	10		Inspection Data Checklist: 2 steps

**SE120-004 PORT FJS - PORT EXT. FJS SUB-ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
248	224	10		Inspection Data Checklist: 2 steps
249	247	10	10	Material Certification: / VVSA PORT FJS TUBE - TUBE, 4" O.D. X 0.25" WALL - MC111108.TIF / 132793
250	247	20		Inspection Data Checklist: 1 steps
251	247	30		Certification: X-RAY CERT - MC111822.TIF
252	247	30		Map(s): X-RAY MAP - MC115248.TIF
253	247	50		Inspection Data Checklist: 1 steps
254	249	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED

**SE120-004 PORT NB - PORT NB SUB-ASSEMBLY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
255	1	30		Inspection Data Checklist: 4 steps
256	1	40		Inspection Data Checklist: 2 steps
257	1	70		Map(s): SE120-002-1PNX - MC115249.TIF
258	1	70		Certification: X-RAY CERT - MC111824.TIF
259	1	75		Inspection Data Checklist: 9 steps
260	1	90		Inspection Data Checklist: 6 steps

**SE120-004-16 - PORT 11 PIPE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
261	235	30		Inspection Data Checklist: 3 steps

**SE120-004-20B - VVSA DOME B**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
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**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

262	5	20	10	Certificate of Conformance: / SE120-004-20B - VVSA DOME B - mc110475.tif / CERTIFIED
263	5	20	10	Dimensional Report: / SE120-004-20B - VVSA DOME B - Same as Item #262 / CERTIFIED

**SE122-004-20B BLANK - DOME B FLAT BLANK**

**Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot**

264	5	10	10	Material Certification: / SE120-004-20B BLANK - VVSA DOME B FLAT BLANK MATERIAL - mc108864.tif / 2650 4 6771
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**SE120-004-23 - CONFLAT, 6.0 OD TAPPED Qty: 1**

**Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot**

265	167	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - car04483.RTF
266	172	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
267	175	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
268	178	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
269	181	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
270	184	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
271	213	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
272	216	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
273	242	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
274	245	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265
275	248	10		Non-Conformance: 17167 Customer document: SUBMITTAL (SAME AS 17237) - Same as Item #265

**SE120-004-29 - CF REDUCING NIPPLE**

**Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot**

276	168	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - MC106776.TIF / CERTIFIED
277	173	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - MC107546.TIF / CERTIFIED
278	176	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED
279	179	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED
280	182	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED
281	185	10	10	Certificate of Conformance: / FA06000133 - CF REDUCING NIPPLE, 6.00 TO 1.33" - Same as Item #158 / CERTIFIED

**SE120-004-32 - BOLT, 12PT, SILV PLT.**

**Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot**

282	259	10	10	Material Certification: / SE120-004-32 - BOLT, 12 PT, SILVER PLATED, .50-20 X 3.5 - mc110752.tif / 062313725
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**SE120-004-33 - BOLT SET**

**Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot**

283	159	10	20	Certificate of Conformance: / 190165 - BOLT SET, .312-24 X 2.00 LG - MC107045.TIF / CERTIFIED
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**SE120-004-34 - BOLT SET**

**Item# Sub Op Pc Document Description / Material Description / File Name / Heat Lot**

284	159	10	30	Certificate of Conformance: / 190058 - BOLT SET, .312-24 X 1.25 12PT SILVER PLT - MC107047.TIF / CERTIFIED
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**SE120-004-35 - BOLT SET**

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
285	159	10	40	Certificate of Conformance: / 190059 - BOLT SET, .312-24 X 1.75 12PT SILVER PLT - MC107046.TIF / CERTIFIED

**SE120-004-36 - COPPER GASKET**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
286	159	10	50	Certificate of Conformance: / 191011 - GASKET, COPPER, 3.01 I.D. - MC107044.TIF / CERTIFIED

**SE120-004-37 - COPPER GASKET**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
287	159	10	60	Certificate of Conformance: / 191013 - GASKET, COPPER, 4.01 I.D. - MC107043.TIF / CERTIFIED

**SE120-004-38 - COPPER GASKET**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
288	159	10	70	Certificate of Conformance: / 191017 - GASKET, COPPER, 6.01 I.D. - MC107042.TIF / CERTIFIED

**SE120-004-39 - COPPER GASKET**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
289	159	10	80	Certificate of Conformance: / 191019 - GASKET, COPPER, 8.01 I.D. - MC107041.TIF / CERTIFIED

**SE120-004-40 - COPPER GASKET**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
290	159	10	90	Certificate of Conformance: / 191094 - GASKET, COPPER, 10.00 I.D. - MC107039.TIF / CERTIFIED

**SE120-004-42 - VITON O-RING**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
291	108	10	10	Certificate of Conformance: / SE120-004-42 - O-RING, VITON - MC106890.TIF / CERTIFIED
292	122	10	10	Certificate of Conformance: / SE120-004-42 - O-RING, VITON - Same as Item #291 / CERTIFIED

**SE120-004-44 - O-RING, VITON**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
293	133	10	10	Certificate of Conformance: / SE120-004-44 - O-RING, VITON - MC106822.TIF / CERTIFIED
294	152	10	10	Certificate of Conformance: / SE120-004-44 - O-RING, VITON - Same as Item #293 / CERTIFIED

**SE120-004-47 - SEAL RETAINER SCREW**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
295	101	10	10	Material Certification: / 98164A133 - BHCS 316SST #8-32UNC-3A X 0.25" LONG - mc105456.tif / CERTIFIED
296	112	10	10	Material Certification: / 98164A133 - BHCS 316SST #8-32UNC-3A X 0.25" LONG - Same as Item #295 / CERTIFIED
297	123	10	10	Material Certification: / 98164A133 - BHCS 316SST #8-32UNC-3A X 0.25" LONG - Same as Item #295 / CERTIFIED
298	134	10	10	Material Certification: / 98164A133 - BHCS 316SST #8-32UNC-3A X 0.25" LONG - Same as Item #295 / CERTIFIED
299	153	10	10	Material Certification: / 98164A133 - BHCS 316SST #8-32UNC-3A X 0.25" LONG - Same as Item #295 / CERTIFIED

**SE120-004-48 - VVSA CLEVIS BOSS "A"**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
300	252	10	10	Material Certification: / INCONEL 625_255 - BAR,ROUND,NICKEL ALLOY 2.0" DIA - MC111533.TIF / 900257

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

301	252	30		Inspection Data Checklist: 1 steps
302	293	10	10	Material Certification: / INCONEL 625_255 - BAR,ROUND,NICKEL ALLOY 2.0" DIA - Same as Item #300 / 900257
303	293	30		Inspection Data Checklist: 1 steps

**SE120-004-49 - VVSA CLEVIS BOSS "B"**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
304	253	10	10	Material Certification: / INCONEL 625_255 - BAR,ROUND,NICKEL ALLOY 2.0" DIA - Same as Item #300 / 900257
305	253	30		Inspection Data Checklist: 1 steps

**SE120-004-50 - VVSA CLEVIS BOSS "C"**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
306	254	10	10	Material Certification: / INCONEL 625_255 - BAR,ROUND,NICKEL ALLOY 2.0" DIA - Same as Item #300 / 900257
307	254	30		Inspection Data Checklist: 1 steps

**SE120-004-51 - VVSA CLEVIS BOSS "D"**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
308	255	10	10	Material Certification: / INCONEL 625_255 - BAR,ROUND,NICKEL ALLOY 2.0" DIA - Same as Item #300 / 900257
309	255	30		Inspection Data Checklist: 1 steps

**SE120-004-55 - NUT, 1/2-20 UNF, GRADE 8**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
310	259	10	20	Material Certification: / SE120-004-55 - NUT, 1/2-20 UNF, GRADE 8 - mc110063.tif / 744072 & E28031 & HT9618EY

**SE120-004-56 - WASHER, 0.531 ID X 1.062 OD X 0.095 THK**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
311	288	10	10	Material Certification: TRACE ID: 127786 / SE120-004-56 - WASHER, 0.531 ID X 1.062 OD X 0.095 THK - MC110737.TIF / CERTIFIED
312	288	10	10	Material Certification: TRACE ID: 127786 / SE120-004-56 - WASHER, 0.531 ID X 1.062 OD X 0.095 THK - MC113530.TIF / CERTIFIED

**SE120-004-57 - BOLT, 12 PT, 1/2-20**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
313	259	10	40	Material Certification: / SE120-004-57 - BOLT, 12 PT, 1/2-20 UNF X 2.00, INCO 718 - Same as Item #310 / 744072 & E28031 & HT9618EY

**SE122-018-1A BLANK - PORT 12A FLANGE BLANK**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
314	291	10	10	Material Certification: / SE122-018-1A BLANK - NCSX VVSA PORT 12A FLANGE BLANK - MC111004.TIF / 818102
315	291	20		Inspection Data Checklist: 5 steps
316	291	50		Certification: - MC111911.TIF

**SE122-018-1A - PORT 12A FLANGE**

<u>Item#</u>	<u>Sub</u>	<u>Op</u>	<u>Pc</u>	<u>Document Description / Material Description / File Name / Heat Lot</u>
317	2	118		Inspection Data Checklist: 6 steps

**SE122-018-1B BLANK - PORT 12B FLANGE BLANK**

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
318	292	10	10	Material Certification: / SE122-018-1B BLANK - NCSX VVSA PORT 12B FLANGE BLANK - Same as Item #314 / 818102
319	292	50		Certification: - Same as Item #316
320	292	70		Certification: VENDOR CERT - MC112551.TIF

**SE122-018-1B - PORT 12B FLANGE Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
321	3	116		Certificate of Conformance: - mc113511.tif
322	3	118		Inspection Data Checklist: 6 steps
323	292	20		Inspection Data Checklist: 5 steps

**SE122-019-1A BLANK - PORT 12A SEAL RETAINER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
324	107	10	10	Material Certification: / SE122-019-1A BLANK - PORT 12A SEAL RETAINER BLANK - mc110471.tif / 604254-2B

**SE122-019-1A - PORT 12A SEAL RETAINER**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
325	107	20		Inspection Data Checklist: 8 steps
326	107	30		Inspection Data Checklist: 1 steps

**SE122-019-1B BLANK - PORT 12B SEAL RETAINER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
327	120	10	10	Material Certification: / SE122-019-1B BLANK - PORT 12B SEAL RETAINER BLANK - Same as Item #324 / 604254-2B

**SE122-019-1B - PORT 12B SEAL RETAINER**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
328	120	20		Inspection Data Checklist: 8 steps
329	120	30		Inspection Data Checklist: 1 steps

**SE122-049-1A - PORT 4A FLANGE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
330	8	118		Inspection Data Checklist: 6 steps
331	126	20		Inspection Data Checklist: 6 steps
332	126	50		Certification: - MC111762.TIF

**SE122-049-1B - PORT 4B FLANGE Qty: 1**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
333	9	116		Certificate of Conformance: - mc113726.tif
334	9	118		Inspection Data Checklist: 6 steps
335	145	20		Inspection Data Checklist: 6 steps
336	145	50		Certification: - Same as Item #332

**SE122-057-1A BLANK - PORT 4A SEAL RETAINER BLANK**

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
337	131	10	10	Material Certification: / SE122-057-1A BLANK - PORT 4A SEAL RETAINER BLANK - Same as Item #324 / 604254-2B

**SE122-057-1A - PORT 4A SEAL RETAINER**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
338	131	20		Inspection Data Checklist: 8 steps
339	131	30		Inspection Data Checklist: 1 steps
340	296	10		Inspection Data Checklist: 1 steps

**SE122-057-1B - PORT 4B SEAL RETAINER**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
341	150	20		Inspection Data Checklist: 8 steps
342	150	30		Inspection Data Checklist: 1 steps
343	297	10		Inspection Data Checklist: 1 steps

**SE122-072-1 - PORT NB FLANGE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
344	82	20		Inspection Data Checklist: 8 steps

**SE122-072-1BLANK - PORT NB WELD FLANGE BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
345	82	10	10	Material Certification: / SE122-072-1BLANK - PORT NB FLANGE BLANK - mc110077.tif / 512120L04

**SE122-104-1A BLANK - PORT 12A COVER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
346	106	10	10	Material Certification: / SE122-104-1A BLANK - PORT 12A COVER BLANK - mc109665.tif / 818102

**SE122-104-1A - PORT 12A COVER ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
347	106	20		Inspection Data Checklist: 12 steps
348	106	30		Inspection Data Checklist: 2 steps
349	106	50		Inspection Data Checklist: 3 steps

**SE122-104-1B - PORT 12B COVER ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
350	117	20		Inspection Data Checklist: 12 steps
351	117	30		Inspection Data Checklist: 2 steps
352	117	50		Inspection Data Checklist: 3 steps

**SE122-112-1 - PORT 10B COVER ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
353	232	10		Inspection Data Checklist: 2 steps

**SE122-149-1A BLANK - PORT 4A COVER BLANK**

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB  
 Customer P.O.: S005243-F  
 Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
354	128	10	10	Material Certification: / SE122-149-1A BLANK - PORT 4A COVER BLANK - mc109667.tif / 65X9

**SE122-149-1A - PORT 4A COVER ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
355	128	20		Inspection Data Checklist: 4 steps
356	128	30		Inspection Data Checklist: 2 steps
357	128	50		Inspection Data Checklist: 3 steps

**SE122-149-1B BLANK - PORT 4B COVER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
358	147	10	10	Material Certification: / SE122-149-1B BLANK - PORT 4A COVER BLANK - Same as Item #354 / 65X9

**SE122-149-1B - PORT 4B COVER ASSY**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
359	147	20		Inspection Data Checklist: 4 steps
360	147	30		Inspection Data Checklist: 2 steps
361	147	50		Inspection Data Checklist: 3 steps

**SE122-172-1 - PORT NB COVER**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
362	84	10	10	Material Certification: / SE122-172-1BLANK - PORT NB COVER BLANK - Same as Item #345 / 512120L04
363	84	20		Inspection Data Checklist: 3 steps
364	84	40		Certificate of Conformance: - mc114932.tif
365	84	50		Inspection Data Checklist: 7 steps

**SE122-173-1 - PORT NB SEAL RETAINER**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
366	98	20		Inspection Data Checklist: 6 steps

**SE122-173-1BLANK - NB SEAL RETAINER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
367	98	10	10	Material Certification: / SE122-173-1BLANK - PORT NB SEAL RETAINER BLANK - mc110068.tif / NX4533AG

**SE122-174-2 - HELICOFLEX SEAL**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
368	290	10		Inspection Data Checklist: 1 steps

**WELD WIRE**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
369	0	10	30	Material Certification: TRACE ID: 29110 / INCONEL625_035_GMAW - WELD WIRE/GMAW, .035 DIA - MC068650.TIF / VX3417AK / XB8273
370	0	10	30	Material Certification: TRACE ID: 123160 / INCONEL625_035_GMAW - WELD WIRE/GMAW, .035 DIA - MC109152.TIF / VX3417AK / XB8273

**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

371	0	10	60	Material Certification: TRACE ID: 95373 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC095872.TIF / CB7996 / CT7519 / CV8061 / K48
372	0	10	60	Material Certification: TRACE ID: 94241 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC094945.PDF / CB7996 / CT7519 / CV8061 / K48
373	0	10	60	Material Certification: TRACE ID: 119262 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC107551.TIF / CB7996 / CT7519 / CV8061 / K48
374	0	10	60	Material Certification: TRACE ID: 83645 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC075605.TIF / CT7519
375	0	10	60	Material Certification: Trace ID: 121405 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - mc108429.tif / CB7996 / CT7519 / CV8061 / K48
376	0	10	70	Material Certification: TRACE ID: 94881 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC095279.PDF / AB8051 / AV8128
377	0	10	70	Material Certification: TRACE ID: 94238 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC094944.PDF / AB8051 / AV8128

**SE120-004-20A - VVSA DOME A**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
378	4	20	10	Certificate of Conformance: / SE120-004-20A - VVSA DOME A - MC110475.TIF / CERTIFIED
379	4	20	10	Dimensional Report: / SE120-004-20A - VVSA DOME A - Same as Item #378 / CERTIFIED

**SE122-004-20A BLANK - DOME A FLAT BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
380	4	10	10	Material Certification: / SE120-004-20A BLANK - VVSA DOME A FLAT BLANK MATERIAL - MC108864.TIF / 2650 4 6771

**SE122-049-1A BLANK - PORT 4A FLANGE BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
381	126	10	10	Material Certification: / SE122-049-1A BLANK - NCSX VVSA PORT 4A FLANGE BLANK - MC109789.TIF / 65H7

**SE122-049-1B BLANK - PORT 4B FLANGE BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
382	145	10	10	Material Certification: / SE122-049-1B BLANK - NCSX VVSA PORT 4B FLANGE BLANK - Same as Item #381 / 65H7

**SE122-057-1B BLANK - PORT 4B SEAL RETAINER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
383	150	10	10	Material Certification: / SE122-057-1B BLANK - PORT 4B SEAL RETAINER BLANK - MC110471.TIF / 604254-2B

**SE122-104-1B BLANK - PORT 12B COVER BLANK**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
384	117	10	10	Material Certification: / SE122-104-1B BLANK - PORT 12B COVER BLANK - MC109665.TIF / 818102

**Z\_NCR**

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
385				NCR17167: - NCR17167.pdf
386				NCR17233: - NCR17233.pdf
387				NCR17237: - NCR17237.pdf
388				NCR17240: - NCR17240.pdf



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**Customer: 8780 - PRINCETON PLASMA PHYSICS LAB**  
**Customer P.O.: S005243-F**  
**Customer Part ID: VVSA PORTS - VVSA PORT EXTENSIONS**

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389	NCR17286: - NCR17286.pdf
390	NCR17287: - NCR17287.pdf
391	NCR18590: - NCR18590.pdf
392	NCR18609: - NCR18609.pdf
393	NCR19060: - NCR19060.pdf
394	NCR19116: - NCR19116.pdf
395	NCR19286: - NCR19286.pdf
396	NCR19288: - NCR19288.pdf
397	NCR17314: - NCR17314.pdf
398	NCR18144: - NCR18144.pdf
399	NCR18175: - NCR18175.pdf
400	NCR18402: - NCR18402.pdf
401	NCR18459: - NCR18459.pdf
402	NCR18542: - NCR18542.pdf
403	NCR17157: - NCR17157.pdf





TO: PRINCETON PLASMA PHYSICS LAB

DATE: 08/10/2006

ATTENTION: Receiving Department

Seller certifies that:

Part Number: **VVSA PORTS**

Purchase Order: **S005243-F**

Part Name: **VVSA PORT EXTENSIONS**

Workorder: **65678/7.0**

Part Serial Number: **N/A**

Quantity: **1**

1. These materials and/or parts were produced in conformance with all contractually applicable Government and/or Customer specifications referred in, or furnished with, the above Purchase Order.
2. The materials and/or parts furnished under the above Purchase Order were produced:
  - From materials furnished by Customer for the production of such parts.
  - From materials for which the seller has available for examination chemical and/or physical test reports or other evidence of conformance to applicable specifications.
3. All processes required in the production of these part and/or materials are listed below and were performed by a facility or personnel approved or certified by the Seller and the customer when such approval or certification is required by contract.

Certifications are on file at this plant.

Other Requirements:

WSA PORT EXTENSIONS FOR LOT 1 MANUFACTURED PER P.O. REQUIREMENTS.

Signature: R. K. Upchurch

Title: Inspector

Date: 8-11-06



**MDC VACUUM PRODUCTS CORP**  
23842 Cabot Blvd., Hayward CA 94545-1651  
Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
E-Mail: [sales@mdcvacuum.com](mailto:sales@mdcvacuum.com) - Web: <http://www.mdcvacuum.com>  
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# ***Certification of Conformance Catalog Products***

**COMPANY: MAJOR TOOL & MACHINE**

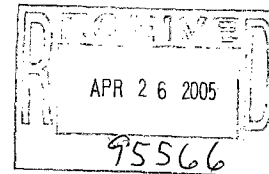
**ATTENTION: KATY DEBERNARDI**

**DATE: April 14, 2005**

**SUBJECT: CERTIFICATION OF PO# P05-01402**

This is to certify that the items shipped on the above referenced purchase order number comply with all standards in our MDC catalog.

**MIKE SCHULTZ**  
Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation  
e-mail: [tcasaray@mdcvacuum.com](mailto:tcasaray@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522



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4/26/05

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23842 Cabot Blvd., Hayward CA 94545-1651  
Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
E-Mail: [sales@mdcvacuum.com](mailto:sales@mdcvacuum.com) - Web: <http://www.mdcvacuum.com>  
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# **Certification of Conformance Catalog Products**

**COMPANY: MAJOR TOOL AND MACHINE, INC.**

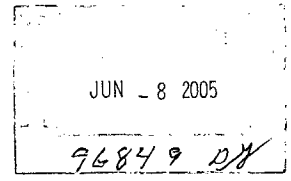
**ATTENTION: KATY DEBERNARDI**

**DATE: 6/8/05**

**SUBJECT: CERTIFICATION OF PO# P05-01402  
MDC ORDER CONFIRMATION NUMBER: M390352**

This is to certify that the items shipped on the above referenced purchase order number comply with all standards in our MDC catalog.

**MIKE SCHULTZ**  
Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation JUN 15 2005  
e-mail: [mschultz@mdcvacuum.com](mailto:mschultz@mdcvacuum.com)  
phone: 510 265 3500



*Line 13-18*

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Form 10-13, Rev B



**MDC VACUUM PRODUCTS CORP**  
23842 Cabot Blvd., Hayward CA 94545-1651  
Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
E-Mail: [sales@mdcvacuum.com](mailto:sales@mdcvacuum.com) - Web: <http://www.mdcvacuum.com>

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# ***Certification of Conformance Catalog Products***

**COMPANY: MAJOR TOOL & MACHINE**

**ATTENTION: KATY DEBERNARDI**

**DATE: April 4, 2005**

**SUBJECT: CERTIFICATION OF PO# P05-00919**

This is to certify that the items shipped on the above referenced purchase order number comply with all standards in our MDC catalog.

**MIKE SCHULTZ**  
Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation  
e-mail: [tcasaray@mdcvacuum.com](mailto:tcasaray@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522

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B.A.

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4/6/05

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**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Frank Malinowski

E-Mail: [fmalinowski@pppl.gov](mailto:fmalinowski@pppl.gov)

Telephone: 609-243-2441

Fax: 609-243-2021

**Part: /SE122-112-3 (CF BLANK FLANGE)**

Drawing ID: SE122-113

Revision: 0

Customer P.O.: S005243-F

Serial No./Qty: N/A

Reported By: DOUG MCCORKLE

E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433

Fax: 317-634-9420

Problem: Magnetic Permeability requirement 1.02 Max

Checks > 1.05, but < 1.1

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**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED

---

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Number of additional pages: \_\_\_\_\_

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**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Princeton University    Plasma Physics Laboratory  
James Forrestal Campus  
P.O. Box CN17  
Princeton, N.J. 08543

26 August 2005

Ms. Teresa L. Hubbard  
Major Tool & Machine, Inc.  
1458 E. 19<sup>th</sup> Street  
Indianapolis, IN 46218

SUBJECT: Subcontract S005243-F  
Approved Disposition of Major Tool, Inc. Non-Conformance Reports  
17157, 17167, 17233, 17237, 17240, 17286, 17287, 17288, 17314,  
and 17342

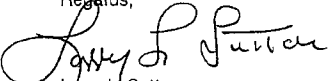
Dear Ms. Hubbard:

Attached are ten Major Tool & Machine, Inc. submitted Non-Conformance Reports (NCRs) and their disposition approved by the National Compact Stellarator Experiment (NCSX) Procurement Technical Representative and the Responsible Line Manager for the Vacuum Vessel Sub-Assembly.

Please note the one signed Project Disposition form applies to all ten of the NCRs.

If there are any questions pertaining to this matter I may be contacted at (609) 243-2441 and by e-mail [lsutton@pppl.gov](mailto:lsutton@pppl.gov).

Regards,

  
Larry L. Sutton  
Senior Subcontract Administrator

Attachments: As stated

cc: M. Viola



**MDC VACUUM PRODUCTS CORP**  
23842 Cabot Blvd., Hayward CA 94545-1651  
Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
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# **Certification of Conformance Catalog Products**

**COMPANY: MAJOR TOOL & MACHINE**

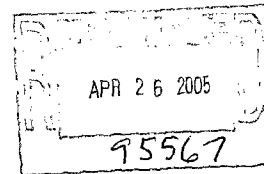
**ATTENTION: KATY DEBERNARDI**

**DATE: April 4, 2005**

**SUBJECT: CERTIFICATION OF PO# P05-00919**

This is to certify that the items shipped on the above referenced purchase order number comply with all standards in our MDC catalog.

**MIKE SCHULTZ**  
Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation  
e-mail: [icasaray@mdcvacuum.com](mailto:icasaray@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522



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B.J.



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23842 Cabot Blvd., Hayward CA 94545-1651  
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E-Mail: [sales@mdcvacuum.com](mailto:sales@mdcvacuum.com) - Web: <http://www.mdcvacuum.com>  
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# **Certification of Conformance Catalog Products**

**COMPANY: MAJOR TOOL & MACHINE**

**ATTENTION: KATY DEBERNARDI**

**DATE: April 4, 2005**

**SUBJECT: CERTIFICATION OF PO# P05-00919**

This is to certify that the items shipped on the above referenced purchase order number comply with all standards in our MDC catalog.

**MIKE SCHULTZ**

Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation  
e-mail: [ksarary@mdcvacuum.com](mailto:ksarary@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522

4/4/05  
95042  
112-141  
B.J.

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4/6/05





Trinos Vakuum-Systeme GmbH · Anna-Vanderhoeck-Ring 44 · 37081 Göttingen

Major Tool & Machine, Inc.  
 1458 E. 19th Street  
 Indianapolis, IN 46218  
 USA

**Certificate / Werksbescheinigung DIN EN ISO 10204 2.2:**

**Item:** 33 x 480 FBL 100-G-E, Weld Flange CF 6", thread  
**Bezeichnung:**

**We hereby confirm that the above described items are from:**  
**Hiermit bestätigen wir Ihnen, dass die Teile aus:**

**Order Number:** P.O. 5-04027 , AB-05-02356, RG 05-04280  
**Auftrags-Nr.:**

**Date:** ----- / 2. Aug. 2005 / 17. Aug 2005  
**Datum:**

**Material:** 316 LN ESR , CERN SPECS  
**Werkstoff:**

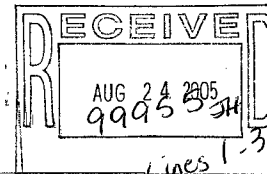
**Supplier ID:** K10386  
**Lieferanten Nr.:**

**Batch ID :** 920 183  
**Chargen Nr.:**

**Other Specs:**  
**Andere Kennziffer:** Magnetic permeability better than 1.01 mμ

Göttingen, 19.Aug.2005

AUG 29 2005



Geschäftsführende Gesellschafter:	Bankverbindungen:		
Betriebswirt Peter Spreitz	Sparkasse Göttingen	BLZ: 260 500 01	Konto-Nr:670 59 41
Dipl.-Phys. Marcus Weinhagen	Kreis-Sparkasse Northeim	BLZ: 262 500 01	Konto-Nr.: 6 36 36
	Dresdner Bank	BLZ 260 800 24	Konto-Nr.: 9 238 232 00

Ust-IDNr.:  
 DE 188 544 351  
 Amtsgericht Göttingen  
 HRB 3008



Erzeugnisform Product		Stab, rund, geschmiedet, geschält Round bars, forged, peeled									
Werkstoff / Quality		1.4429 X2CrNiMoN17-13-3 ESU									
Anforderungen Requirements		Kundenbestellung / customer order 1.4429 X 2 CrNiMoN 17-13-3 ESU ,DIN 17440 09/96 1.4429 X2CrNiMoN17-13-3 "ESU" ,SL-LV 4429ESU 01/05									
Besichtigung und Maßprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection				Erschmelzung/Nachbehandlung Melting/secondary refining Mode d'élaboration/traitement ultérieur ESU				Verwechslungsprüfung (spektralanalytisch) Identification test (spectral-analysis) examination of identification (analyse spectrale) ohne Beanstandung without objection			
Pos. Item	Anzahl Quantity	Abmessung Dimension								Gewicht kg Weight kg	Schmelz-Nr. Heat-No.
1	2	155 mm rd. x 4880 - 5510 mm								1586	920183
Schmelz-Heat-Nr.	C	Si	Mn	P	S	Cr	Mo	Ni	N2	Co	
920183	0,018	0,20	1,62	0,031	0,002	16,61	2,51	12,00	0,2180	0,046	
Der N2-Gehalt wurde toleriert. / The N2 content was tolerated.											
Wärmebehandlungszustand Condition of heat treatment		Lösungsgeglüht / solution annealed 1050°C 1h Wasser/water									
Probe-Nr. Test-No.	Lage Loc.	Temp. °C	Rp0,2 N/mm²	Rp1,0 N/mm²	Rm N/mm²	A5 %	Z %	Kerbschlagenergie Impact value J	Probenform Shape of test piece Charpy-V	Härte HB Hardness	
Soll/Req.	L	RT	>=300	>=330	>=600	>=40	>=85	RT			
614J1	L	RT	371	427	689	49	82	296	298	164-167	
Stückanalyse / Check analysis:											
C	Si	Mn	P	S	Cr	Mo	Ni	N2	Co	(N2 wurde toleriert/ N2 was tolerated)	
0,015	0,19	1,62	0,026	0,001	16,45	2,52	12,20	0,2150	0,036		
Korngröße nach / Grain size acc. ASTM E 112: 4											
Reinheitsgrad nach / Degree of purity acc. DIN 50602: K1 = 1,30											
Reinheitsgrad nach / Degree of purity acc. ASTM E 45, method D:											
Dünn/thin - Type A: 0,5 Type B: 0,6 Type C: 0,4 Type D: 1,0											
Dick/heavy - Type A: 0,5 Type B: 0,5 Type C: 0,4 Type D: 0,5											
Gefüge: / Microstructure: Austenit / austenitic											
Permeabilität / Permeability: max. 1,007 µr											
Die US-Prüfung nach SEP 1921 - 12/84, Prüfgruppe 3, Größenklasse D, Häufigkeitsklasse d wurde durchgeführt: ohne Beanstandung The UT examination acc. SEP 1921 - 12/84, examination class 3, dimension class D, frequency class d was done: without objection											
Anlagen Empf. Amesse US-Zaugs/s / UT cert.					Lieu et date 21.07.2005			Abnahmebeauftragter Third Party Inspector Inspecteur de réception Langer			
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig. This certificate was generated by data system (i) must not be signed for validity as well. Ce certificat a été émis par système informatique et est valable sans signature aussi.											



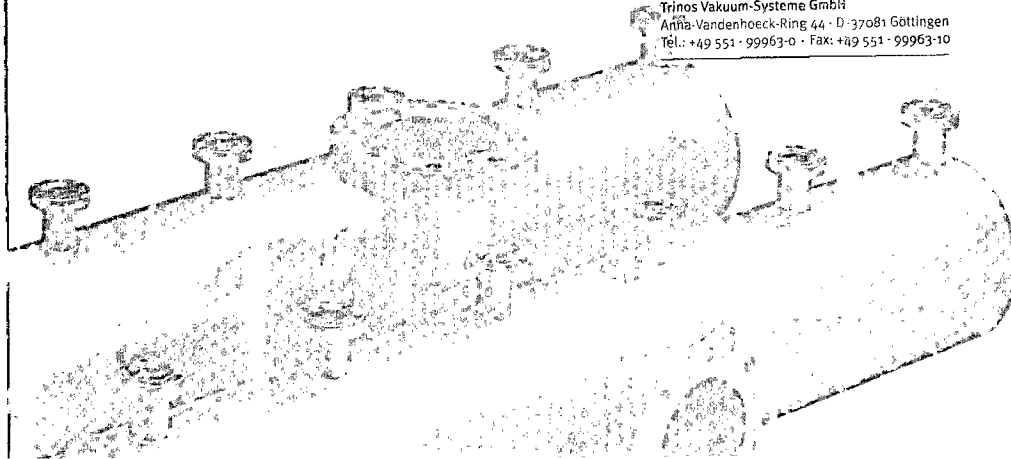
I, the undersigned, exporter of the goods covered by this document declare that except where otherwise indicated, the goods meet the conditions to obtain originating status in preferential trade with: United States of America  
And that the country of origin of the goods is: THE EUROPEAN COMMUNITY

Göttingen, 17.08.2005, Arne Schulte *Arne Schulte*

Place, date, full name signature, official stamp



Trinos Vakuum-Systeme GmbH  
Arlha-Vandenhoeck-Ring 44 · D-37081 Göttingen  
Tel.: +49 551 99963-0 · Fax: +49 551 99963-10





Trinos Vakuum-Systeme GmbH, Anna-Vanderhoock Ring 44, 37081 Göttingen

Major Tool & Machine, Inc.  
 1458 E. 19th Street  
 Indianapolis, IN 46218  
 USA

**Certificate / Werksbescheinigung DIN EN ISO 10204 2.2:**

**Item:**  
**Bezeichnung:** 12 x 480 FBL 160-G-E, Weld Flange CF 8", thread

**We hereby confirm that the above described items are from:**  
**Hiermit bestätigen wir Ihnen, dass die Teile aus:**

**Order Number:**  
**Auftrags-Nr.:** P.O. 5-04027 , AB-05-02356, RG 05-04280

**Date:**  
**Datum:** ..... / 2. Aug. 2005 / 17. Aug 2005

**Material:**  
**Werkstoff:** 316 LN ESR , CERN SPECS

**Supplier ID:**  
**Lieferanten Nr.:** K10386

**Batch ID :**  
**Chargen Nr.:** 920 135

**Other Specs:**  
**Andere Kennziffer:** Magnetic permeability better than 1.01  $\mu\mu$

Göttingen, 19. Aug. 2005

AUG 30 2005  
 RECEIVED  
 AUG 29 2005  
 100051 JH  
 Lines 34-45

Geschäftsführende Gesellschafter:	Bankverbindungen:	Ust-IDNr.:
Betriebswirt Peter Spreitz	Sparkasse Göttingen	DE 188 544 351
Dipl.-Phys. Marcus Weinhalten	Kreis-Sparkasse Northeim	Amtsgericht Göttingen
	Dresdner Bank	HRB 3008
	BLZ: 260 500 01	Konto-Nr670 59 41
	BLZ: 262 500 01	Konto-Nr.: 6 36 36
	BLZ 260 800 24	Konto-Nr.: 9 238 232 00



POS-04027

Erzeugnisform Product		Stab, rund, geschmiedet, geschält Round bars, forged, peeled												
Werkstoff / Quality		1.4429 X2CrNiMoN17-13-3 ESU												
Anforderungen Requirements		Kundenbestellung / customer order 1.4429 X 2 CrNiMoN 17-13-3 ESU ,DIN 17440 09/98												
Beschreibung und Maßanweisung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection					Erzschmelzungsbehandlung Meltingprocess/reactory refining Mode d'élaboration/traitement sidérur ESU					Verwechslungsprüfung (spektralanalytisch) Identification test (spectral-analysis) examen/ati on d'identification (analyse spectrale) ohne Beanstandung without objection				
Pos. Nr. Item	Anzahl Quantity	Abmessung Dimension								Gewicht kg Weight kg	Schmelz-Nr. Heat-No			
3	4	210 mm rd. x 3200 - 3546 mm								3756	920135			
Schmelz-Nr. Heat No	C	Si	Mn	P	S	Cr	Mo	Ni	N2	Co				
920135	0,017	0,21	1,59	0,027	0,003	16,81	2,56	12,10	0,1530	0,051				
Wärmebehandlungszustand Condition of heat treatment		Lösungsgeglüht solution annealed												
Traitement thermique		1050°C Wasser/water												
Probe-Nr. Test-Nr.	Lage Loc.	Temp. °C	Rp0,2 N/mm <sup>2</sup>	Rp1,0 N/mm <sup>2</sup>	Rm N/mm <sup>2</sup>	A5 %	Z %	Kerbschlagenergie Impact value J	Prüfarten Shape of test piece Charpy-V			Härte HB Hardness		
Soll/Req.	Q	RT	>=295	>=330	>=580	>=30		>=55	RT					
430T1	Q	RT	355	446	664	45	75	296	296	294	RT	177-181		
430T2	Q	RT	349	442	658	45	74	298	295	297	RT			
Korngröße nach ASTM E 112 : 4 Grain size acc. ASTM E 112: 4														
Reinheitssgrad nach DIN 50602 : K1 = 1,01 Degree of purity acc. DIN 50602: K1 = 1.01														
Permeabilität: 1,006 G/Oe Permeability : 1.006 G/Oe														
Die US-Prüfung nach SEP 1921 - 12/84, Prüfgruppe 3, Größenklasse D, Häufigkeitsklasse d wurde durchgeführt: ohne Beanstandung The UT-examination acc. SEP 1921 - 12/84, examination class 3, dimension class D, frequency class d was done: without objection														
Anliegen End Address		Place and date Lieu et date 06-11-2004					Der Werkbeauftragte Works-Inspector L'expert de l'usine Langer							
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig.						This certificate was generated by data system it must not be signed for validity as well Ce certificat a été établi sur système informatique et est valable sans signature aussi								

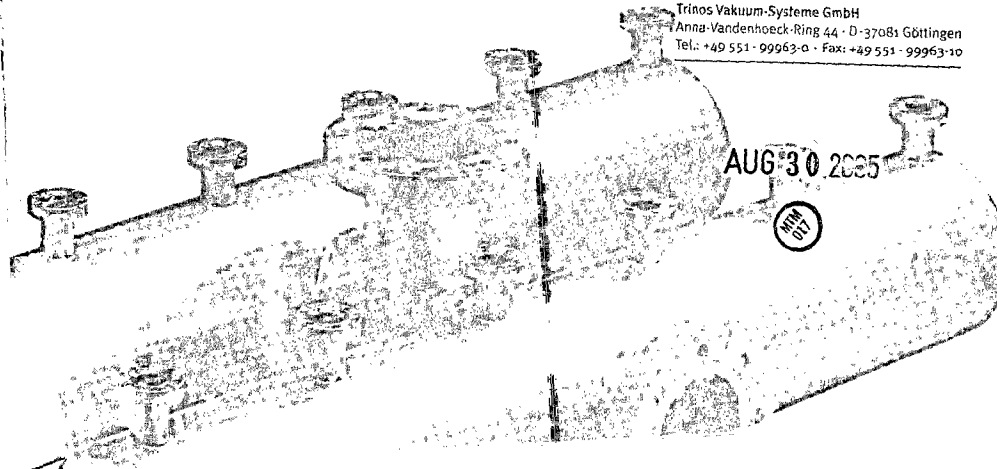
AUG 30 2005



I, the undersigned, exporter of the goods covered by this document declare that except where otherwise indicated, the goods meet the conditions to obtain originating status in preferential trade with: United States of America  
And that the country of origin of the goods is: THE EUROPEAN COMMUNITY

Göttingen, 19.08.2005, Anne Schulte Anne Schulte  
place, date, full name signature, official stamp

TRINOS VAKUUM  
Trinos Vakuum-Systeme GmbH  
Anna-Vandenhoeck-Ring 44 · D-37081 Göttingen  
Tel.: +49 551-99963-0 · Fax: +49 551-99963-10





Trinos Vakuum-Systeme GmbH - Anna-Vandenhoeck-Ring 44 - 37081 Göttingen

Major Tool & Machine, Inc.  
 1458 E. 19th Street  
 Indianapolis, IN 46218  
 USA

**Certificate / Werksbescheinigung DIN EN ISO 10204 2.2:**

**Item:**   
**Bezeichnung:**

**We hereby confirm that the above described items are from:**  
**Hiermit bestätigen wir Ihnen, dass die Teile aus:**

**Order Number:**   
**Auftrags-Nr.:**

**Date:**   
**Datum:**

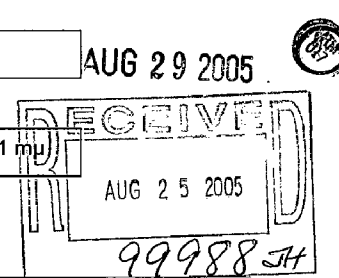
**Material:**   
**Werkstoff:**

**Supplier ID:**   
**Lieferanten Nr.:**

**Batch ID :**   
**Chargen Nr.:**

**Other Specs:**   
**Andere Kennziffer:**

Göttingen, 19.Aug.2005



Geschäftsführende Gesellschafter:	Bankverbindungen:	Ust.-IDNr. lines 46-51
Betriebswirt Peter Spreitz	Sparkasse Göttingen	DE 188 544 351
Dipl.-Phys. Marcus Weinhagen	Kreis-Sparkasse Northeim	Amtsgericht Göttingen
	Dresdner Bank	HRB 3008



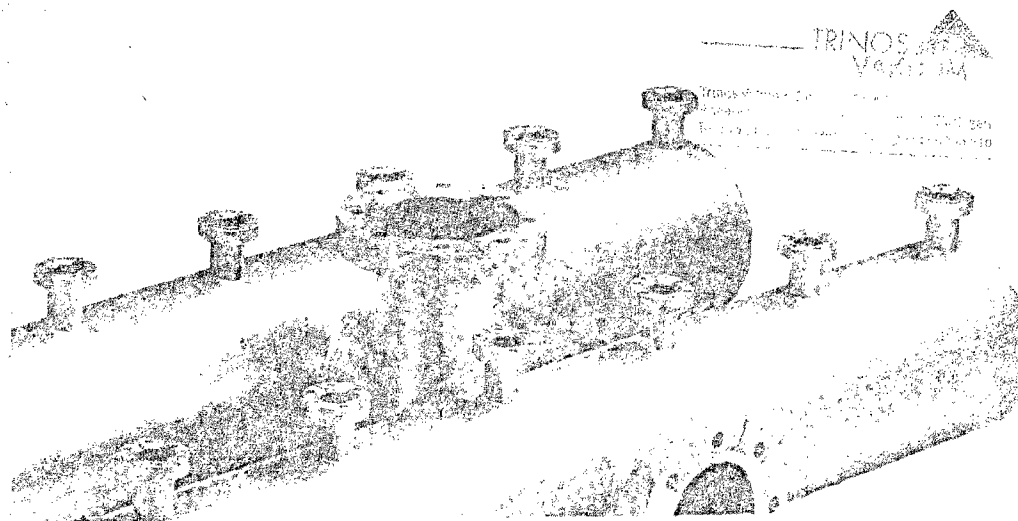
Erzeugnisform Product		Stab, rund, geschmiedet, gedreht Round bars, forged, turned									
Werkstoff / Quality		1.4429 X2CrNiMoN17-13-3 ESU									
Anforderungen Requirements		Kundenbestellung / customer order 1.4429 X2CrNiMoN17-13-3 ESU, DIN 17440 - 09/96									
Beschreibung und Maßprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection				Erschmelzung/Nachbehandlung Melting/secondary refining Mode d'élaboration/traitement ultérieur ESU				Verwechslungsprüfung (spez./analytisch) Identification test (spec./analytical) examen de l'identification (analyse spectrale) ohne Beanstandung without objection			
Pos. Item	Anzahl Quantity	Abmessung Dimension								Gewicht kg Weight kg	Schmelz-Nr. Heat-No.
2	1	310 mm rd. x 4215 mm								2550	920014
Schmelz-Nr. Heat No.	C	Si	Mn	P	S	Cr	Mo	Ni	N2	Co	
920014	0,020	0,30	1,89	0,023	0,002	16,80	2,53	11,75	0,1400	0,061	
Ni-Gehalt wurde akzeptiert. / Ni content was accepted.											
Wärmebehandlungszustand Condition of heat treatment		Lösungsgeglüht solution annealed									
Traitement thermique		1050°C Wasser/water									
Probe-Nr. Test-No.	Lage Loc.	Temp. °C	Rp0,2 N/mm²	Rp1,0 N/mm²	Rm N/mm²	A5 %	Z %	Kerbschlagarbeit Impact value J	Probenform Shape of test piece Charpy-V	Härte HB Hardness	
Soll/Req.	Q	+20	>=295	>=330	>=580	>=30		>=55	+20 °C		
383C1	Q	+20	340	370	610	40	75	294 294 298	+20 °C	175-180	
<p>Korngröße nach ASTM E 112 : 3 Grain size acc. ASTM E 112: 3</p> <p>Reinheitsgrad nach DIN 50602 : Kl = 1,13 Degree of purity acc. DIN 50602: Kl = 1.13</p> <p>Permeabilität: 1,007 G/Oe Permeability : 1.007 G/Oe</p> <p>Die US-Prüfung nach SEP 1921 - 12/84, Prüfgruppe 3, Größenklasse D, Häufigkeitsklasse d wurde durchgeführt: ohne Beanstandung The UT-examination acc. SEP 1921 - 12/84, examination class 3, dimension class D, frequency class d was done: without objection</p>											
Ausg. Encl. Annex		Lieu et date 20.04.2004				Ogf. Werkstoffverständige Workshop Director Responsable PPM LANGER					
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig. Ce certificat a été établi sur système informatique et est valable sans signature manuscrite.											





I, the undersigned, exporter of the goods covered by this document declare that except where otherwise indicated, the goods meet the conditions to obtain originating status in preferential trade with: United States of America  
And that the country of origin of the goods is: THE EUROPEAN COMMUNITY

Göppingen, 17.08.2005, Anne Schulte Anne Schulte  
(Place, Date, full name signature, official stamp)





Trinos Vakuum-Systeme GmbH · Anna-Vanderhoeck-Ring 44 · 37081 Göttingen

Major Tool & Machine, Inc.  
1458 E. 19th Street  
Indianapolis, IN 46218  
USA

**Certificate / Werksbescheinigung DIN EN ISO 10204 2.2:**

**Item:**  
**Bezeichnung:** 15 x 480 FBL 250-G-E, Weld Flange CF 12", thread

**We hereby confirm that the above described items are from:**  
**Hiermit bestätigen wir Ihnen, dass die Teile aus:**

**Order Number:**  
**Auftrags-Nr.:** P.O. 5-04027 , AB-05-02356, RG 05-04280

**Date:**  
**Datum:** ----- / 2. Aug. 2005 / 17. Aug 2005

**Material:**  
**Werkstoff:** 316 LN ESR , CERN SPECS

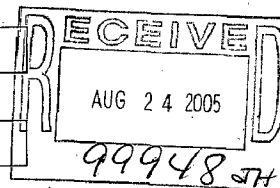
**Supplier ID:**  
**Lieferanten Nr.:** K10386

**Batch ID :**  
**Chargen Nr.:** 920 014

**Other Specs:**  
**Andere Kennziffer:** Magnetic permeability better than 1.01 mμ

Göttingen, 19. Aug. 2005

AUG 29 2005



Lincs 52-66

Geschäftsführende Gesellschafter:	Bankverbindungen:			Ust.-IDNr.:
Betriebswirt Peter Spreitz	Sparkasse Göttingen	BLZ: 260 500 01	Konto-Nr: 670 59 41	DE 188 544 351
Dipl.-Phys. Marcus Weinhausen	Kreis-Sparkasse Northeim	BLZ: 262 500 01	Konto-Nr.: 6 36 36	Amtsgericht Göttingen
	Dresdner Bank	BLZ 260 800 24	Konto-Nr.: 9 238 232 00	HRB 3008



Erzeugnisform Product		Stab, rund, geschmiedet, gedreht Round bars, forged, turned									
Werkstoff / Quality		1.4429 X2CrNiMoN17-13-3 ESU									
Anforderungen Requirements		Kundenbestellung / customer order 1.4429 X2CrNiMoN17-13-3 ESU, DIN 17440 - 09/96									
Beschichtung und Maßprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection				Erzmetzung/Nachbehandlung Melting/Process/secondary refining Mode d'élaboration/traitement ultérieur ESU				Verwertungsprüfung (Spektroskopisch) Identification test (spectral analysis) examination of identification (analyse spectrale) ohne Beanstandung without objection			
Pos. Item	Anzahl Quantity	Abmessung Dimension							Gewicht kg Weight kg	Schmelz-Nr. Heat-No.	
2	1	310 mm rd. x 4215 mm							2550	920014	
Schmelz-Nr. K.	C	Si	Mn	P	S	Cr	Mo	Ni	N2	Co	
920014	0,020	0,30	1,89	0,023	0,002	16,80	2,53	11,75	0,1400	0,061	
Ni-Gehalt wurde akzeptiert. / Ni content was accepted.											
Wärmebehandlungszustand Condition of heat treatment Traitement thermique		Lösungsgeglüht solution annealed 1050°C Wasser/water									
Probe-Nr. Test-No. Soll/Req.	Lage Loc.	Temp. °C	Rp0,2 N/mm <sup>2</sup>	Rp1,0 N/mm <sup>2</sup>	Rm N/mm <sup>2</sup>	A5 %	Z %	Kerbschlagarbeit Impact value J	Probenform Shape of test piece Charpy-V	Härte HB Hardness	
	Q	+20	>=295	>=330	>=580	>=30		>=55	+20°C		
BB3C1	Q	+20	340	370	610	40	75	294 294 298	+20°C	175-180	
Korngröße nach ASTM E 112 : 3 Grain size acc. ASTM E 112: 3											
Reinheitssgrad nach DIN 50602 : K1 = 1,13 Degree of purity acc. DIN 50602: K1 = 1.13											
Permeabilität: 1.007 G/Oe Permeability : 1.007 G/Oe											
Die US-Prüfung nach SEP 1921 - 12/84, Prüfgruppe 3, Größenklasse D, Häufigkeitsklasse d wurde durchgeführt: ohne Beanstandung The UT-examination acc. SEP 1921 - 12/84, examination class 3, dimension class D, frequency class d was done: without objection											
Anlagen Encl. Annexe		Lieu et date 20.04.2004					Der Verantwortliche Work-inspector L'expert de Pushe Langer				
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig. This certificate was generated by data system and must not be signed for validity as well. Ce certificat a été établi sur système informatique et est valable sans signature aussi.											



I, the undersigned, exporter of the goods covered by this document declare that except where otherwise indicated, the goods meet the conditions to obtain originating status in preferential trade with: United States of America  
And that the country of origin of the goods is: THE EUROPEAN COMMUNITY

Göttingen, 17.08.2005, Anne Schulte Anne Schulte  
(Place, date, full name signature, official stamp)



Trinos Vakuum-Systeme GmbH  
Anna-Vandenhoeck-Ring 44 · D-37081 Göttingen  
Tel.: +49 551-99963-0 · Fax: +49 551-99963-10





Trinos Vakuum-Systeme GmbH, Anna-Vandenhoeck-Ring 44, 37081 Göttingen

Major Tool & Machine, Inc.  
 1458 E. 19th Street  
 Indianapolis, IN 46218  
 USA

**Certificate / Werksbescheinigung DIN EN ISO 10204 2.2:**

**Item:**  
**Bezeichnung:** 6 x 480 FBL 080, Blank Flange CF 4 5/8"

**We hereby confirm that the above described items are from:**  
**Hiermit bestätigen wir Ihnen, dass die Teile aus:**

**Order Number:**  
**Auftrags-Nr.:** P.O. 5-04027, AB-05-02356, RG 05-04280

**Date:**  
**Datum:** ----- / 2. Aug. 2005 / 17. Aug 2005

**Material:**  
**Werkstoff:** 316 LN ESR, CERN SPECS

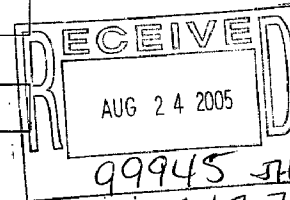
**Supplier ID:**  
**Lieferanten Nr:** K10386

**Batch ID :**  
**Chargen Nr:** 920 135

**Other Specs:**  
**Andere Kennziffer:** Magnetic permeability better than 1.01 mμ

Göttingen, 19. Aug. 2005

AUG 29 2005



Geschäftsführende Gesellschafter:  
 Betriebswirt Peter Spreitz  
 Dipl.-Phys. Marcus Weinhagen

Bankverbindungen:  
 Sparkasse Göttingen  
 Kreis-Sparkasse Northeim  
 Dresdner Bank

BLZ: 260 500 01  
 BLZ: 262 500 01  
 BLZ 260 800 24

Konto-Nr: 670 59 41  
 Konto-Nr.: 6 36 36  
 Konto-Nr.: 9 238 232 00

Ust-IDNr.:  
 DE 188 544 351  
 Amtsgericht Göttingen  
 HRB 3008



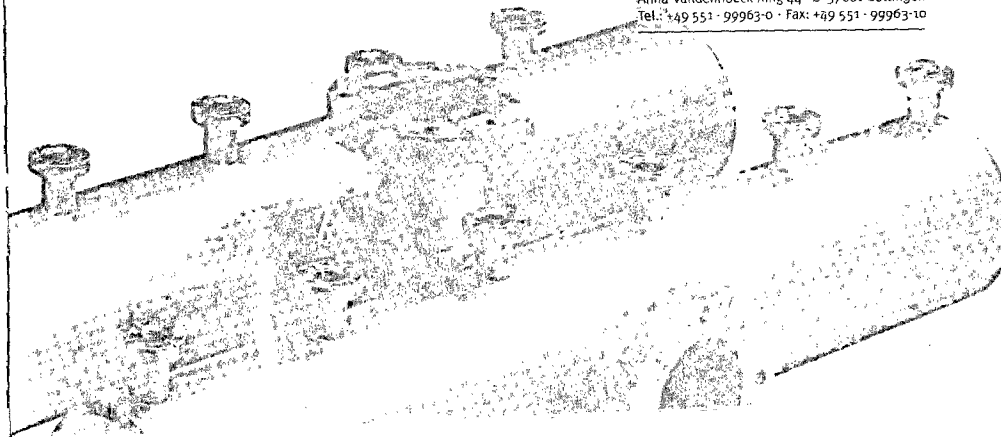
I, the undersigned, exporter of the goods covered by this document declare that except where otherwise indicated, the goods meet the conditions to obtain originating status in preferential trade with: United States of America  
And that the country of origin of the goods is: THE EUROPEAN COMMUNITY

Göttingen, 17. 09. 2005, Anne Schulze  
(Place, Date, full name signature, official stamp)

Anne Schulze



Trinos Vakuum-Systeme GmbH  
Anna-Vandenhoeck-Ring 44 · D-37081 Göttingen  
Tel.: +49 551 - 99963-0 · Fax: +49 551 - 99963-10





Erzeugnisform Product		Stab, rund, geschmiedet, geschält Round bars, forged, peeled										
Werkstoff / Quality		1.4429 X2CrNiMoN17-13-3 ESU										
Anforderungen Requirements		Kundenbestellung / customer order 1.4429 X 2 CrNiMoN 17-13- 3 ESU ,DIN 17440 09/96										
Beschädigung und Maßnachprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection			Erschmelzung/Nachbehandlung Melting process/secondary refining Mouls d'élaboration/traitement ultérieur ESU				Verwechslungsprüfung (spektroanalytisch) Identification test (spectro-analytical) examenation of identification (analyse spectrale) ohne Beanstandung without objection					
Pos. Item	Anzahl Quantity	Abmessung Dimension				Gewicht kg Weight kg	Schmelz-Nr. Heat-No.					
3	4	210 mm rd. x 3200 - 3546 mm				3756	920135					
Schmelze Heat %	C	Si	Mn	P	S	Cr	Mo	Ni	N2	Co		
920135	0,017	0,21	1,59	0,027	0,003	16,81	2,56	12,14	0,1510	0,051		
Wärmebehandlungszustand Condition of heat treatment		Lösungsgeglüht solution annealed										
Traitement thermique		1050°C Wasser/water										
Probe-Nr. Test-No.	Lage Loc.	Temp. °C	Rp0,2 N/mm <sup>2</sup>	Rp1,0 N/mm <sup>2</sup>	Rm N/mm <sup>2</sup>	A5 %	Z %	Kerbschlagarbeit Impact value J	Probenform Shape of test piece Charpy-V	Härte HB Hardness		
Soll/Req.	Q	RT	>=295	>=330	>=580	>=30		>=55	RT			
430T1	Q	RT	355	446	664	45	75	296	296	294	RT	177-181
430T2	Q	RT	349	442	658	45	74	296	295	297	RT	
<p>Korngröße nach ASTM E 112 : 4 Grain size acc. ASTM E 112: 4</p> <p>Reinheitsgrad nach DIN 50602 : K1 = 1,01 Degree of purity acc. DIN 50602: K1 = 1.01</p> <p>Permeabilität: 1,006 G/Oe Permeability : 1.006 G/Oe</p> <p>Die US-Prüfung nach SEP 1921 - 12/84, Prüfgruppe 3, Größenklasse D, Häufigkeitsklasse d wurde durchgeführt: ohne Beanstandung The UT-examination acc. SEP 1921 - 12/84, examination class 3, dimension class D, frequency class d was done: without objection</p>												
Abgeben Encl. Attest						 Letz. et date 05.11.2004			Der Werkstoffprüfer Works Inspector L'expert de fusine LANGER			
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig.						This certificate was generated by data system it must not be signed for validity as well. Ce certificat a été créé sur système informatique et est valable sans signature aussi.						

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 442499001-0	Date Entered Date De Commande Bestelldatum 06/02/05	Customer Reference Reference Client Kundenbestelldaten P05-03067	Report No. Rapport No Zeugnis Nr 20050610009	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Skip To • Destinataire • Bestelldat <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.375 x 7 x 70 DOME SKIRT MATERIAL HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
---	---	--

Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 2 PC	Quantity Shipped Quantite Expediee Liefermenge 2 PC
--	--	--

Heat Number Numero de Cuite Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cr (Sb+Ts)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 4 6997	0.17		0.02		0.14	21.9	0.08	4.61	0.28	8.63	59.96	0.007	0.002	0.18	0.3			BUTT END *01
2650 4 6997	3.44	<0.05																BUTT END *01

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician  
6/10/2005

*Amanda Aguirre*  
MIA 016 JUL 01 2005

RECEIVED  
JUL - 6 2005  
77927 *AK*

*Line 1, 2*

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT EQUIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR OPINIONS ON THIS DOCUMENT MAY BE PENALIZED AS A VIOLATION UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REGARDING MULTIPLE MATERIAL SPECIFICATIONS.

MC109674.TIF1



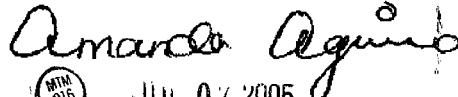
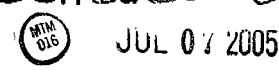
FILE COPY 2

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS															
Invoice No No. De Facture Rechnungs Nr 442499001-0		Date Entered Date De Commande Bestelldatum 06/02/05		Customer Reference Reference Client Kundenbestelldaten P05-03067		Report No. Rapport No Zeugnis Nr 20050610009		Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4							
Sold To • Client • Bestellanrschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>				Ship To • Destinaaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>				Product Description • Description Produit • Material Beschreibung <b>0.375 x 7 x 70 DOME SKIRT MATERIAL HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>							
Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellmenge 2 PC		Quantity Shipped Quantite Expeditee Liefermenge 2 PC							
Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Htc. Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Lim. Elong. A 1% Zugfestigkeit	1% Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong. to % Allong EN % Dehnung	%RA	Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong. to % Allong EN % Dehnung	%RA	Test Essai Versuch Temp.	Stress Constrainte Spannung	Hours Heures Stunden	% Elong. to % Allong EN % Dehnung	% RA
124000 PSI		61000 PSI	53 %	(1)(A)											

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician  
6/10/2005 (1) 2741025901

*Amanda Aguirre*  
  


THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATION UNLESS MODIFIED BY ANY EXCEPTION OR PURCHASE ORDER REQUIREMENT. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT INFORMATION OR EXTENSION OF THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED FOR ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC109674.TIF2



**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

FILE COPY 2

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Invoice No No. De Facture Rechnungs Nr 442499001-0	Date Entered Date De Commande Bestelldatum 06/02/05	Customer Reference Reference Client Kundenbestelldaten P05-03067	Report No. Rapport No Zeugnis Nr 20050610009	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanrschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.375 x 7 x 70 DOME SKIRT MATERIAL HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; PS-489, E			Quantity Ordered Quantite Commandee Bestelmenge 2 PC	Quantity Shipped Quantite Expediee Liefermenge 2 PC

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2741025901 (2 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Beschönigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

*Amanda Aguirre*



JUL 07 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, UNLESS INDICATED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.  
THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PENALIZED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC.  
SPECIFICATION MARKING REQUIREMENTS MAY BE OBTAINED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC109674.TIF4

018  
018

JUL 07 2005

Magnetic Permeability Test Witness

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on July 5, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

Heats Tested

2650-4-6997

Purchase Order Numbers

P05-03067

Best Regards,



Marlin C. Losch III

Quality Assurance Documentation for Part ID: DOME SKIRT - Item: 42

Workorder: 65678/7-0 Sub:257 Op:30

Part: DOME SKIRT - - DOME SKIRT

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	VISUAL INSPECT OKA	791-D.W	933-D.L		A
(10)		VWI ROOT PASS WELD DSB		CWI				08-05-05	08-05-05		
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATIONS REQU	933-D.L	933-D.L		A
(40)		VWI EXTERIOR COVER PASS WELD DS		CWI			REMENTS.	08-05-05	08-05-05		
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATIONS REQU	933-D.L	933-D.L		A
(50)		VWI INTERIOR COVER PASS WELD DSB		CWI			REMENTS..	08-05-05	08-05-05		

Quality Assurance Documentation for Part ID: DOME SKIRT - Item: 44

Workorder: 65678/7-0 Sub:258 Op:30

Part: DOME SKIRT - - DOME SKIRT

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPECIFICATIONS.	709-K.A	581-D.E		A
(10)		VWI ROOT PASS WELD DSA		CWI				08-04-05	08-04-05		
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPECIFICATIONS.	709-K.A	933-D.L		A
(40)		VWI EXTERIOR COVER PASS WELD DS		CWI				08-05-05	08-05-05		
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPECIFICATIONS.	709-K.A	933-D.L		A
(50)		VWI INTERIOR COVER PASS WELD DS		CWI				08-05-05	08-05-05		

Quality Assurance Documentation for Part ID: PORT DOME - Item: 45

Workorder: 65678/7-0 Sub:4 Op:22

Part: PORT DOME - -

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VWI ROOT PASS WELD DA		MFG		VISUAL	OK	093-M.S	933-D.L	A
(10)				CWI				08-24-05	08-24-05	
*		VWI EXTERIOR COVER PASS WELD DA		MFG		VISUAL	ACCEPT	771-B.S	933-D.L	A
(40)				CWI				08-24-05	08-24-05	
*		VWI INTERIOR COVER PASS WELD DA		MFG		VISUAL	ACCEPT	771-B.S	933-D.L	A
(50)				CWI				08-24-05	08-24-05	







4959  
10520 Chester Road  
Woodlawn, Ohio 45215

CLIENT Major Tool & Machine	INTERPRETER/LEVEL Robert Weaver	RADIOGRAPHER Robert Weaver	JOB NO. 13880291	P.O. NO. N/A	DATE 8/29/05					
ISOTOPE/RAY IR192	DIA. X LENGTH 1/8" x 0.94"	CURIES/MA 37	FOCAL SPOT SIZE .151"	SFD 8.875"	GOD 8.5"	TIME 1:45	FILM PROCESSING Auto	FILM TYPE Kodak Mx165	FILM TECHNIQUE Double	PS SCREENS .010"
WELD PROCESS GTAW	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER 17" I.D.	MATERIAL THICKNESS .375"	PENETRATOR ASTM IB	SHIM N/A	ACCEPTANCE STANDARD ASME VIII Div. 1, UW-51				

DESCRIPTION  
65678/70/4/24/818  
Dome Skirt - A

REMARKS

FITTING SCAMFITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAG	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER/PT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	
			SIZE	QUALITY LEVEL																									
	Circ. 0-1	N/A	IB	.010"																									
	1-2																												
	2-3																												
	3-4																												
	4-0																												
	Horiz. 0-1																												

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrator  
S Shim  
L Location Marker  
( ) OTHER

Robert Weaver 65554/IL  
Cooperheat-MQS Signature

Raymond P. Edwards  
Customer Representative Signature

8/29/05  
Date

MC111320.TIF

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: PORT DOME - Item: 48

Workorder: 65678/7-0 Sub:5 Op:22

Part: PORT DOME - -

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	093-M.S	581-D.E	
(10)		VWI ROOT PASS WELD DB		CWI				08-25-05	08-25-05	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	933-D.L	
(40)		VWI EXTERIOR COVER PASS WELD DB		CWI			DRAWING AND SPECI ICATIONS	08-26-05	08-26-05	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	933-D.L	
(50)		VWI INTERIOR COVER PASS WELD DB		CWI			DRAWING AND SPECI ICATIONS	08-26-05	08-26-05	A



4959

10520 Chester Road  
Woodlawn, Ohio 45215



CLIENT Major Tool & Machine		INTERPRETER/LEVEL Robert Weaver		RADIOGRAPHER Robert Weaver		JOB NO. 13850291	P.O. NO. NA	DATE 8/29/05
ISOTOPE/RAY IR192	DU, X LENNY 118" x 0.94"	CURIES/MA 37	FOCAL SPOT SIZE .15"	SPD 8.875"	SOD 8.5"	TIME Auto	FILM TYPE Kodak MX105	FILM TECHNIQUE Double
WELD PROCESS G25 Inconel		MATERIAL SPEC. 17" I.D.	MATERIAL DIAMETER .375"	MATERIAL THICKNESS ASTM B	PENETRATOR N/A	SHIM ASME VIII Div. 1, UW-51	ACCEPTANCE STANDARD	

DESCRIPTION  
65678/7.0/5/24/818  
Dome Skirt - B

FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVECTIVITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURST THROUGH	CONTRAIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	ASH MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	
			SIZE	QUALITY LEVEL																									
circ.	0-1	NA	IB	.010"																									
	1-2																												
	2-3																												
	3-4																												
	4-0																												
Horiz.	0-1																												

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrator  
 S Shim  
 L Location Marker  
 ( ) OTHER

Robert Weaver 655514/H  
Cooperheat-MQS Signature

Daigob D. P. P. P.  
Customer Representative Signature

8/29/05  
Date

MC111321.TIF1

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 437985001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestellidaten P05-01373	Report No. Rapport No Zeugnis Nr 20050526077	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 32 x 43 SE120-004-10MTM REF:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC

Heat Number Numero De Coque Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse															Si	Ti	V	W	BUTT END *02
	Al	B	C	Ch/Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti					
2650 5 6805	0.21		0.028	3.3	0.2066	21.97	0.1637	4.7452	0.2713	8.67	59.49	0.007	0.004	0.21	0.3211				BUTT END *02	
2650 5 6805	3.2994	<0.05		Zr	Bi	Se	La	Cb/Nb	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *02	

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/26/2005

*Amanda Aguirre*

JUN 15 2005

97110-214

Rev 1-6



JUN 15 2005

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MC109053.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 437985001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01373	Report No. Rapport No Zeugnis Nr 20050526077	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellaanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestelldenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 32 x 43 SE120-004-10MTM REF:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>	
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC		

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong in % Allong. EN % Dehnung	%RA	Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong in % Allong. EN % Dehnung	%RA	Test Essai Versuch Temp.	Stress Coordinate Spannung	Hours Heures Stunden	% Elong in % Allong. EN % Dehnung	% RA
130000 PSI		61000 PSI	48 %												

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/26/2005 (1) 2743540351

*Amanda Aguirre*

MTM 016 JUN 15 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, MODIFIED BY ANY EXCELSIONS OR PURCHASE ORDER REQUIREMENTS. THE RECORDING OF FALSE, DECEPTIVE OR FRAUDULENT STATEMENTS OR INTRIGUES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUESTING MULTIPLE MATERIAL SPECIFICATIONS.

MC109053.TIF2



CERTIFICATION OF TESTS • RAPPORT D'ÉSSAIS CERTIFIÉ • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 437985001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01373	Report No. Rapport No Zeugnis Nr 20050526077	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 32 x 43 SE120-004-10MTM REF:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC	

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2743540351 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Bescheinigt Durch: Amanda Aguirre 5/26/2005  
Certification Technician

*Amanda Aguirre*

**JUN 15 2005**



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MC109053.TIF4



FIRST METALS & PLASTICS TECHNOLOGIES, INC.

CERTIFICATE OF CONFORMANCE

Part Number Port 12

We do hereby certify that the material shipped on Purchase Order 5-04709 conforms to all specification requirements called out or referenced on the above purchase order.

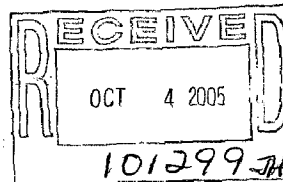
The above items were processed and/or manufactured in accordance with the template and/or gauge, which have been supplied to FMP by the customer.

FMP used only the material supplied to us by the customer.

[Signature] O.A. 10/04/2005  
Signature Title Date



OCT 06 2005



Lines 1,4,5,7,8,9,10,11,12,  
19,22,23,24,25,26,27,28,29,30



FIRST METALS & PLASTICS TECHNOLOGIES, INC.

CERTIFICATE OF CONFORMANCE

Part Number N/A Neutral Port Fitting

We do hereby certify that the parts shipped on 09-02-2005

conforms to all specification requirements requested by Major Tool.

The above items were processed and/or manufactured in accordance with applicable drawings

And/or specifications unless otherwise noted. See the following insert,

There were no drawings supplied for the individual parts. Therefore First Metals used the weld fixture as a template and the request of Major Tool to fit the parts within 0.090 inches to the contour of the fixture.

3 pairs, or 6 parts were made to fit the fixture shown on the attached print. The parts conform to the tolerance of .090 inches gap or less after being clamped to the fixture.

Major Tool & Machine, Inc supplied the material used.

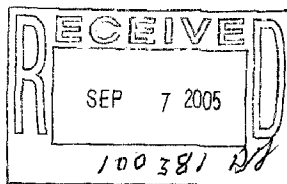
  
Signature

QA  
Title

9/7/05  
Date



SEP 12 2005



*lines 1-6*



CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 437974001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01374	Report No. Rapport No Zeugnis Nr 20050610030	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4

**HAYNES**  
**International**

FILE COPY 2

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 29 x 44 SE120-004-11MTM-REV:1A HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation <b>PS-489, E</b>	Quantity Ordered Quantite Commandee Bestellmenge <b>6 PC</b>	Quantity Shipped Quantite Expeditee Liefermenge <b>6 PC</b>

Heat Number Numero De Caudes Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Ch-Ta (Nb-Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6805	0.21		0.028	3.3	0.2066	21.97	0.1637	4.7452	0.2713	8.67	59.49	0.007	0.004	0.21	0.3211			BUTT END *02
2650 5 6805	(ONS)	Ta	Zr	Bi	Se	La	C-Nb	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *02
	3.2994	<0.05																

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

*Amanda Aguirre*

JUN 15 2005

JUN 15 2005

977109 PJH

*linco 1.6*

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATION, MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE RECORDING OF FALSE, FICTITIOUS OR MANUALLY STATEMENTS OR NOT TRUE ON THIS DOCUMENT AND ITS REPRODUCTION AS A TRADE SHOW OR FEDERAL STATUTE IS CLARIFIED FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC109057.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No. No. De Facture Rechnungs Nr 437974001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01374	Report No. Rapport No Zeugnis Nr 20050610030	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 29 x 44 SE120-004-11MTM-REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
---	---	--

Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hte. Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA	Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA	Test Essai Versuch Temp.	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
130000 PSI		61000 PSI	48 %												

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Certification Technician

6/10/2005 (1) 2743540351

*Amanda Aguirre*

MM 016 JUN 15 2005

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MC109057.TIF2

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

Invoice No No. De Facture Rechnungs Nr 437974001-0	Date Entered Date de Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01374	Report No. Rapport No Zeugnis Nr 20050610030	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
--	--	--

Annealed Hardness Durete Recuit Gepluht Haerte	Aged Hardness Durete Vieilli Gealtert Haerte	Grain Size Grosueur De Grain Korngroesse						IGA	Uniformity	Corrosion Rate	Oxidation Rate	Charpy Impact Test				Creep Rupture				
		Grain Size	Prevalent Grain Size	Recy. Grain	Library Grain %	ALA	P&W Figure Number					Attack Depth	Corrosion	Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Essai Versuch Temp.	Stress Contrainte Spannung PSI
94 HRB	(1)(A)	5																		

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Certification Technician

6/10/2005 (1) 2743540351

*Amanda Aguirre*

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 437974001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01374	Report No. Rapport No Zeugnis Nr 20050610030	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC	Product Description • Description Produit • Material Beschreibung <b>0.500 x 29 x 44 SE120-004-11MTM-REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>

**HAYNES**  
**International**

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1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2743540351 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

*Amanda Aguirre*



JUN 15 2005

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MC109057.TIF4



JUN 15 2005

Magnetic Permeability Test Witness

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on June 10, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

## Items Tested

2650-5-6801  
2650-5-6796  
2650-5-6805  
2650-5-6808  
2650-5-6820

## Purchase Order Numbers

P05-01369  
P05-01372  
P05-01373  
P05-01374  
P05-01377  
P05-01378  
P05-01379

Best Regards,

Marlin C. Losch III

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

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Invoice No No. De Facture Rechnungs Nr 437987001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01375	Report No. Rapport No Zeugnis Nr 20050525041	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellanrschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinaire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung <b>0.500 x 20 x 44</b> <b>SE120-004-12MTM REV:1A</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantité Commandée Bestelmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
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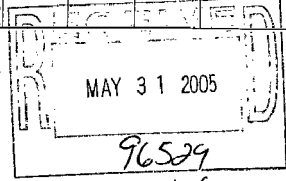
Heat Number Numero De Cofree Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																		
	Al	B	C	Ch-Ts (Obs-Ts)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W		
2650 4 6737	0.22		0.03	3.62	0.46	22.06	0.13	3.94	0.26	8.72	59.8	0.006	0.003	0.17	0.26				BUTT END *03
2650 4 6737	3.61	<0.05																	BUTT END *03

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Certification Technician

5/25/2005

*Amanda Aguirre*

MAY 31 2005



1-6 B.A.

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MC108540.TIF1

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Invoice No No. De Facture Rechnungs Nr 437987001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01375	Report No. Rapport No Zeugnis Nr 2005025041	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
**International**

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Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 20 x 44 SE120-004-12MM REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch					Stress Rapture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Lim. Elast. A 1% Zugfestigkeit	1% Yield Lim. Elast. A 0.2% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong in % Allong EN % Dehnung	%RA	Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong in % Allong EN % Dehnung	%RA	Test Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong in % Allong EN % Dehnung	% RA
133000 PSI		67000 PSI	50 %	(I)(A)											

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician  
5/25/2005 (1) 2741771301

*Amanda Aguirre*



MAY 31 2005

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MC108540.TIF2



**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

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Invoice No No. De Facture Rechnungs Nr 437987001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01375	Report No. Rapport No Zeugnis Nr 20050525041	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 20 x 44 SE120-004-12MTM REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC	

**HAYNES  
International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2741771301 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre 5/25/2005  
Certification Technician

*Amanda Aguirre*



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MC108540.TIF4

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Invoice No No. De Facture Rechnungs Nr 437998001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01376	Report No. Rapport No Zeugnis Nr 20050325044	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinaire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung <b>0.500 x 17 x 44</b> <b>SE120-004-13MTM REV:1A</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantité Commandée Bestellenmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
--	--	--

Heat Number Numero De Coque Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	CH+TA (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W			
2650 4 6737	0.22		0.03	3.62	0.46	22.06	0.13	3.94	0.26	8.72	59.8	0.006	0.003	0.17	0.26					BUTT END *03
2650 4 6737	(0.06)	Ta	Zr	Bi	Se	La	(0.005)	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo				BUTT END *03
	3.61	<0.05																		

Certified By • Certifié Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/25/2005

*Amanda Aguirre*

MAY 31 2005



MAY 31 2005

96530  
1-6 B.J

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MC108539.TIF1

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Invoice No No. De Facture Rechnungs Nr 437998001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01376	Report No. Rapport No Zeugnis Nr 20050525044	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**International**

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Kokomo, Indiana, 46902

Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 17 x 44 SE120-004-13MTM REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch					Stress Rapture Temperature • Essai A Charge De Rapture Zeitstandversuch					
Ultimate Lim. Elast. A 1% Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA	Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA	Test Essai Versuch Temp.	Stress Constante Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	%RA
133000 PSI		67000 PSI	50 %	(1)(A)											

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/25/2005

(1) 2741771301

*Amanda Aguirre*

MAY 31 2005



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MC108539.TIF2





**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS**

Invoice No. No. De Facture Rechnungs Nr 437998001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01376	Report No. Rapport No Zeugnis Nr 20050525044	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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Kokomo, Indiana, 46902

Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 17 x 44 SE120-004-13MTM REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantité Commandée Bestellemenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2741771301 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Bescheinigt Durch: Amanda Aguirre 5/25/2005  
Certification Technician

*Amanda Aguirre*

**MAY 31 2005**

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MC108539.TIF4



CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 439603001-0	Date Entered Date De Commande Bestelldatum 04/25/05	Customer Reference Reference Client Kundenbestelldaten P05-01377	Report No. Rapport No Zeugnis Nr 20050610028	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellauschrift <b>MAJOR TOOL AND MACHINE INC</b> <b>1458 E 19TH ST</b> <b>INDIANAPOLIS</b> <b>IN 46218 USA</b>	Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC</b> <b>1458 E 19TH ST</b> <b>INDIANAPOLIS</b> <b>IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 0/0 x 0/0</b> <b>SE120-004-14MTM REV: 1A</b> <b>HAYNES(R) 625 ALLOY PLATE -</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Along EN	%RA	Test Kern Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Along EN	%RA	Test Essai Versuch Temp.	Stress Contrainte Spannung	Hours Heure Stunden	% Elong In % Along EN	% RA
132000 PSI		64000 PSI	46 %	(1)(A)											

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

(1) 2743702401

*Amanda Aguirre*  
MIA  
OIG JUN 15 2005

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MC109056.TIF2



CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 439603001-0	Date Entered Date De Commande Bestelldatum 04/25/05	Customer Reference Reference Client Kundenbestelldaten P05-01377	Report No. Rapport No Zeugnis Nr 20050610028	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 0/0 x 0/0 SE120-004-14MTM REV: 1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC	

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2743702401 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

*Amanda Aguirre*



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JUN 15 2005

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MC109056.TIF4

JUN 15 2005

**Magnetic Permeability Test Witness**

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on June 10, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were < 1.01 magnetic permeability.

## Heats Tested

2650-5-6801  
2650-5-6796  
2650-5-6805  
2650-5-6808  
2650-5-6820

## Purchase Order Numbers

P05-01369  
P05-01372  
P05-01373  
P05-01374  
P05-01377  
P05-01378  
P05-01379

Best Regards,

Marlin C. Losch III

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 439603001-0	Date Entered Date De Commande Bestelldatum 04/25/05	Customer Reference Reference Client Kundenbestellidien P05-01377	Report No. Rapport No Zongint No 20050610028	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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**HAYNES**  
**International**

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PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellansage <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produits • Material Bezeichnung 0.500 x 0/0 x 0/0 SE120-004-14MTM REV: 1A HAYNES(R) .625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expedite Liefermenge 6 PC

Heat Number Numero De Caste Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	CrTa (NbTa)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6796	0.23		0.032	3.72	0.1655	21.78	0.0551	3.9177	0.2854	3.77	59.93	0.007	0.002	0.3	0.3282			BUTT END *03
2650 5 6796	3.7198	<0.05																BUTT END *03

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

*Amanda Aguirre*



JUN 15 2005

JUN 15 2005

97108 DA  
line 1-6

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MC118206.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 439603001-0	Date Entered Date De Commande Bestelldatum 04/25/05	Customer Reference Reference Client Kundenbestelldaten P05-01377	Report No. Rapport No Zugsugs Nr 20050610028	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
**International**


FILE COPY 2  
Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Bezeichnung 0.500 x 0/0 x 0/0 SE120-004-14 MTM REV: 1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
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Specification • Specification • Spezifikation *S-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elong. A 1% 1% Setzgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Setzgrenze	% Elong In % Abzug EH % Dehnung	RA RA		Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elong. A 1% 1% Setzgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Setzgrenze	% Elong In % Abzug EH % Dehnung	RA RA		Test Essai Versuch	Stress Charge Spannung	Hours Heure Stunden	% Elong In % Abzug EH % Dehnung	RA RA
132000 PSI		64000 PSI	46 %		(1)(A)												

Certified By • Certifie Par • Bescheinigt Durch: **Amanda Aguirre**  
 Certification Technician  
 6/10/2005 (1) 2743702401

*Amanda Aguirre*  
 JUN 15 2005

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Zmc109056.TIF

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. de Facture Rechnungs Nr 439603001-0	Date Entered Date De Commande Bestelldatum 04/25/05	Customer Reference Reference Client Kundenbestellnr P05-01377	Report No. Rapport No Zangab Nr 20050610028	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellername MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellosege MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.500 x 0/0 x 0/0 SE120-004-14MTM REV: 1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC	

**HAYNES**  
**International**

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1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2743702401 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

6/10/2005

*Amanda Aguirre*



JUN 15 2005  
JUN 15 2005

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MC118206.TIF4

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JUN 15 2005

**Magnetic Permeability Test Witness**

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on June 10, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were < 1.01 magnetic permeability.

**Heats Tested**

2650-5-6801  
2650-5-6796  
2650-5-6805  
2650-5-6808  
2650-5-6820

**Purchase Order Numbers**

P05-01369  
P05-01372  
P05-01373  
P05-01374  
P05-01377  
P05-01378  
P05-01379

**Best Regards,****Marlin C. Losch III**

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 437960001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01369	Report No. Rapport No Zeugnis Nr 20050525089	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4

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Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinaire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung <b>0.500 x 38 x 52</b> <b>SE120-004 REV:1</b> <b>HAYNES(R) 625 ALLOY PLATE -</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E; PS-489, E	Quantity Ordered Quantité Commandée Bestelmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC

Heat Number Numero De Cooles Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cr-Ta (Nb-Ti)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6805	0.21		0.028	3.3	0.2066	21.97	0.1637	4.7452	0.2713	8.67	59.49	0.007	0.004	0.21	0.3211			BUTT END *02
2650 5 6805	3.2994	<0.05																BUTT END *02

Certified By • Certifié Par • Bescheinigt Durch: Tammy Shepherd  
Certification Technician 5/25/2005

*T. Shepherd*



JUN 15 2005

JUN 15 2005  
97115 DJ  
lines 1-6

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MC109051.TIF1

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

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Invoice No No. De Facture Rechnungs Nr 437960001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01369	Report No. Rapport No Zengnis Nr 20050525089	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
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Kokomo, Indiana, 46902

Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC</b> <b>1458 E 19TH ST</b> <b>INDIANAPOLIS</b> <b>IN 46218 USA</b>	Ship To • Destinaaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC</b> <b>1458 E 19TH ST</b> <b>INDIANAPOLIS</b> <b>IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 38 x 52</b> <b>SE120-004 REV:1</b> <b>HAYNES(R) 625 ALLOY PLATE -</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E, PS-489, E	Quantity Ordered Quantie Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hts.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp.	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA		Total Essai Versuch Temp.	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
127000 PSI		61000 PSI	53 %		(1)(A)												

Certified By • Certifie Par • Bescheinigt Durch: Tammy Shepherd  
Certification Technician  
5/25/2005 (1) 2742657051

*T. Shepherd*  
JUN 15 2005



THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, COPIED IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL INC. SPECIFICATION MARKING REQUIREMENTS MAY BE VIEWED ON OUR WEBSITE: WWW.HAYNESINTERNATIONAL.COM

MC109051.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 437960001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01369	Report No. Rapport No Zeugnis Nr 20050525089	Pages of Pages Page de Pages Anzahl der Seiten 3 OF 4

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Kokomo, Indiana, 46902

Sold To • Client • Bestellausschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestelldunge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 38 x 52 SE120-004 REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E; PS-489, E	Quantity Ordered Quantite Commandee Bestelldmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
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Annealed Hardness Durete Recuit Gepluht Haerte	Aged Hardness Durete Vieilli Gealtert Haerte	Grain Size Grosueur De Grain Korngroesse						IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture			
		Grain Size	Prodominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number			Attack Depth	Corrosion		Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Etotal Versuch Temp	Stress Constraint Spannung	Hours Heures Stunden
93 HRB	(1)(A)	6								MPV										

Certified By • Certifie Par • Bescheinigt Durch: **Tammy Shepherd** 5/25/2005 (1) 2742657051  
Certification Technician

*T. Shepherd*  
JUN 15 2005



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MC109051.TIF3

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

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Invoice No No. De Facture Rechnungs Nr 437960001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01369	Report No. Rapport No Zeugnis Nr 20050525089	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaufschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 38 x 52 SE120-004 REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E; PS-489, E			Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC

**HAYNES  
International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2742657051 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: **Tammy Shepherd** 5/25/2005  
Certification Technician

*T. Shepherd*

 JUN 15 2005

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MC109051.TTF4

JUN 15 2005

Magnetic Permeability Test Witness

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on June 10, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

## Heats Tested

2650-5-6801  
2650-5-6796  
2650-5-6805  
2650-5-6808  
2650-5-6820

## Purchase Order Numbers

P05-01369  
P05-01372  
P05-01373  
P05-01374  
P05-01377  
P05-01378  
P05-01379

Best Regards,

Marlin-C. Losch III



FIRST METALS & PLASTICS TECHNOLOGIES, INC.

**CERTIFICATE OF CONFORMANCE**

Part Number Port 12

We do hereby certify that the material shipped on Purchase Order P05-04709  
conforms to all specification requirements called out or referenced on the above purchase order.

The above items were processed and/or manufactured in accordance with the template and/or  
gauge, which has supplied to FMP by the customer.

FMP used only the material supplied to us by the customer.

[Signature] QA 9/26/05  
Signature Title Date

9.27.05  
100997 WA  
line 37.48



OCT 05 2005



**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

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Kokomo, Indiana, 46902

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Invoice No No. De Facture Rechnungs Nr 437972001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01372	Report No. Rapport No Zeugnis Nr 20050525093	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4																
Sold To • Client • Bestellanrschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 26 x 52 SE120-004-36MTM REV: 1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>																
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC																	
Heat Number Numero De Cooite Charge Nr 2650 5 6805	Chemical Analysis • Analyse Chimique • Chemische Analyse														Si	Ti	V	W	BUTT END *02	
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S							
	0.21		0.028	3.3	0.2066	21.97	0.1637	4.7452	0.2713	8.67	59.49	0.007	0.004	0.21	0.3211					
	(GAG)	Ta	Zr	Bi	Sc	La	(GAG)	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo				BUTT END *02
2650 5 6805	3.2994	<0.05																		

Certified By • Certifie Par • Bescheinigt Durch: **Tammy Shepherd**  
Certification Technician

5/25/2005

*T. Shepherd*



**JUN 15 2005**

JUN 15 2005

97113

*Area 1-6*

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MC109052.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 437972001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01372	Report No. Rapport No Zeugnis Nr 20050525093	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4

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Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaire • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.500 x 26 x 52 SE120-004-36MTM REV: 1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
--	--	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong in % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong in % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Stress Contrainte Spannung	Hours Heures Stunden	% Elong in % Allong EN % Dehnung	% RA
127000 PSI		61000 PSI	53 %		(1)(A)												

Certified By • Certifie Par • Bescheinigt Durch: **Tammy Shepherd**  
Certification Technician  
5/25/2005 (1) 2742657051

*T. Shepherd*  
MAY 15 2005  
MTM 016

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MC109052.TIF2



CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 437972001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01372	Report No. Rapport No Zeugnis Nr 20050525093	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 26 x 52 SE120-004-36MTM REV: 1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC	

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Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2742657051 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Tammy Shepherd  
Certification Technician

5/25/2005

*T. Shepherd*



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MC109052.TTF4



JUN 15 2005

**Magnetic Permeability Test Witness**

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on June 10, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

## Heats Tested

2650-5-6801  
2650-5-6796  
2650-5-6805  
2650-5-6808  
2650-5-6820

## Purchase Order Numbers

P05-01369  
P05-01372  
P05-01373  
P05-01374  
P05-01377  
P05-01378  
P05-01379

Best Regards,

Marlin C. Losch III

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS				
Invoice No. No. De Facture Rechnungs Nr 438000001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Référence Client Kundenbestellnum F05-01379	Report No. Rapport No Zugsatz Nr 20050326076	Page of Pages Page de Pages Anzahl der Seiten 1 Of 4

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PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Besteller/Mehrheit <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Bezeichnung <b>0.500 x 12 x 50</b> <b>SE120-004-4M™ REV:1A</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Spécification • Spezifikation <b>PS-489, E</b>	Quantity Ordered Quantité Commandée Bestellmenge <b>6 PC</b>	Quantity Shipped Quantité Expédiée Liefermenge <b>6 PC</b>

Heat Number Numero de Corder Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	CHN (DBH)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 S 6820	0.2		0.027	3.44	0.3649	22.33	0.0685	4.9097	0.3096	8.54	59.05	0.008	0.003	0.14	0.2713			BUTT END *02
2650 S 6820	3.4331	<0.05																BUTT END *02

Certified By • Certifié Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/26/2005

JUN 16 2005

*Amanda Aguirre*  
HTM 016 JUN 16 2005

97148 24  
lines 1-6

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS				
Invoice No. No. De Facture Rechnungs Nr. 43800001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestellnr. P05-01379	Report No. Rapport No. Zertifikat Nr. 20050526076	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Bezeichnung 0.500 x 12 x 50 <b>SE120-004-4MTM REV:1A</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC	
Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.				
Ultimate Zugfestigkeit	0.2% Yield Lim. Elong. A 1% 1% Stréckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Stréckgrenze	% Elong In % Allong EN % Dehnung	% RA
133000 PSI		66000 PSI	45 %	(1)(A)
Tensile Test at Elevated Temperature • Essai De Traction A Eiev. Temp. Warme Zugversuch				
Ultimate Zugfestigkeit	0.2% Yield Lim. Elong. A 1% 1% Stréckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Stréckgrenze	% Elong In % Allong EN % Dehnung	% RA
Stress Rupture Temperature • Essai A Charge De Rupture Zeistandversuch				
Test Essai Versuch	Stress Constance Spannung	Hours Heure Stunden	% Elong In % Allong EN % Dehnung	% RA

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PO Box 9013  
Kokomo, Indiana, 46902

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Certification Technician  
*Amanda Aguirre*

MM 016 JUN 16 2005

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MC118207.TIF2



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Invoice No. No. de Facture Rechnungs Nr. 43800001-0	Date Entered Date de Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten POS-01379	Report No. Rapport No. Zeugnis Nr. 20030526076	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Besteller/Kunde <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 12 x 50 SE120-004-4MTM REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E		Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC	

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
MIL Orders Used: 2043612691 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician 5/26/2005

*Amanda Aguirre*

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016 111N 16 2005

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS																			
Invoice No. No. De Facture Rechnungs Nr. 438000001-0	Date Entered Date de commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestellnr. P05-01379	Report No. Rapport No. Zeugnis Nr. 20050526076	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4															
Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>						Ship To • Destinaire • Bestelldunge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>						Product Description • Description Produits • Material Beschreibung <b>0.500 x 12 x 50 SE120-004-4MTM REV:1A HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>							
Specification • Specification • Spezifikation PS-489, E						Quantity Ordered Quantite Commandee Bestelmenge 6 PC			Quantity Shipped Quantite Expediee Liefermenge 6 PC										
Heat Number Numero De Coute Charge Nr.	Al	B	C	Cs+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W		
2650 5 6820	0.2		0.027	3.44	0.3649	22.33	0.0685	4.9097	0.3096	8.54	59.05	0.008	0.003	0.14	0.2713				BUTT END *02
(Nb)	Ta	Zr	Bi	Se	La	C+N	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo				
2650 5 6820	3.4331	<0.05																	BUTT END *02

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Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
 Certification Technician

5/26/2005

JUN 16 2005

*Amanda Aguirre*

MTM 016 JUN 16 2005

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 lines 1-6

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MC109033.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 438000001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01379	Report No. Rapport No Zeugnis Nr 20050526076	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4

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PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung <b>0.500 x 12 x 50</b> <b>SE120-004-4MTM REV:1A</b> <b>HAYNES(R) 625 ALLOY PLATE -</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch					Tensile Test at Elevated Temperature • Essai De Traction A Hie.Temp.						Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate	1% Yield	0.2% Yield	% Elong In	%RA	Test	Ultimate	1% Yield	0.2% Yield	% Elong In	%RA	Test	Stress	Hours	% Elong In	%RA	
Zugfestigkeit	Lim. Elast. A 1%	Lim. Elast. A 0.2%	% Dehnung	%RA	Essai	Zugfestigkeit	Lim. Elast. A 1%	Lim. Elast. A 0.2%	% Dehnung	%RA	Versuch	Constraine	Spannung	% Dehnung	% RA	
133000 PSI	1% Streckgrenze	0.2% Streckgrenze	% Dehnung	%RA	Temp:						Temp:					
		66000 PSI	45 %	(1)(A)												

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/26/2005 (1) 2043612691

*Amanda Aguirre*

MTM 016 JUN 16 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LATEST SPECIFICATIONS MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR DATA ON THIS DOCUMENT MAY BE PROSECUTED AS PER ANY APPLICABLE FEDERAL, STATE OR LOCAL LAW. TITLE IS CLIPPED. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUESTING MULTIPLE MATERIAL SPECIFICATIONS.



MC109033.TIF4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 438000001-0	Date Entered Date De Commande Bestelldatum 04/04/05	Customer Reference Reference Client Kundenbestelldaten P05-01379	Report No. Rapport No Zeugnis Nr 20050526076	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.500 x 12 x 50 SE120-004-4MTM REV:1A HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation PS-489, E			Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC

FILE COPY 2

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2043612691 (6 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician 5/26/2005

*Amanda Aguirre*

MM 16 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS AS STATED BY ANY DESCRIPTION OR PURCHASE ORDER REQUIREMENTS.  
THE RECORDING OF FALSE, INACCURATE OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC.  
SPECIFICATION MARKING REQUIREMENTS MAY BE VIEWED ON: [WWW.HAYNES.COM](http://WWW.HAYNES.COM)



4119 FULTON / 77022  
 P.O. BOX 120630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250675  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: P05-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05  
 INDIANAPOLIS IN 46218 SHIP VIA: ABF F.O.B.: OUR PLANT  
 BUYER: BOB FREIGHT BILL NUMBER:  
 SHIP TO: MAJOR TOOL & MACHINE INC. PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 1458 E. 19TH. STREET TERMS: SEE BELOW  
 INDIANAPOLIS IN 46218  
 ATTENTION: WILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
1	9	9pc. 34"lg	4"OD .250AW PIPE X 34"LG (-0+1/4) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: 3PCS PART# SE120-004 PORT 15 TAG: 3PCS PART# SE120-004 PORT FJ6	EA 132793	81404C
				99716	
				99715	
2	6	6pc. 42"lg	4"OD .250AW PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT 17	EA 132793	81404C
				99721	

Re: 08.17.05 wx





6119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 495-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 9/04/05  
 INDIANAPOLIS SHIP VIA: AEF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
3	18	18 pcs. 52"lg	4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 625 S8443 NO LONG SEAM BEVEL TAG: <u>1PC</u> PART# SE120-004 PORT 17 <u>5PC</u> PART# SE120-004 PORT 18 <u>1PC</u> PART# SE120-004 PORT 2 <u>4PC</u> PART# SE120-004 PORT 8	EA 132793	81404C
4	1		CONTACT MAJOR TOOL TRANS. LT DEPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #0E-AC02-74-CH03073		
5	1		BAND PIPE TO WOODEN PALLETS LT & SHRINK WRAP COMPLETELY		

*9976A see last page for customer/  
 vendor revision.*

*99720  
 99723  
 99724*

*VIN*

*VIN*



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
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 \*\*\* SHIPPING DEPT \*\*\*  
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CUSTOMER #: 38900000 SLSPRSN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 TERMS: SEE BELOW

INDIANAPOLIS  
 IN 46218  
 ATTENTION:  
 TAG #:  
 TAG #:  
 MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	QUANTITY	ORDER S/O	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
6	1		MTM TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT	
			FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM; BALANCE OF FUNDS DUE NET 30 DAYS.	RECV. 31,500 8/9/05 CIC# 60160	

RECEIVED BY Frank Smith  
 DATE 8-9-05 DECLARED VALUE IS ----- \$48,400.00



6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-6823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in black ink that reads "Denise Hernandez". The signature is written in a cursive style.

Denise Hernandez  
Sales Department

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 2 - Item: 83

Workorder: 65678/7-0 Sub:180 Op:20

Part: SE120-004 PORT 2 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATION REQUI EMENTS.	933-D.L	933-D.L	
(20)		VWI - COMPLETED WELD		CWI				09-09-05	09-09-05	

A

JUN 16 2005

Magnetic Permeability Test Witness

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on June 10, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

## Heats Tested

2650-5-6801  
2650-5-6796  
2650-5-6805  
~~2650-5-6808~~  
2650-5-6820

## Purchase Order Numbers

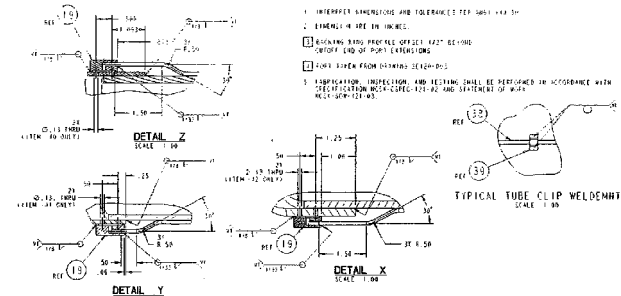
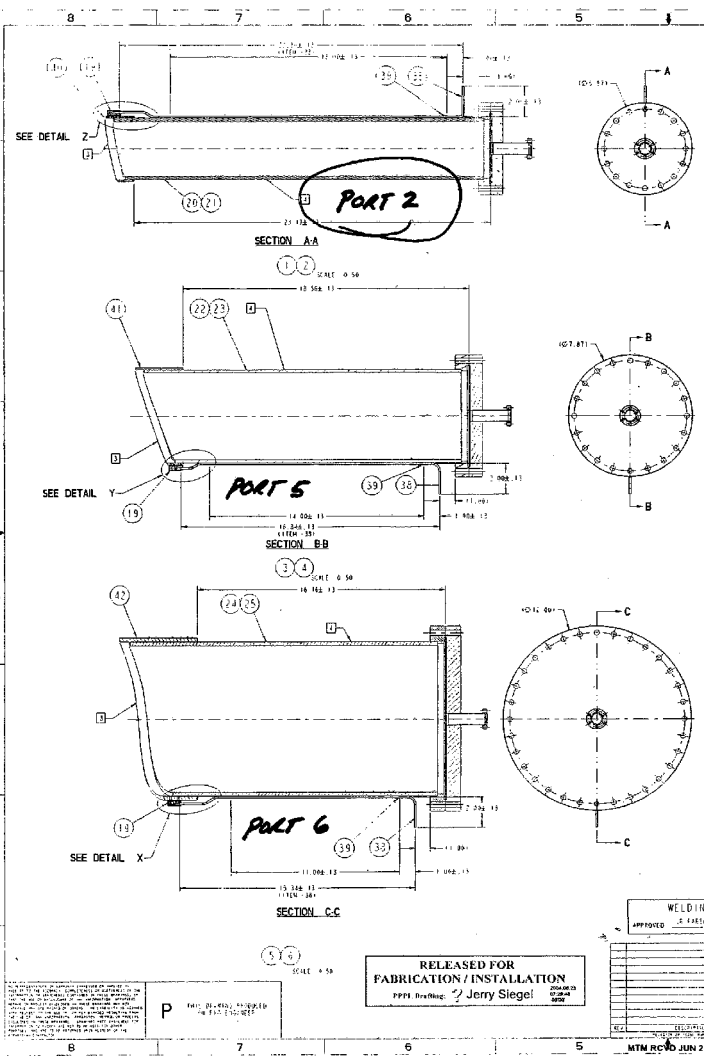
P05-01369  
P05-01372  
P05-01373  
P05-01374  
P05-01377  
P05-01378  
P05-01379

Best Regards,

Marlin C. Losch III



NOTE:  
 1. DIMENSIONAL SPECIFICATIONS AND TOLERANCES PER UNITS AND INCHES  
 2. DIMENSIONS ARE IN INCHES  
 3. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED  
 4. DIMENSIONS ARE TO CENTER UNLESS OTHERWISE SPECIFIED  
 5. FABRICATION, INSPECTION, AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATION FOR VACUUM VESSEL PARTS LIST AND DRAWING OF VACUUM VESSEL PARTS LIST (SEE 100-005)




NO.	DESCRIPTION	QTY.	UNIT	REMARKS
1	FILLER METAL WELD	30		
2	PORT 13 BACKING RING	1		
3	PORT 14 BACKING RING	1		
4	PORT 15 BACKING RING	1		
5	PORT 16 BACKING RING	1		
6	PORT 17 BACKING RING	1		
7	PORT 18 BACKING RING	1		
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293	PORT 304 BACKING RING	1		
294	PORT 305 BACKING RING	1		
295	PORT 306 BACKING RING	1		

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 2 - Item: 86

Workorder: 65678/7-0 Sub:180 Op:50

Part: SE120-004 PORT 2 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.052	854-R.U 10-20-05		

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**INSPECTION DATA CHECKLIST**

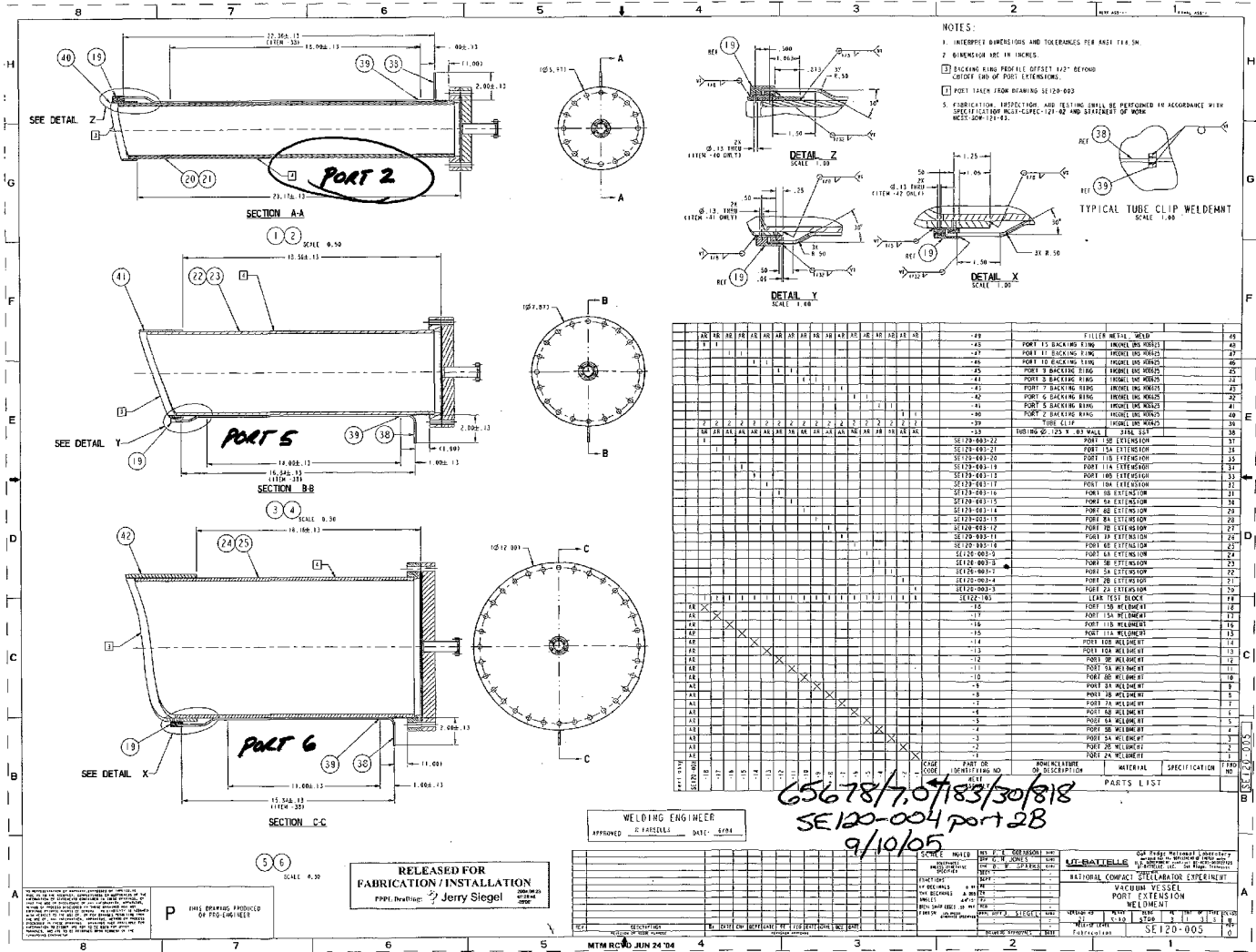
Quality Assurance Documentation for Part ID: SE120-004 PORT 2 - Item: 88

Workorder: 65678/7-0 Sub:183 Op:20

Part: SE120-004 PORT 2 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATION REQUI EMENTS.	933-D.L	933-D.L	
(20)		VWI - COMPLETED WELD		CWI				09-09-05	09-09-05	

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- NOTES:
1. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M.
  2. DIMENSIONS ARE IN INCHES.
  3. BACKGAWN RADIUS PROFILE OFFSET 1/32" BEFORE CHORD END OF PORT EXTENSION.
  4. PORT TAKEN FROM DRAWING SE120-003.
  5. FABRICATION, INSPECTION AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION MULTI-SPEC-120-02 AND STATEMENT OF WORK MULTI-SPEC-120-02.

NO.	REV.	DATE	DESCRIPTION	BY	CHKD.
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WELDING ENGINEER  
 APPROVED: R. FARELLI DATE: 6/88

RELEASED FOR FABRICATION / INSTALLATION  
 PPPL Drafting: Jerry Siegel

65678/7.07/83/30/818  
 SE120-004 part 2B  
 9/10/05

NO.	REV.	DATE	DESCRIPTION	BY	CHKD.
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


**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 2 - Item: 91

Workorder: 65678/7-0 Sub:183 Op:50

Part: SE120-004 PORT 2 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.08 (ACCEPT PER NC 18427)	854-R.U 05-03-06		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 2A - Item: 92

Workorder: 65678/7-0 Sub:6 Op:10

Part: SE120-004 PORT 2A - PORT 2A SUB-ASSEMBLY - PORT 2A SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P2AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P2AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	

Quality Assurance Documentation for Part ID: SE120-004 PORT 2B - Item: 93

Workorder: 65678/7-0 Sub:7 Op:10

**Part: SE120-004 PORT 2B - PORT 2B SUB-ASSEMBLY - PORT 2B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P2BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P2BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)				CWI				10-27-05	10-27-05		

Quality Assurance Documentation for Part ID: SE120-004 PORT 4A - Item: 94

Workorder: 65678/7-0 Sub:8 Op:30

Part: SE120-004 PORT 4A - PORT 4A SUB-ASSEMBLY - PORT 4A SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE120-004 Rev: 2		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(10)		VWI ROOT PASS WELD 4A1-4A5		CWI				10-09-05	10-09-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(50)		VWI COVER PASS WELD 4A1-4A5		CWI				10-10-05	10-11-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(60)		VWI ROOT PASS WELD 4A2-4A5		CWI				10-09-05	10-09-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(100)		VWI COVER PASS WELD 4A2-4A5		CWI				10-10-05	10-11-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(110)		VWI ROOT PASS WELD 4A1-4A6		CWI				10-09-05	10-09-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(150)		VWI COVER PASS WELD 4A1-4A6		CWI				10-10-05	10-11-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(160)		VWI ROOT PASS WELD 4A2-4A6		CWI				10-09-05	10-09-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(200)		VWI COVER PASS WELD 4A2-4A6		CWI				10-10-05	10-11-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(210)		VWI ROOT PASS WELD 4A3-4A5		CWI				10-09-05	10-09-05	
*				MFG		VISUAL	O.K. PER CUSTOMER	771-B.S	581-D.E	A
(250)		VWI COVER PASS WELD 4A3-4A5		CWI			EQUIREMENTS	10-12-05	10-19-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(260)		VWI ROOT PASS WELD 4A4-4A5		CWI				10-10-05	10-11-05	
*				MFG		VISUAL	O.K. PER CUSTOMER	771-B.S	581-D.E	A
(300)		VWI COVER PASS WELD 4A4-4A5		CWI			EQUIREMENTS	10-12-05	10-19-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(310)		VWI ROOT PASS WELD 4A3-4A6		CWI				10-10-05	10-11-05	
*				MFG		VISUAL	O.K. PER CUSTOMER	771-B.S	581-D.E	A
(350)		VWI COVER PASS WELD 4A3-4A6		CWI			EQUIREMENTS	10-12-05	10-19-05	
*				MFG		VISUAL	OK	093-M.S	581-D.E	A
(360)		VWI ROOT PASS WELD 4A4-4A6		CWI				10-10-05	10-11-05	

**INSPECTION DATA CHECKLIST**

*	(400)	VWI COVER PASS WELD 4A4-4A6	MFG CWI	VISUAL	O.K. PER CUSTOMER EQUIREMENTS	771-B.S 10-12-05	581-D.E 10-19-05		A
*	(410)	VWI ROOT PASS WELD 4A CIRCUMFER	MFG CWI	VISUAL	OK	093-M.S 10-13-05	933-D.L 10-13-05		A
*	(450)	VWI COVER PASS WELD 4A CIRCUMFE	MFG CWI	VISUAL	OK	093-M.S 10-17-05	581-D.E 10-19-05		A
*	(460)	VWI ROOT PASS WELD 4A1X	MFG CWI	VISUAL	OK	093-M.S 10-17-05	581-D.E 10-19-05		A
*	(500)	VWI COVER PASS WELD 4A1X	MFG CWI	VISUAL	OK	093-M.S 10-17-05	581-D.E 10-19-05		A
*	(510)	VWI ROOT PASS WELD 4A4X	MFG CWI	VISUAL	OK	093-M.S 10-17-05	581-D.E 10-19-05		A
*	(550)	VWI COVER PASS WELD 4A4X	MFG CWI	VISUAL	OK	093-M.S 10-17-05	581-D.E 10-19-05		A



Quality Assurance Documentation for Part ID: SE120-004 PORT 4A - Item: 95

Workorder: 65678/7-0 Sub:8 Op:40

Part: SE120-004 PORT 4A - PORT 4A SUB-ASSEMBLY - PORT 4A SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	OK	093-M.S	581-D.E	
(20)		VWI - ROOT PASS P4AF		CWI				10-17-05	10-17-05	A
*				MFG		10 X VISUAL	ACCEPTABLE PER CU	771-B.S	581-D.E	
(50)		VWI - COVER PASS P4AF		CWI			OMER REQUIREMENT	10-21-05	10-21-05	A
*				MFG		VISUAL	ACCEPTABLE PER CU	771-B.S	581-D.E	
(60)		VWI - FILLET WELDS P4AF		CWI			OMER REQUIREMENT	10-21-05	10-21-05	A

4959

10520 Chester Road  
Woodlawn, Ohio 45215



CLIENT Major Tool + Machine	INTERPRETER/LEVEL Robert Weaver/II	RADIOGRAPHER Robert Weaver	JOB NO. 13850291	P.O. NO. NA	DATE 10/20/05					
SOURCE/RAY IR192	DIAPHRAGM 1/8" x .015"	CURIES/M 85	FOCAL SPOT SIZE .142"	SFD 15"	SOD 14.5"	TIME 3:00	FILM PROCESSING Auto	FILM TYPE Kodak MX165	FILM TECHNIQUE Double	PH SCREENS .010"
WELD PROCESS GTAW	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER NA	MATERIAL THICKNESS 5"	PENETRANT ASTM 1B	SHIM NA	ACCEPTANCE STANDARD ASME VIII, Div. 1, UW-51				

DESCRIPTION  
65678/70/8/70/818  
SE 120-004 port 4A  
page 1 of 2

FITTING, SEAM OR FITTING	FILM INTERNAL NUMBER	WELDER IDENTIFICATION	PENETRANT		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CORROSION	INTERNAL CAVITY	TUNGSTEN	MELT THROUGH	BURR THROUGH	CRATER/PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MISMATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT				
			SIZE	QUALITY LEVEL																												
1	0-14	MS.	18	.016"		✓																										
2						✓																										
3						✓																										
4						✓																										
5						✓																										
6						✓																										
7						✓																										
8						✓																										
9						✓																										

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrant  
 S Grain  
 L Location Marker  
 t OTHER

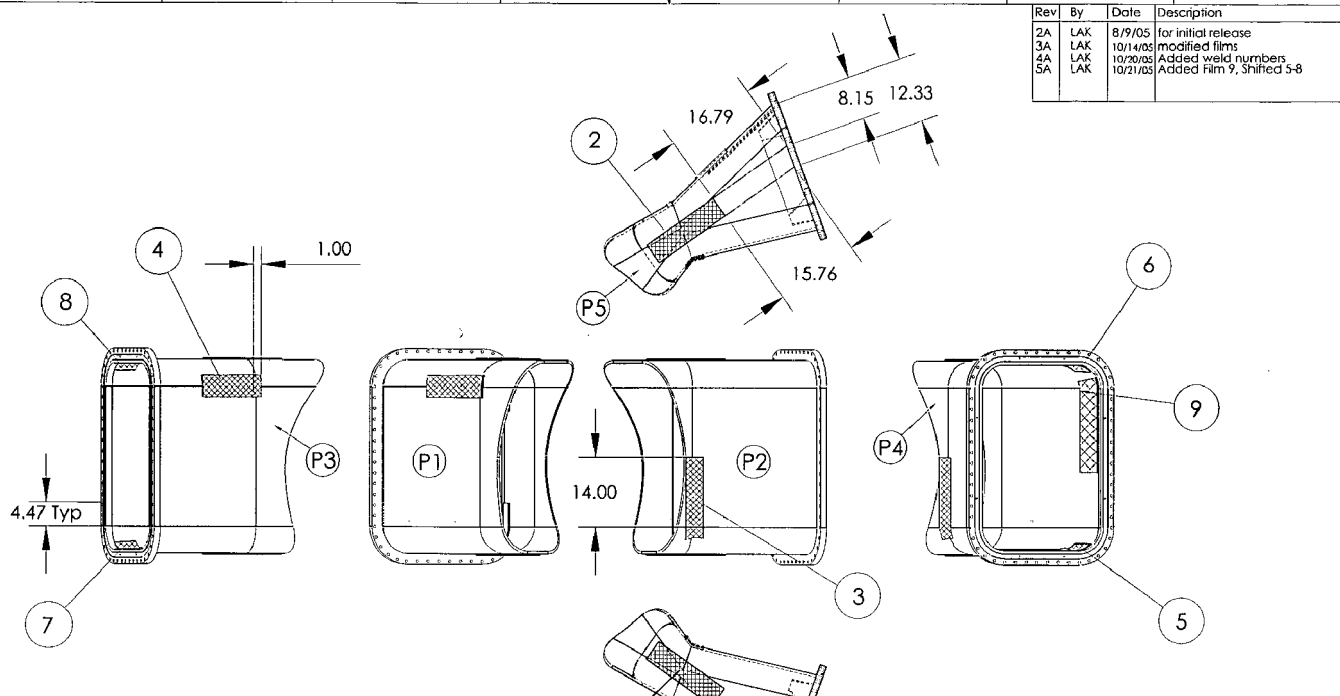
*Robert Weaver* 655514/II  
Cooperheat-MQS Signature

*[Signature]*  
Customer Representative Signature

10/20/05  
Date

MC113146.TIF1

Rev	By	Date	Description
2A	LAK	8/9/05	for initial release
3A	LAK	10/14/05	modified films
4A	LAK	10/20/05	Added weld numbers
5A	LAK	10/21/05	Added Film 9, Shifted 5-8



Item No.	Film Number	Comment
1	4A6 - 4A2&4A4 - 4A1&4A3	
	4B6 - 4B2&4B4 - 4B1&4B3	
2	4A5 - 4A2&4A4 - 4A1&4A3	
	4B5 - 4B2&4B4 - 4B1&4B3	
3	4A2 - 4A4X	
	4B2 - 4B4X	
4	4A1X	
	4B1X	
5	4A1 - 4A6	
	4B1 - 4B6	
6	4A1 - 4A5	
	4B1 - 4B5	
7	4A2 - 4A6	
	4B2 - 4B6	
8	4A2 - 4A5	
	4B2 - 4B5	
9	4A1X - FLG	
	4B1X - FLG	

65678/7.0/8/70/818  
 SE120-004 part 4A  
 Page 2 of 2  
 10/20/05

Status Character Selected		Rev	Date	Title	
Dimensional	OK	5A	10/20/05	Port 4 X-Ray Film Layout	
Material	OK				
Quantity	OK				
Part Name	OK				
Part Number	OK				
Part Description	OK				
Part Drawing	OK				
Part Assembly	OK				
Part Inspection	OK				
Part Test	OK				
Part Approval	OK				
Part Release	OK				
Part Storage	OK				
Part Distribution	OK				
Part Disposal	OK				
Part Archiving	OK				
Part Retention	OK				
Part Destruction	OK				
Part Recycling	OK				
Part Reuse	OK				
Part Repair	OK				
Part Replacement	OK				
Part Upgrade	OK				
Part Downgrade	OK				
Part Obsolete	OK				
Part Withdrawn	OK				
Part Suspended	OK				
Part Reinstated	OK				
Part Cancelled	OK				
Part Archived	OK				
Part Deleted	OK				
Part Purged	OK				
Part Restored	OK				
Part Recovered	OK				
Part Rebuilt	OK				
Part Reconfigured	OK				
Part Reinstalled	OK				
Part Reinitialized	OK				
Part Reopened	OK				
Part Rescued	OK				
Part Revalidated	OK				
Part Reverified	OK				
Part Rechecked	OK				
Part Reexamined	OK				
Part Reinspected	OK				
Part Reapproved	OK				
Part Reauthorized	OK				
Part Repermitted	OK				
Part Relicensed	OK				
Part Reissued	OK				
Part Renewed	OK				
Part Reextended	OK				
Part Revalidated	OK				
Part Reverified	OK				
Part Rechecked	OK				
Part Reexamined	OK				
Part Reinspected	OK				
Part Reapproved	OK				
Part Reauthorized	OK				
Part Repermitted	OK				
Part Relicensed	OK				
Part Reissued	OK				
Part Renewed	OK				
Part Reextended	OK				

Quality Assurance Documentation for Part ID: SE120-004 PORT 4A - Item: 98

Workorder: 65678/7-0 Sub:8 Op:80


Part: SE120-004 PORT 4A - PORT 4A SUB-ASSEMBLY - PORT 4A SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE122-049 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	E5	$\varnothing .030$ A B C DIA. 0.531 THRU +/- 0.005" (60X)		MFG QA		J-669 / P-1170	.531 / .535 W/IN .0 05	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (20)	C7	1.18 +/- 0.010" (2x)	CALIPER	MFG QA		P-424	1.195 / 1.200 (ACCE PT PER NC 18525)	854-R.U 05-03-06	503-B.H 10-31-05	A
1* (30)	H5	$\sphericalangle$ 0.015"	INDICATOR	MFG QA		P-3891	W/IN .003	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (40)	C6	26.63 +/- 0.010"		MFG QA		EDGE FINDER	26.635	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (50)	D7	37.63 +/- 0.010"		MFG QA		EDGE FINDER	37.633	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (60)	B6	$\varnothing 0.012$ A B C 8-32 UNC .250DP	THREAD PLUG GA	MFG QA		A-112	W/IN .005 ACCEPT	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (70)	G5	.94 +/-0.010" ALL AROUND	PIN GAGE	MFG QA		J-921	.939 / .940	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (80)	H5	0.151 - 0.149 (0.153 +0/-0.003" on dwg) (leaves aprx 0.002" for polishing)	DEPTH MICROMET	MFG QA		P-4276	.149 / .151	535-S.L 10-31-05	503-B.H 10-31-05	A
1* (90)	H5	1.25 +/- .010"	OD MICROMETER	MFG QA		P-422	1.248 / 1.259	535-S.L 10-31-05	503-B.H 10-31-05	A

Quality Assurance Documentation for Part ID: SE120-004 PORT 4A - Item: 99

Workorder: 65678/7-0 Sub:8 Op:120

Part: SE120-004 PORT 4A - PORT 4A SUB-ASSEMBLY - PORT 4A SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 0.375 PROFILE VERIFICATION	INDICATOR	QA		J-843	.269	854-R.U 11-09-05			A
*		Magnetic Permeability 1.02 Max	MASTER GAGE	QA		J-1165	GREATER THAN 1.1 B T LESS THAN 1.15 (A CCEPT PER NC 18590)	854-R.U 05-03-06			A
*		Interior Surface Finish 32 Micro-Inch RA	PROFILOMETER	QA		J-825	25-30	854-R.U 11-09-05			A
*		Material Thickness: .500 +.04 / -.01"	CALIPER	QA		J-96	.516	854-R.U 11-09-05			A
*		CLEANLINESS PER PS483		QA		VISUAL	ACCEPTABLE	854-R.U 11-09-05			A
*		Magnetic Permeability 1.2 Max (at flange we	MASTER GAGE	QA		J-1165	LESS THAN 1.2	854-R.U 11-09-05			A

Quality Assurance Documentation for Part ID: SE120-004 PORT 4B - Item: 100

Workorder: 65678/7-0 Sub:9 Op:30

Part: SE120-004 PORT 4B - PORT 4B SUB-ASSEMBLY - PORT 4B SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	OK WELDED BY 28	358-D.M	581-D.E	
(10)		VWI ROOT PASS WELD 4B1-4B5		CWI			0	10-21-05	10-21-05	A
*				MFG		VISUAL	O.K. PER CUSTOMER	771-B.S	933-D.L	
(50)		VWI COVER PASS WELD 4B1-4B5		CWI			EQUIREMENTS	10-21-05	10-25-05	A
*				MFG		VISUAL	OK WELDED BY 280	358-D.M	581-D.E	
(60)		VWI ROOT PASS WELD 4B2-4B5		CWI				10-21-05	10-21-05	A
*				MFG		VISUAL	O.K. PER CUSTOMER	771-B.S	933-D.L	
(100)		VWI COVER PASS WELD 4B2-4B5		CWI			EQUIREMENTS	10-21-05	10-25-05	A
*				MFG		VISUAL	OK WELDED BY 28	093-M.S	581-D.E	
(110)		VWI ROOT PASS WELD 4B1-4B6		CWI			MAGLIGHT & 10	10-20-05	10-20-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(150)		VWI COVER PASS WELD 4B1-4B6		CWI				10-21-05	10-21-05	A
*				MFG		VISUAL	OK WELDED BY	093-M.S	581-D.E	
(160)		VWI ROOT PASS WELD 4B2-4B6		CWI			MAGLIGHT & 10 280	10-20-05	10-20-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(200)		VWI COVER PASS WELD 4B2-4B6		CWI				10-21-05	10-21-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(210)		VWI ROOT PASS WELD 4B3-4B5		CWI			MAGLIGHT & 10	10-20-05	10-20-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(250)		VWI COVER PASS WELD 4B3-4B5		CWI				10-21-05	10-21-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(260)		VWI ROOT PASS WELD 4B4-4B5		CWI			MAGLIGHT & 10	10-20-05	10-20-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(300)		VWI COVER PASS WELD 4B4-4B5		CWI				10-21-05	10-21-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(310)		VWI ROOT PASS WELD 4B3-4B6		CWI			MAGLIGHT & 10	10-20-05	10-20-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(350)		VWI COVER PASS WELD 4B3-4B6		CWI				10-21-05	10-21-05	A
*				MFG		VISUAL	OK	358-D.M	581-D.E	
(360)		VWI ROOT PASS WELD 4B4-4B6		CWI			MAGLIGHT & 10	10-20-05	10-20-05	A

**INSPECTION DATA CHECKLIST**

*	(400)	VWI COVER PASS WELD 4B4-4B6	MFG CWI	VISUAL	OK	358-D.M 10-21-05	581-D.E 10-21-05		A
*	(410)	VWI ROOT PASS WELD 4B CIRCUMFER	MFG CWI	VISUAL	OK WELD BY 093	280-K.S 10-22-05	581-D.E 10-22-05		A
*	(450)	VWI COVER PASS WELD 4B CIRCUMFE	MFG CWI	VISUAL	OK WELDED BY 093	093-M.S 10-25-05	933-D.L 10-25-05		A
*	(460)	VWI ROOT PASS WELD 4B1X	MFG CWI		WELD SEAM NOT NEE D	771-B.S 10-25-05	933-D.L 10-25-05		A
*	(500)	VWI COVER PASS WELD 4B1X	MFG CWI		WELD SEAM NOT NEE D	771-B.S 10-25-05	933-D.L 10-25-05		A
*	(510)	VWI ROOT PASS WELD 4B4X	MFG CWI	VISUAL MAGLIGHT & 10	OK	358-D.M 10-20-05	581-D.E 10-20-05		A
*	(550)	VWI COVER PASS WELD 4B4X	MFG CWI	VISUAL	OK	358-D.M 10-21-05	581-D.E 10-21-05		A

Quality Assurance Documentation for Part ID: SE120-004 PORT 4B - Item: 101

Workorder: 65678/7-0 Sub:9 Op:40

**Part: SE120-004 PORT 4B - PORT 4B SUB-ASSEMBLY - PORT 4B SUB-ASSEMBLY (PERSONNEL ACCESS PORT)**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	OK WELDED BY 093	358-D.M	933-D.L	
(20)		VWI - ROOT PASS P4BF		CWI				10-25-05	10-25-05	A
*				MFG		VISUAL	ACCEPT	837-J.D	933-D.L	
(50)		VWI - COVER PASS P4BF		CWI				10-27-05	10-28-05	A
*				MFG		VISUAL	ACCEPT	837-J.D	840-G.M	
(60)		VWI - FILLET WELDS P4BF		CWI				10-27-05	10-28-05	A



4959

10520 Chester Road  
Woodlawn, Ohio 45215



CLIENT <i>Major Tank &amp; Machine</i>		INTERPRETER LEVEL <i>John Ballard Jr</i>	RADIOGRAPHER <i>John Ballard</i>	JOB NO. <i>13850291</i>	P.D. NO.	DATE <i>10/27/05</i>
ISOTOPE/RAY <i>TR-192</i>	DIA. X LENS <i>.118 x .079"</i>	CURIES/MA <i>80-1</i>	FOCAL SPOT SIZE <i>.142x</i>	SFD <i>16"</i>	SOD <i>15.5</i>	TIME <i>3:00 min</i>
WELD PROCESS	MATERIAL SPEC. <i>Inconel 625</i>	MATERIAL DIAMETER <i>N/A</i>	MATERIAL THICKNESS <i>1/2"</i>	PENETRATOR <i>ASTM 1B</i>	FILM PROCESSING <i>Auto</i>	FILM TYPE <i>Kodak T</i>
					SHIM	FILM TECHNIQUE <i>Double</i>
DESCRIPTION <i>65678/7.0/9/70/818</i> <i>SE120-004 Port 4B</i>		REMARKS		ACCEPTANCE STANDARD <i>ASME VIII Div. 1, UW-51</i>		

FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAL	CRACK	LACK OF PEN	LACK OF FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MISMATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	
			SIZE	QUALITY LEVEL																									
<i>Shot 1</i>	<i>0-14</i>		<i>1B</i>	<i>.013</i>																									
<i>Shot 2</i>	<i>0-14</i>																												
<i>Shot 3</i>	<i>0-14</i>																												
<i>Shot 5</i>	<i>0-1</i>																												
<i>Shot 6</i>	<i>0-1</i>																												
<i>Shot 7</i>	<i>0-1</i>																												
<i>Shot 8</i>	<i>0-1</i>																												

End View | Side View

**SINGLE WALL**

**DOUBLE WALL**

P Penetrator  
S Shim  
L Location Marker  
( ) OTHER

*John Ballard Jr*  
Cooperheat-MQS Signature

*[Signature]*  
Customer Representative Signature

*10/27/05*  
Date

MC113142.TIF1

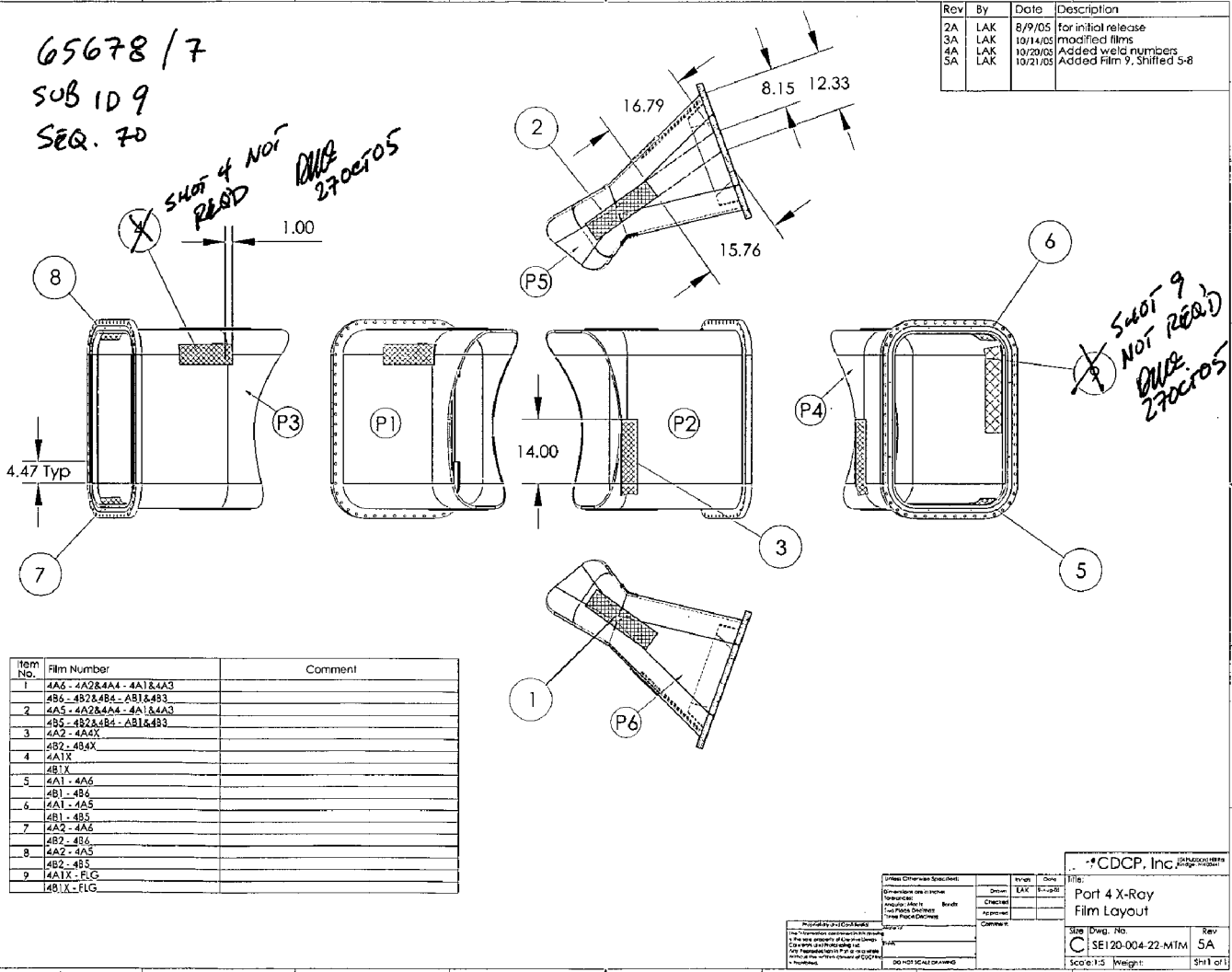
65678 / 7

SUB ID 9

SEQ. 70

*SLOT 4 NOT READ  
DUE 2700105*

Rev	By	Date	Description
2A	LAK	8/9/05	for initial release
3A	LAK	10/14/05	modified films
4A	LAK	10/20/05	Added weld numbers
5A	LAK	10/21/05	Added Film 9, Shifted 5-8



*SLOT 9  
NOT READ  
DUE 2700105*

Item No.	Film Number	Comment
1	4A6 - 4A2&4A4 - 4A1&4A3	
	4B6 - 4B2&4B4 - 4B1&4B3	
2	4A5 - 4A2&4A4 - 4A1&4A3	
	4B5 - 4B2&4B4 - 4B1&4B3	
3	4A2 - 4A4X	
4	4A1X	
	4B1X	
5	4A1 - 4A6	
	4B1 - 4B6	
6	4A1 - 4A5	
	4B1 - 4B5	
7	4A2 - 4A6	
	4B2 - 4B6	
8	4A2 - 4A5	
	4B2 - 4B5	
9	4A1X - FLG	
	4B1X - FLG	

Checked	Specified	Drawn	Scale
		LAK	1:1
		Checked	
		Scale	
		Comments	

© CDCP, Inc.	
Title: Port 4 X-Ray Film Layout	
Sheet No. C	Rev 5A
Dwg. No. SE120-004-22-MTM	
Scale: 1:3	Sheet 1 of 1

Quality Assurance Documentation for Part ID: SE120-004 PORT 4B - Item: 104

Workorder: 65678/7-0 Sub:9 Op:80


Part: SE120-004 PORT 4B - PORT 4B SUB-ASSEMBLY - PORT 4B SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE122-049 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	E5	$\varnothing .030$ A B C DIA. 0.531 THRU +/- 0.005" (60X)	PIN GAGE	MFG QA		J-669	.531 / .535 DIA. W/ IN. .005	182-J.LE 11-01-05	854-R.U 11-01-05	A
1* (20)	C7	1.18 +/- 0.010" (2x)	CALIPER	MFG QA		P-4364	1.183/1.200 (ACCEP T PER REF NC 18525)	854-R.U 05-03-06	854-R.U 11-01-05	A
1* (30)	H5	$\sphericalangle$ 0.015"	INDICATOR	MFG QA		P-1170	W/IN .003	182-J.LE 11-01-05	854-R.U 11-01-05	A
1* (40)	C6	26.63 +/- 0.010"	CALIPER	MFG QA		J-1297	26.633	182-J.LE 11-01-05	854-R.U 11-01-05	A
1* (50)	D7	37.63 +/- 0.010"	CALIPER	MFG QA		J-1297	37.628	182-J.LE 11-01-05	854-R.U 11-01-05	A
1* (60)	B6	$\varnothing 0.012$ A B C 8-32 UNC .250DP	THREAD PLUG GA	MFG QA		A-112	ACCEPT--.005	182-J.LE 11-01-05	854-R.U 11-01-05	A
1* (70)	G5	.94 +/-0.010" ALL AROUND		MFG QA		GAGE PIN	ACCEPT	535-S.L 11-01-05	854-R.U 11-01-05	A
1* (80)	H5	0.151 - 0.149 (0.153 +0/-0.003" on dwg) (leaves aprx 0.002" for polishing)	DEPTH MICROMET	MFG QA		P-4363	.149/.151	535-S.L 11-01-05	854-R.U 11-01-05	A
1* (90)	H5	1.25 +/- .010"	OD MICROMETER	MFG QA		P-4362	1.248/1.256	535-S.L 11-01-05	854-R.U 11-01-05	A

Quality Assurance Documentation for Part ID: SE120-004 PORT 4B - Item: 105

Workorder: 65678/7-0 Sub:9 Op:120

Part: SE120-004 PORT 4B - PORT 4B SUB-ASSEMBLY - PORT 4B SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 0.375 PROFILE VERIFICATION	INDICATOR	QA		J-843	.360	854-R.U 11-11-05			A
*		Magnetic Permeability 1.02 Max	MASTER GAGE	QA		J-1165	GREATER THAN 1.1 B T LESS THAN 1.15 (A CCEPT PER NC 18609)	854-R.U 05-03-06			A
*		Interior Surface Finish 32 Micro-Inch RA	PROFILOMETER	QA		J-825	25-30	854-R.U 11-11-05			A
*		Material Thickness: 0.500 +.04 / -.01"	CALIPER	QA		J-96	.514	854-R.U 11-11-05			A
*		CLEANLINESS PER PS483		QA		VISUAL	ACCEPTABLE PER PS4 3	854-R.U 11-11-05			A
*		Magnetic Permeability 1.2 Max (at flange we	MASTER GAGE	QA		J-1165	LESS THAN 1.2	854-R.U 11-11-05			A



6119 FULTON  
P.O. BOX 120430  
HOUSTON, TEXAS 77219  
713/695-6000  
FAX 713/695-6725  
S/O NUMBER 250332

SOLD TO: HAYNES INTERNATIONAL  
NORTHWOODS IND. PARK  
12241 FM 529  
HOUSTON,  
TX 77041  
P.O. NUMBER 1552

DRIP TO: HAYNES INTERNATIONAL  
12241 FM 529  
HOUSTON,  
TX 77041  
TAG #:

METALLURGICA  
TEST REPORT  
DATE 3/28/0  
PAGE

ITEM	DESCRIPTION	MATERIAL	SPEC	BASE SPEC	PIECES
001	8"OD, 188AW PIPE X 28"LG	FORM & TACK ENDS SQUARE &	625	S443	S8443
004	4"OD, 188AW PIPE X 28"LG	FORM & TACK ENDS SQ & DEBURRED	625	S443	S8443
005	4"OD, 188AW PIPE X 34"LG FORM	& TACK ENDS SQ & DEBURRED	625	S443	S8443

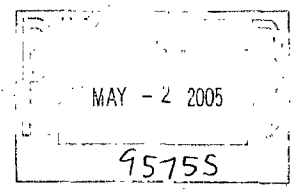
ITEM	HEAT #	C	MN	P	S	SI	CR	NI	MO	CU	CO	CBATA	N	FE	V	W
001	2650-4-6731	.020	.240	.008		.200	21.510	59.880	8.590		.230	3.430		4.680		
004	2650-4-6731	.020	.240	.008		.200	21.510	59.880	8.590		.230	3.430		4.680		
005	2650-4-6731	.020	.240	.008		.200	21.510	59.880	8.590		.230	3.430		4.680		

ITEM	AL	TI	SM	PR	ZN	AS	MG	ALATI	O	BASE MATERIAL MANUFACTURER	M.S.N.
001	.210	.290								HAYNES INTERNATIONAL	
004	.210	.290								HAYNES INTERNATIONAL	
005	.210	.290								HAYNES INTERNATIONAL	

ITEM	YIELD	TENSILE	ELONG		R/A	BHM	HEAT TREAT		Q&NCH	IMPACT TEST	SIZE (10mm X)	TEMP DEG-F	RESULTS (FT/LBS)			LATERAL EXPANSION			% DUCTIL FRACTUR
			2	8			TEMP	TIME					1	2	3	1	2	3	
001	60,500	121,000	51.0			235													
004	60,500	121,000	51.0			235													
005	60,500	121,000	51.0			235													

HT# 2650-4-6731 (TA) = <.05  
GRAIN SIZE = 4.5  
HT# 2650-4-6731 (TA) = <.05  
GRAIN SIZE = 4.5  
HT# 2650-4-6731 (TA) = <.05  
GRAIN SIZE = 4.5

LABOR ONLY TO MANUFACTURE FROM CUSTOMER'S MATERIAL  
\*\*\*\*\* MADE IN THE USA \*\*\*\*\*



5/2/05  
MTM 09

1-12  
B.J.

NOTARIZED MILL TEST REPORTS AVAILABLE UPON REQUEST. \*N-WATER  
A-AIR  
FC-FURNACE COOL  
Q-OIL  
QT-AIR QUENCH  
AND 1250F TEMPER

WE CERTIFY THAT ALL CHEMICAL ANALYSIS, MECHANICAL PROPERTIES, TEST RESULTS AND STATEMENTS OF PERFORMANCE RECORDED HEREIN, ARE ACCORDING TO THE RECORDS OF MACH INTERNATIONAL. MATERIALS HEREIN ST ARE IN COMPLIANCE WITH ALL SPECIFICATIONS LISTED ABOVE.

DATE 5/28/05 SIGNATURE *[Signature]*

**INSPECTION DATA CHECKLIST**

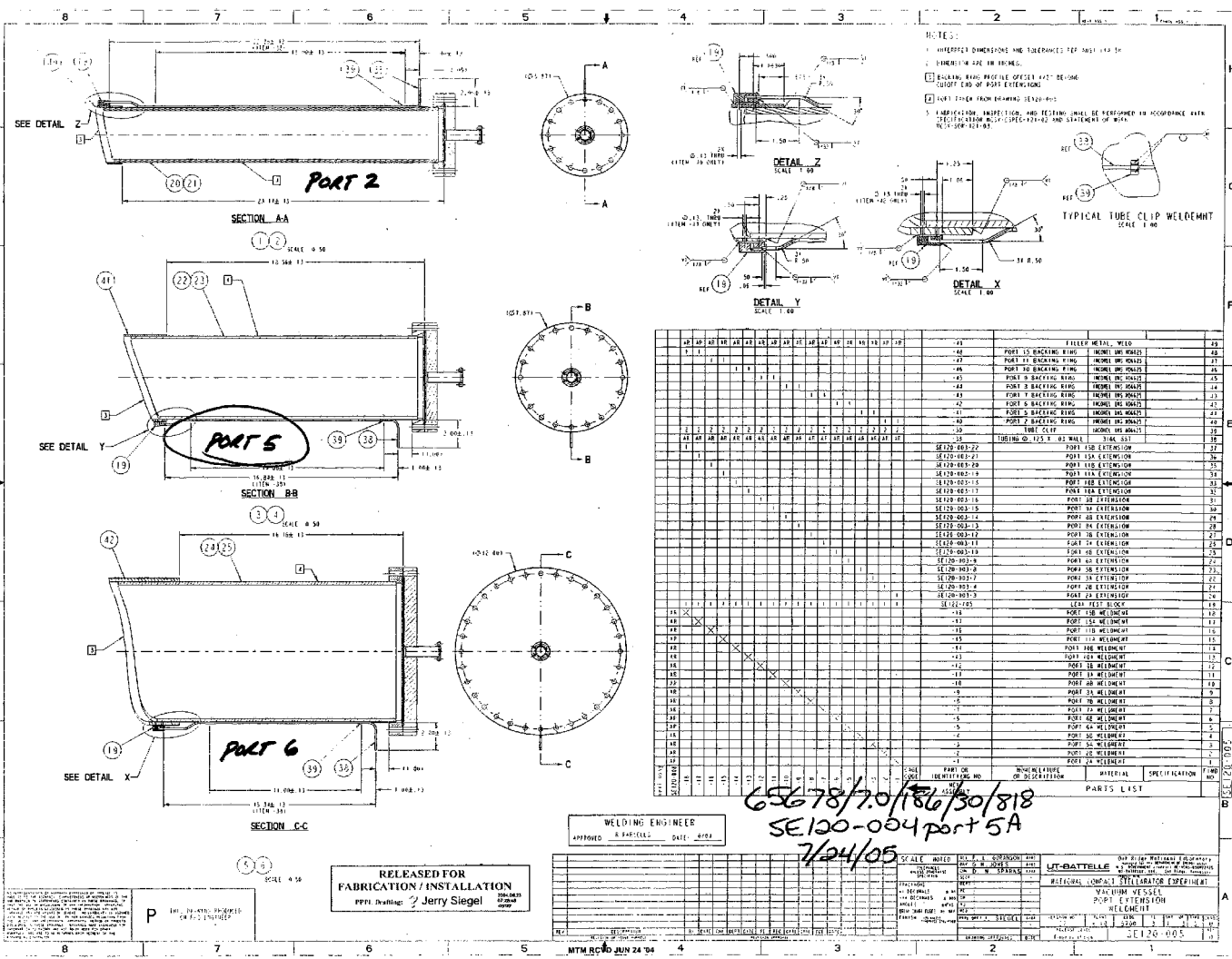
Quality Assurance Documentation for Part ID: SE120-004 PORT 5 - Item: 107

Workorder: 65678/7-0 Sub:186 Op:20

Part: SE120-004 PORT 5 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			VISUAL INSPECTION	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		AWI			F COMPLETED WELD	06-22-05	06-22-05	

A



MC115230-T1F1





**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 5 - Item: 110

Workorder: 65678/7-0 Sub:186 Op:34

Part: SE120-004 PORT 5 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)		Mag. Perm: 1.02 Mu Max						08-16-05			
*			CALIPER	QA		J-1103	.030	840-G.M			A
(20)		ROUNDNESS WITHIN .030"						08-16-05			

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 5 - Item: 112

Workorder: 65678/7-0 Sub:189 Op:20

Part: SE120-004 PORT 5 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				06-27-05	06-27-05	A

4959

10520 Chester Road  
Woodlawn, Ohio 45215



JAMES BELL

CLIENT Major Tool + Machine		INTEGRITY LEVEL Robert Weaver/II		RADIOGRAPHER Robert Weaver		JOB NO. 13950052-4	P.O. NO.	DATE 7-24-05		
ISOPEX-RAY IR 192	DIA. X LENS .118" x .054"	CURIES/MA 51.9	FOCAL SPOT SIZE .151"	SFD 15"	SOD 14.81"	TIME 1:50	FILM PROCESSING AUTO	FILM TYPE Kodak T	FILM TECHNIQUE Double	PS SCREENS .010"
WELD PROCESS PAW-MAC	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER 6"	MATERIAL THICKNESS .187"	PENETRATOR ASTM 1A	SHIM N/A	ACCEPTANCE STANDARD ASME VIII Div. 1 UW-51				

DESCRIPTION  
65678/9.0/189/30/818  
SE120-004 parts

FITTING, SEAM OR FITTING	FILM INTERNAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK OF FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER PIT	CORROSION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNING	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
			SIZE	QUALITY LEVEL																								
SEAM	0-1	J.S.	1A	.008																								
	1-2																											

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrometer  
 S Seam  
 L Location Marker  
 OTHER

Robert Weaver 655514/II  
Cooperheat-MQS Signature

Douglas D. Edwards  
Customer Representative Signature

7-24-05  
Date

MC110341.TIF1

**RELEASED FOR FABRICATION / INSTALLATION**  
 Jerry Siegel  
 WELDING ENGINEER

DATE AREA

SECTION C-C

SECTION B-B

SECTION A-A

PART 6

PART 5

PART 2

DETAIL X

DETAIL Y

DETAIL Z

TYPICAL TUBE CLIP WELDMENT

PARTS LIST

557870/28/30/88  
 55100-00470/58  
 7/14/05

NO.	DESCRIPTION	QTY	UNIT	REMARKS
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NOTES:  
 1. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 2. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 3. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 4. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 5. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 6. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 7. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 8. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 9. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.  
 10. DIMENSIONS AND TOLERANCES TO BE USED FOR FABRICATION AND INSTALLATION.

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 5 - Item: 115

Workorder: 65678/7-0 Sub:189 Op:34

Part: SE120-004 PORT 5 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)		Mag. Perm: 1.02 Mu Max						08-16-05			
*			CALIPER	QA		J-707	.011	840-G.M			A
(20)		ROUNDNESS WITHIN .030"						08-16-05			

Quality Assurance Documentation for Part ID: SE120-004 PORT 5A - Item: 116

Workorder: 65678/7-0 Sub:10 Op:10

Part: SE120-004 PORT 5A - PORT 5A SUB-ASSEMBLY - PORT 5A SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P5AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-21-05		
*		VWI - EXTERIOR FILLETS P5AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-21-05	09-21-05	

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---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Frank Malinowski

E-Mail: [fmalinowski@pppl.gov](mailto:fmalinowski@pppl.gov)

Telephone: 609-243-2441

Fax: 609-243-2021

**Part: /SE120-004-23 (CF 6" Flange)**

Drawing ID: SE120-004

Revision: 1

Customer P.O.: S005243-F

Serial No./Qty: N/A

Reported By: DOUG MCCORKLE

E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433

Fax: 317-634-9420

Problem: Magnetic Permeability required to be 1.02 Max  
Parts Check >1.05 but < 1.1

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**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED

---

---

Number of additional pages: 0

---

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Princeton University Plasma Physics Laboratory  
James Forrestal Campus  
P.O. Box CN17  
Princeton, N.J. 08543

26 August 2005

Ms. Teresa L. Hubbard  
Major Tool & Machine, Inc.  
1458 E. 19<sup>th</sup> Street  
Indianapolis, IN 46218

SUBJECT: Subcontract S005243-F  
Approved Disposition of Major Tool, Inc. Non-Conformance Reports  
17157, 17167, 17233, 17237, 17240, 17286, 17287, 17288, 17314,  
and 17342

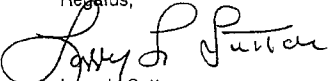
Dear Ms. Hubbard:

Attached are ten Major Tool & Machine, Inc. submitted Non-Conformance Reports (NCRs) and their disposition approved by the National Compact Stellarator Experiment (NCSX) Procurement Technical Representative and the Responsible Line Manager for the Vacuum Vessel Sub-Assembly.

Please note the one signed Project Disposition form applies to all ten of the NCRs.

If there are any questions pertaining to this matter I may be contacted at (609) 243-2441 and by e-mail [lsutton@pppl.gov](mailto:lsutton@pppl.gov).

Regards,

  
Larry L. Sutton  
Senior Subcontract Administrator

Attachments: As stated

cc: M. Viola



Quality Assurance Documentation for Part ID: SE120-004 PORT 5B - Item: 118

Workorder: 65678/7-0 Sub:11 Op:10

Part: SE120-004 PORT 5B - PORT 5B SUB-ASSEMBLY - PORT 5B SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P5BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-21-05		
*		VWI - EXTERIOR FILLETS P5BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-21-05	09-21-05	

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

ORIGINAL

Haynes International  
1020 West Park Avenue  
PO Box 5013  
Kokomo, Indiana, 46902

**HAYNES**  
International

Invoice No. No. de l'ordre Bestellungs Nr. 436027001-1		Date Entered Date de Commande Bestelldatum 03/11/05		Customer's Reference Reference Client Kundenreferenz P0500904		Report No. Rapport No. Zeichens Nr. 20050425106		Pages of Pages Page de Pages Anzahl der Seiten 1 OF 4																																																																																																																																																																																																																							
Sold To • Client • Bestellanwieschiff <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>				Ship To • Destinataire • Bestelldunge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>				Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 28.500 VYSA PORT 6 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>																																																																																																																																																																																																																							
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<table border="1"> <thead> <tr> <th rowspan="2">Heat Number Niveau de Coudre Chargeur</th> <th colspan="17">Chemical Analysis • Analyse Chimique • Chemische Analyse</th> </tr> <tr> <th>Al</th> <th>B</th> <th>C</th> <th>Cr-Ta (0.5-1.0)</th> <th>Cu</th> <th>Cr</th> <th>Cu</th> <th>Fe</th> <th>Mn</th> <th>Mp</th> <th>Ni</th> <th>P</th> <th>S</th> <th>Si</th> <th>Ti</th> <th>V</th> <th>W</th> </tr> </thead> <tbody> <tr> <td>2650 4 6730</td> <td>0.21</td> <td></td> <td>0.03</td> <td>3.61</td> <td>0.24</td> <td>21.69</td> <td>0.07</td> <td>4.07</td> <td>0.3</td> <td>8.49</td> <td>60.78</td> <td>0.007</td> <td>0.002</td> <td>0.16</td> <td>0.27</td> <td></td> <td></td> <td>BUTT END *03</td> </tr> <tr> <td>2650 4 6731</td> <td>0.21</td> <td></td> <td>0.02</td> <td>3.54</td> <td>0.23</td> <td>21.51</td> <td>0.08</td> <td>4.68</td> <td>0.26</td> <td>8.59</td> <td>59.88</td> <td>0.008</td> <td>&lt;0.002</td> <td>0.1</td> <td>0.29</td> <td></td> <td></td> <td>BUTT END *03</td> </tr> <tr> <td>2650 4 6769</td> <td>0.13</td> <td></td> <td>0.026</td> <td></td> <td>0.2535</td> <td>22.32</td> <td>0.0631</td> <td>4.499</td> <td>0.2755</td> <td>8.75</td> <td>59.77</td> <td>0.0072</td> <td>0.004</td> <td>0.146</td> <td>0.2595</td> <td></td> <td></td> <td>BUTT END *01</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2650 4 6730</td> <td>3.56</td> <td>&lt;0.05</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>BUTT END *03</td> </tr> <tr> <td>2650 4 6731</td> <td>3.43</td> <td>&lt;0.05</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>BUTT END *03</td> </tr> <tr> <td>2650 4 6769</td> <td>3.5399</td> <td>&lt;0.05</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>BUTT END *01</td> </tr> </tbody> </table>																		Heat Number Niveau de Coudre Chargeur	Chemical Analysis • Analyse Chimique • Chemische Analyse																	Al	B	C	Cr-Ta (0.5-1.0)	Cu	Cr	Cu	Fe	Mn	Mp	Ni	P	S	Si	Ti	V	W	2650 4 6730	0.21		0.03	3.61	0.24	21.69	0.07	4.07	0.3	8.49	60.78	0.007	0.002	0.16	0.27			BUTT END *03	2650 4 6731	0.21		0.02	3.54	0.23	21.51	0.08	4.68	0.26	8.59	59.88	0.008	<0.002	0.1	0.29			BUTT END *03	2650 4 6769	0.13		0.026		0.2535	22.32	0.0631	4.499	0.2755	8.75	59.77	0.0072	0.004	0.146	0.2595			BUTT END *01																																																										2650 4 6730	3.56	<0.05																BUTT END *03	2650 4 6731	3.43	<0.05																BUTT END *03	2650 4 6769	3.5399	<0.05																BUTT END *01
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Certified By • Certifie Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician

4/29/2005

*Troy Reynolds*



5/2/05  
95764  
1-12  
B.A

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No. No. De Facture Rechnungs Nr. 436027001-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenspezifika P0500964	Report No. Rapport No. Zeugnis Nr. 26050429106	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
**International**

ORIGINAL

Haynes International  
1029 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellauschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaire • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 28.500 VVSA PORT 6 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00c1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hte. Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeltstansversuch					
Ultimate Zugfestigkeit	Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong. in 5" Elong.	RA		Temp.	Ultimate Zugfestigkeit	Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong. in 5" Along 20"	RA		Temp.	Stress Rupture Temperature	Stress Rupture Strength	% Elong. in 5" Along 20"	RA
123000 PSI		63000 PSI	51 %		(1)(A)												
126000 PSI		64000 PSI	49 %		(2)(A)												
132000 PSI		64000 PSI	45 %		(3)(A)												

Certified By • Certifié Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician  
4/29/2005  
(1) 2741306701 (2) 2741680501 (3) 2911844501

*Troy Reynolds*

MTM 09 5/2/05

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ORIGINAL

Invoice No No. De Facture Rechnungs Nr 436027001-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenbestellnr 205U0964	Report No. Rapport No Zeugnis Nr 20050429106	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellanwch./A <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Bezeichnung <b>0.250 x 31.375 x 28.500</b> <b>VVSA PORT 6 TUBE</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
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Annealed Hardness Durete Recuit Gezogen Harte	Aged Hardness Durete Vieilli Gealtert Harte	Grain Size Grossor De Grain Korngrösse						IGA	Uniformity	Carbonyl Rate	Oxidation Rate	Charpy Impact Test				Creep Rupture				
		Units/Size	Preparation Grain Size	Very Fine	Coarse Ultra Fin	4-A	Fig/W Figure Number					Attack Dept.	Condition	Test Method	Temper Avg	Temper 1	Temper 2	Temper 3	Test Elev Vitesse	Stress Contrainte Spannung
97 HRB 100 HRB 93 HRB	(1)(A) (2)(A) (3)(A)	5 5 6																		

Certified By • Certifie Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician  
4/29/2005 (1) 2741306701 (2) 2741680301 (3) 2941844501

*Troy Reynolds*

MTM 09  
5/2/05

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Invoice No No. De facture Rechnungs Nr 436027001-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenshaft/daten PO560964	Report No. Rapport No. Zeugnis Nr 29050429106	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanrnschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestelldatng <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 28.500 VVSA PORT 6 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Spécification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-442, 00e1, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC	

**HAYNES**  
International

ORIGINAL

Haynes International  
1020 West Park Avenue  
PO Box 5013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-485 Revision H as applicable.  
Mill Orders Used: 2741306701 (1 PC), 2741680501 (3 PC), 2941844501 (2 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician

4/20/2005

*Troy Reynolds*

MTM  
09  
5/2/05

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

ORIGINAL

Invoice No. No. De Facture Rechnung Nr 436027002-1	Date Entered Date De Commande Bestelldatum 03-11-05	Customer Reference Référence Client Kundenbestellnr P0500964	Report No. Rapport No Zeugnis Nr 20050429108	Pages of Pages Page(s) Page(s) Anzahl der Seiten 1 OF 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestelleranzuhr <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 32.500</b> <b>VVSA PORT 10 TUBE</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Spécification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00el, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
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Heat Number Numero de Casin Charge No	Chemical Analysis • Analyse Chimique • Chemische Analyse																		
	Al	B	C	Co (Ni+Co)	Cu	Cr	Ni	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W		
2650 4 6730	0.21		0.03	3.61	0.24	21.69	0.07	4.07	0.3	8.49	60.78	0.007	0.002	0.16	0.27				BUTT END *03
2650 4 6731	0.21		0.02	3.54	0.23	21.51	0.08	4.68	0.26	8.59	59.88	0.008	<0.002	0.2	0.29				BUTT END *03
2650 4 6769	0.13		0.026		0.2535	22.32	0.0631	4.499	0.2755	8.75	59.77	0.0072	0.004	0.246	0.2595				BUTT END *01
	As	Te	Zr	Bi	Se	La	Nb+Ta	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo			
2650 4 6730	3.56	<0.05																	BUTT END *03
2650 4 6731	3.43	<0.05																	BUTT END *03
2650 4 6769	3.5399	<0.05																	BUTT END *01

Certified By • Certifié Par • Bescheinigt Durch: **Troy Reynolds**  
Certification Technician  
4/29/2005

*Troy Reynolds*

MTH 09  
5/2/05

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MC107793.TIF5

ORIGINAL

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZUEUGNIS				
Invoice No. No. De Facture Rechnungs Nr. 436027602-1	Date Entered Date De Commande Beschuldigung 03/11/05	Customer Reference Reference Client Kundenbestellnummer P0500964	Report No. Rapport No. Zeugnis Nr. 20050429108	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4

Sold To • Client • Bestellanachricht	Ship To • Destinataire • Bestimmung
<b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	<b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA

Product Description • Description Produit • Material Beschreibung
<b>0.250 x 31.375 x 32.500</b> <b>VVSA PORT 10 TUBE</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400F,S1000E, EN 10204 3.1.B, AS9100</b>

Specification • Specification • Spezifikation	Quantity Ordered Quantite Commande Bestellmenge	Quantity Shipped Quantite Expedie Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 60el, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hte Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeistandversuch						
Ultimate Zugbrueckst.	% Yield Tens. A 1% % Streckgrenze	0.2% Yield Tens. A 0.2% 0.2% Streckgrenze	% Elong In % Abzug EN % Dehnung	%RA %		Temp. Temp.	Ultimate Zugbrueckst.	% Yield Tens. A 1% % Streckgrenze	0.2% Yield Tens. A 0.2% 0.2% Streckgrenze	% Elong In % Abzug EN % Dehnung	%RA %		Temp. Temp.	Stress Charge Spannung	Time Heure Dauer	% Elong In % Abzug EN % Dehnung	%RA %	
123000 PSI		63000 PSI	51 %		(1)(A)													
126000 PSI		64000 PSI	49 %		(2)(A)													
132000 PSI		64000 PSI	45 %		(3)(A)													

Certified By • Certifie Par • Bescheinigt Durch: Troy Reynolds  
4/29/2005 (1) 2741306701 (2) 2741680501 (3) 2941864501  
Certification Technician

*Troy Reynolds*

MTM 09  
5/2/05

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MC107793.TIF6





CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

ORIGINAL

Invoice No. No. De Facture Rechnungs Nr 436627062-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenbestellnummer P0500964	Report No. Rapport No. Zeugnis Nr 20050429108	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellausschreib. <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 32.500 VYSA PORT 10 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr 1; ASTM-B-443, 00el, UNS# N06625, Gr 1; PS-489, E			Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2741306701 (1 PC), 2741680501 (3 PC), 2941644501 (2 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Beseheint Durch: Troy Reynolds 4/29/2005  
Certification Technician

*Troy Reynolds*



5/2/05

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE BATCHES SHOWN. THIS MATERIAL MEETS THE REQUIREMENTS OF THE HAYNES CERTIFICATION PROGRAM. THE HAYNES CERTIFICATION PROGRAM IS A QUALITY ASSURANCE PROGRAM FOR THE HAYNES INTERNATIONAL. THE HAYNES CERTIFICATION PROGRAM IS A QUALITY ASSURANCE PROGRAM FOR THE HAYNES INTERNATIONAL. THE HAYNES CERTIFICATION PROGRAM IS A QUALITY ASSURANCE PROGRAM FOR THE HAYNES INTERNATIONAL.

MC107793.TIF8

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 6 - Item: 120

Workorder: 65678/7-0 Sub:192 Op:20

Part: SE120-004 PORT 6 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				06-27-05	06-27-05	A





**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 6 - Item: 123

Workorder: 65678/7-0 Sub:192 Op:34

Part: SE120-004 PORT 6 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)		Mag. Perm: 1.02 Mu Max						08-16-05			
*			CALIPER	QA		J-1103	.060	840-G.M			A
(20)		ROUNDNESS WITHIN .060"						08-16-05			

**INSPECTION DATA CHECKLIST**

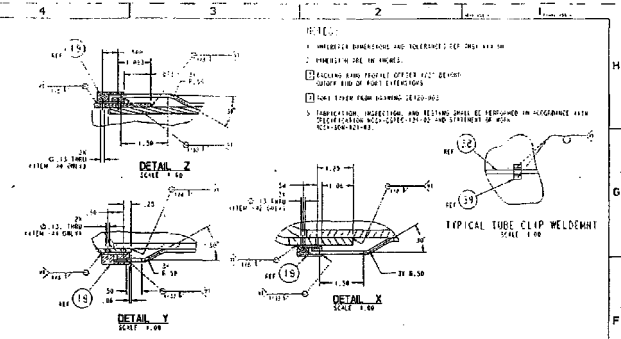
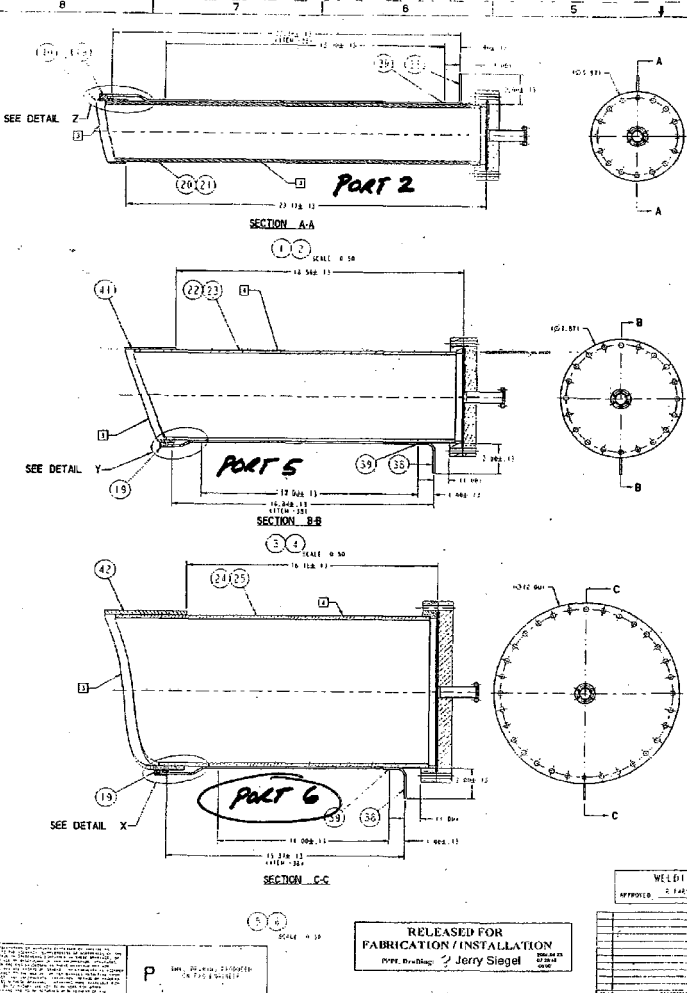
Quality Assurance Documentation for Part ID: SE120-004 PORT 6 - Item: 125

Workorder: 65678/7-0 Sub:197 Op:20

Part: SE120-004 PORT 6 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				06-27-05	06-27-05	

A



NO.	DESCRIPTION	QTY.	UNIT	REMARKS
1	FLAT END WELD	40		
2	POST 15 BACKING BARS	40		
3	POST 15 GROOVE WELD	40		
4	POST 15 GROOVE WELD	40		
5	POST 15 GROOVE WELD	40		
6	POST 15 GROOVE WELD	40		
7	POST 15 GROOVE WELD	40		
8	POST 15 GROOVE WELD	40		
9	POST 15 GROOVE WELD	40		
10	POST 15 GROOVE WELD	40		
11	POST 15 GROOVE WELD	40		
12	POST 15 GROOVE WELD	40		
13	POST 15 GROOVE WELD	40		
14	POST 15 GROOVE WELD	40		
15	POST 15 GROOVE WELD	40		
16	POST 15 GROOVE WELD	40		
17	POST 15 GROOVE WELD	40		
18	POST 15 GROOVE WELD	40		
19	POST 15 GROOVE WELD	40		
20	POST 15 GROOVE WELD	40		
21	POST 15 GROOVE WELD	40		
22	POST 15 GROOVE WELD	40		
23	POST 15 GROOVE WELD	40		
24	POST 15 GROOVE WELD	40		
25	POST 15 GROOVE WELD	40		
26	POST 15 GROOVE WELD	40		
27	POST 15 GROOVE WELD	40		
28	POST 15 GROOVE WELD	40		
29	POST 15 GROOVE WELD	40		
30	POST 15 GROOVE WELD	40		
31	POST 15 GROOVE WELD	40		
32	POST 15 GROOVE WELD	40		
33	POST 15 GROOVE WELD	40		
34	POST 15 GROOVE WELD	40		
35	POST 15 GROOVE WELD	40		
36	POST 15 GROOVE WELD	40		
37	POST 15 GROOVE WELD	40		
38	POST 15 GROOVE WELD	40		
39	POST 15 GROOVE WELD	40		
40	POST 15 GROOVE WELD	40		

WELDING ENGINEER  
APPROVED: [Signature] DATE: 1/23/85

RELEASED FOR FABRICATION / INSTALLATION  
PART 6: Jerry Siegel

65678/7.079/30/818  
SE 100-004 Part 6B  
1/23/85

NO.	DESCRIPTION	QTY.	UNIT	REMARKS
1	FLAT END WELD	40		
2	POST 15 BACKING BARS	40		
3	POST 15 GROOVE WELD	40		
4	POST 15 GROOVE WELD	40		
5	POST 15 GROOVE WELD	40		
6	POST 15 GROOVE WELD	40		
7	POST 15 GROOVE WELD	40		
8	POST 15 GROOVE WELD	40		
9	POST 15 GROOVE WELD	40		
10	POST 15 GROOVE WELD	40		
11	POST 15 GROOVE WELD	40		
12	POST 15 GROOVE WELD	40		
13	POST 15 GROOVE WELD	40		
14	POST 15 GROOVE WELD	40		
15	POST 15 GROOVE WELD	40		
16	POST 15 GROOVE WELD	40		
17	POST 15 GROOVE WELD	40		
18	POST 15 GROOVE WELD	40		
19	POST 15 GROOVE WELD	40		
20	POST 15 GROOVE WELD	40		
21	POST 15 GROOVE WELD	40		
22	POST 15 GROOVE WELD	40		
23	POST 15 GROOVE WELD	40		
24	POST 15 GROOVE WELD	40		
25	POST 15 GROOVE WELD	40		
26	POST 15 GROOVE WELD	40		
27	POST 15 GROOVE WELD	40		
28	POST 15 GROOVE WELD	40		
29	POST 15 GROOVE WELD	40		
30	POST 15 GROOVE WELD	40		
31	POST 15 GROOVE WELD	40		
32	POST 15 GROOVE WELD	40		
33	POST 15 GROOVE WELD	40		
34	POST 15 GROOVE WELD	40		
35	POST 15 GROOVE WELD	40		
36	POST 15 GROOVE WELD	40		
37	POST 15 GROOVE WELD	40		
38	POST 15 GROOVE WELD	40		
39	POST 15 GROOVE WELD	40		
40	POST 15 GROOVE WELD	40		

MC115421.TTF1



4959  
10520 Chester Road  
Woodlawn, Ohio 45215

James Boels

CLIENT Major Tool + Machine		INTERPRETER LEVEL Robert Weaver/II		RADIOGRAPHER Robert Weaver		JOB NO. 13850252.4	P.O. NO.	DATE 7-23-05
ISO/FILM RAY IR192	DIA. X LEN/IN .118" x .094"	CURIES/MA 52.4	FOCAL SPOT SIZE .151"	SFD 15"	SOD 14.75"	TIME 2:00min	FILM PROCESSING Auto	FILM TYPE Kodak T
WELD PROCESS PAW-MAC	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER 10"	MATERIAL THICKNESS .250"	PENETRANT ASTM 1A	SHIM N/A	ACCEPTANCE STANDARD ASME VIII Div. 1 UW-51		

DESCRIPTION  
65678/90/191/30/818  
SE 120-004 part 6

FITTING SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRANT		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK OF FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER/PT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	AGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
			SIZE	QUALITY LEVEL																								
Seam	0-1	J.S.	1A	.008																								
↓	1-2	↓	↓	↓																								

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrant  
 S Shim  
 L Location Marker  
 ( ) OTHER

Robert Weaver 655514/II  
Cooperheat-MQS Signature  
Ch Boels 655506 /II

Daughter D. Edwards  
Customer Representative Signature

7-23-05  
Date

MC110333.TIF1



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 6 - Item: 128

Workorder: 65678/7-0 Sub:197 Op:34

Part: SE120-004 PORT 6 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Mag. Perm: 1.02 Mu Max	MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)								08-16-05			
*		ROUNDNESS WITHIN .060"	CALIPER	QA		J-1103	.054	840-G.M			A
(20)									08-16-05		

Quality Assurance Documentation for Part ID: SE120-004 PORT 6A - Item: 129

Workorder: 65678/7-0 Sub:12 Op:10

**Part: SE120-004 PORT 6A - PORT 6A SUB-ASSEMBLY - PORT 6A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P6AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-26-05		
*		VWI - EXTERIOR FILLETS P6AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-21-05	09-26-05	

Quality Assurance Documentation for Part ID: SE120-004 PORT 6B - Item: 130

Workorder: 65678/7-0 Sub:13 Op:10

**Part: SE120-004 PORT 6B - PORT 6B SUB-ASSEMBLY - PORT 6B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P6BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-26-05		
*		VWI - EXTERIOR FILLETS P6BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-21-05	09-26-05	



2119 FULTON  
P.O. BOX 130630  
HOUSTON, TEXAS 77215  
713/55-4000  
FAX 713/56-4725  
S/O NUMBER 250352

BUILD TO: HAYNES INTERNATIONAL  
WORTHWOODS IND PARK  
12241 FM 529  
HOUSTON,  
TX 77041  
P.O. NUMBER 1552

DRIF TO: HAYNES INTERNATIONAL  
12241 FM 529  
HOUSTON,  
TX 77041  
LAB #:

METALLURGICAL  
TEST REPORT  
DATE 3/22/05  
PAGE

ITEM	DESCRIPTION	MATERIAL	SPEC	BASE SPEC	PIECES
001	8"OD, 1884W PIPE X 28"LG	FORM & TACK ENDS SQUARE &	325	8443	8443
004	8"OD, 1884W PIPE X 26"LG	FORM & TACK ENDS SQ & DEBURRED	325	8443	8443
005	8"OD, 1884W PIPE X 34"LG FORM	& TACK ENDS SQ & DEBURRED	325	8443	8443

ITEM	HEAT #	C	MM	P	S	SI	CR	NI	MO	CU	CO	CBATA	N	FE	V	W
001	2450-4-6731	.020	.240	.008		.200	21.510	59.880	8.890		.220	3.430		4.650		
004	2450-4-6731	.020	.240	.008		.200	21.510	59.880	8.890		.220	3.430		4.650		
005	2450-4-6731	.020	.240	.008		.200	21.510	59.880	8.890		.220	3.430		4.650		

ITEM	ØL	TI	SM	PS	ZN	AS	MG	ALATI	G	BASE MATERIAL MANUFACTURER	M.S.N.
001	.210	.290								HAYNES INTERNATIONAL	
004	.210	.290								HAYNES INTERNATIONAL	
005	.210	.290								HAYNES INTERNATIONAL	

ITEM	YIELD	TENSILE	ELONG		R/A	R/M	HEAT TREAT		IMPACT	SIZE	TEMP	RESULTS			LATERAL			K DUCTILE		
			%	IN			TEMP	TIME				QUENCH	TEST	(FT/LBS)	EXPANSION	FRACATURE				
001	60,500	121,000	51.0									1	2	3	1	2	3	1	2	
004	60,500	121,000	51.0																	
005	60,500	121,000	51.0																	

HT# 2450-4-6731 (TA) = 0.05  
GRAIN SIZE = 4.5  
HT# 2450-4-6731 (TA) = 0.05  
GRAIN SIZE = 4.5  
HT# 2450-4-6731 (TA) = 0.05  
GRAIN SIZE = 4.5

LABOR ONLY TO MANUFACTURE FROM CUSTOMER'S MATERIAL  
\*\*\*\*\* MADE IN THE USA \*\*\*\*\*

MAY - 2 2005  
95756



5/2/05

NOTARIZED WILL TEST REPORTS AVAILABLE UPON REQUEST.

WATER  
A-AIR  
FURNACE COOL  
O-OIL  
QT-AIR QUENCH  
AND 1250F TEMPER

WE CERTIFY THAT ALL CHEMICAL ANALYSIS, MECHANICAL PROPERTIES, TEST RESULTS AND STATEMENTS OF PERFORMED OPERATIONS RECORDED HEREIN, ARE ACCORDING TO THE RECORDS OF MACH INTERNATIONAL. MATERIALS HEREIN STAY ARE IN COMPLIANCE WITH ALL SPECIFICATIONS LISTED ABOVE.

DATE 5/2/05 SIGNATURE *[Signature]*

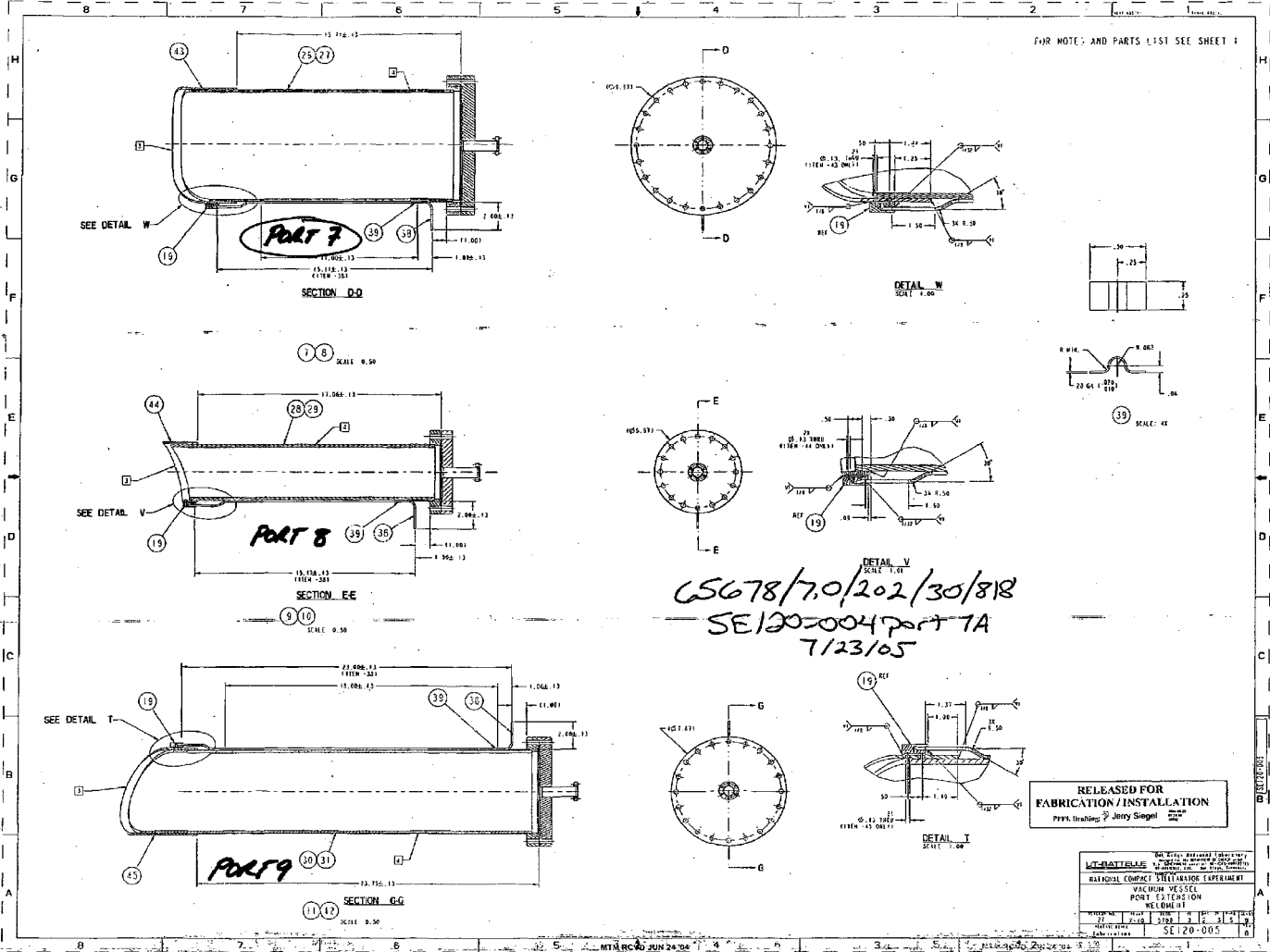
**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 7 - Item: 132

Workorder: 65678/7-0 Sub:202 Op:20

Part: SE120-004 PORT 7 - TUBE, 8.0 OD X 0.188 WALL - SE120-004-18 TUBE, 8.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				06-27-05	06-27-05	A



MC115423.TIF



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 7 - Item: 135

Workorder: 65678/7-0 Sub:202 Op:34

Part: SE120-004 PORT 7 - TUBE, 8.0 OD X 0.188 WALL - SE120-004-18 TUBE, 8.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)		Mag. Perm: 1.02 Mu Max						08-16-05			
*			CALIPER	QA		J-1103	.049	840-G.M			A
(20)		ROUNDNESS WITHIN .060"						08-16-05			



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 7 - Item: 137

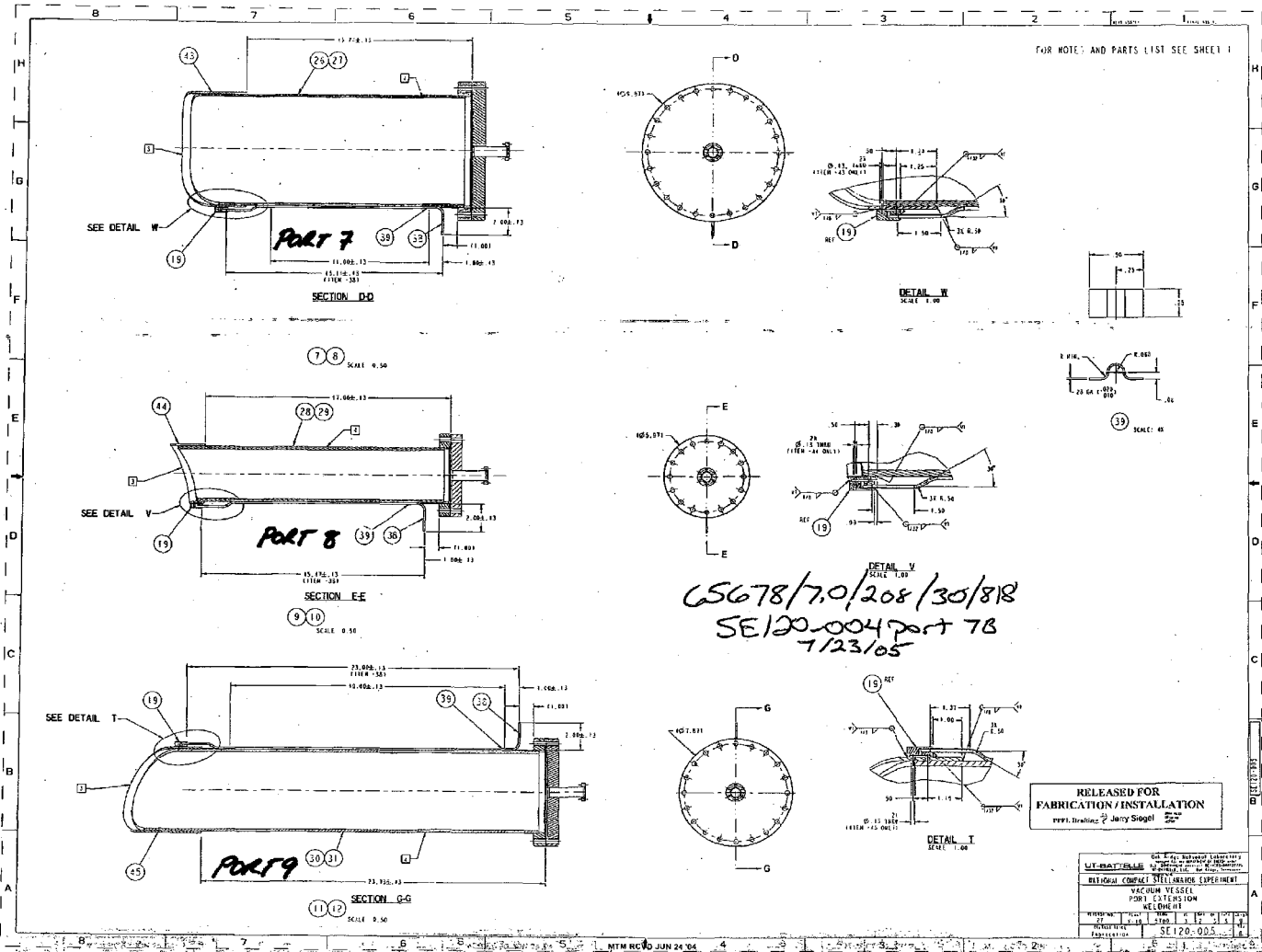
Workorder: 65678/7-0 Sub:208 Op:20

Part: SE120-004 PORT 7 - TUBE, 8.0 OD X 0.188 WALL - SE120-004-18 TUBE, 8.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			VISUAL INSPECTION	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		AWI			F COMPLETED WELD	06-22-05	06-22-05	

A





**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 7 - Item: 140

Workorder: 65678/7-0 Sub:208 Op:34

Part: SE120-004 PORT 7 - TUBE, 8.0 OD X 0.188 WALL - SE120-004-18 TUBE, 8.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)		Mag. Perm: 1.02 Mu Max						08-16-05			
*			CALIPER	QA		J-1103	.040	840-G.M			A
(20)		ROUNDNESS WITHIN .060"						08-16-05			

Quality Assurance Documentation for Part ID: SE120-004 PORT 7A - Item: 141

Workorder: 65678/7-0 Sub:14 Op:10

Part: SE120-004 PORT 7A - PORT 7A SUB-ASSEMBLY - PORT 7A SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P7AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-21-05		
*		VWI - EXTERIOR FILLETS P7AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-21-05	09-21-05	

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Frank Malinowski

E-Mail: [fmalinowski@pppl.gov](mailto:fmalinowski@pppl.gov)

Telephone: 609-243-2441

Fax: 609-243-2021

**Part: / SE122-112-3 (CF BLANK FLANGE)**

Drawing ID: SE122-113

Revision: 0

Customer P.O.: S005243-F

Serial No./Qty: N/A

Reported By: DOUG MCCORKLE

E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433

Fax: 317-634-9420

Problem: Magnetic Permeability requirement 1.02 Max  
Checks >1.05, but < 1.1

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED

---

Number of additional pages: \_\_\_\_\_

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Princeton University Plasma Physics Laboratory  
James Forrestal Campus  
P.O. Box CN17  
Princeton, N.J. 08543

26 August 2005

Ms. Teresa L. Hubbard  
Major Tool & Machine, Inc.  
1458 E. 19<sup>th</sup> Street  
Indianapolis, IN 46218

SUBJECT: Subcontract S005243-F  
Approved Disposition of Major Tool, Inc. Non-Conformance Reports  
17157, 17167, 17233, 17237, 17240, 17286, 17287, 17288, 17314,  
and 17342

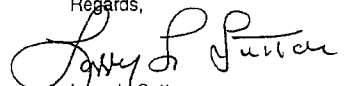
Dear Ms. Hubbard:

Attached are ten Major Tool & Machine, Inc. submitted Non-Conformance Reports (NCRs) and their disposition approved by the National Compact Stellarator Experiment (NCSX) Procurement Technical Representative and the Responsible Line Manager for the Vacuum Vessel Sub-Assembly.

Please note the one signed Project Disposition form applies to all ten of the NCRs.

If there are any questions pertaining to this matter I may be contacted at (609) 243-2441 and by e-mail [lsutton@pppl.gov](mailto:lsutton@pppl.gov).

Regards,

  
Larry L. Sutton  
Senior Subcontract Administrator

Attachments: As stated

cc: M. Viola

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 7B - Item: 144

Workorder: 65678/7-0 Sub:15 Op:10

**Part: SE120-004 PORT 7B - PORT 7B SUB-ASSEMBLY - PORT 7B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P7BF		MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A	933-D.L		A
(30)				CWI					09-19-05	09-19-05	
*		VWI - EXTERIOR FILLETS P7BF		MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A	933-D.L		A
(40)				CWI					09-19-05	09-19-05	





4119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 695-6000  
 (713) 596-6725 FAX NUMBER

ORDER DATE: 7/21/05  
 MACH S/O NUMBER: 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 28800000  
 SOLD TO: MAJOR TOOL & MACHINE INC.  
 1450 E. 19TH STREET  
 INDIANAPOLIS, IN 46218  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1450 E 19TH STREET  
 INDIANAPOLIS, IN 46218  
 ATTENTION:  
 TAG #:  
 TAG #:

SLIPSRN #: 10000  
 CUSTOMER ORDER NUMBER: P05-03984  
 OFL ALI: DEL. DST: 9/04/05  
 SHIP VIA: AFB F.O.B.: OUR PLANT  
 FREIGHT BILL NUMBER:  
 PREPAID/CRS: PREPAID/MIAM: COLLECT: X  
 TERMS: SEE BELOW  
 MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	MAT U/P NUMBER	MACH P.O. #
			FORM & TACK PER APPLI. SECTIONS OF PS-489 REV# E BEST EFFORT ON DIM TOL AIM FOR A530 TACK USING EPNJCPRMO-3 (625). USE FEWEST TACKS POSSIBLE DEBUR EDGES PRIOR TO FURN		
1		9	4"OD .2500W PIPE X 34"LG (-0 +1/4) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: 6PCS PART# SE120-004 PORT 17 TAG: 6PCS PART# SE120-004 PORT 17	EA 132793	814040
					99716
					99715
2		6	4"OD .2500W PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT 17	EA 132793	814040
					99721

Re: 08.17.05 wx



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-02984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 9/04/05  
 INDIANAPOLIS SHIP VIA: AEF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: WILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
3	18	18 pcs. 52"lg	4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 625 60443 NO LONG SEAM BEVEL TAG: <u>(LPC)</u> PART# SE120-004 PORT 17 <u>(SP)</u> PART# SE120-004 PORT 18 <u>(LPC)</u> PART# SE120-004 PORT 2 <u>(LPC)</u> PART# SE120-004 PORT B	EA 132793	01404C
4	1		CONTACT MAJOR TOOL TRANS. LT DEPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #DE-AC02-76-CH03073		
5	1		BAND PIPE TO WOODEN PALLETS LT & SHRINK WRAP COMPLETELY		

*9976 see last page for customer /  
 vendor revision.*

*99720  
 99723  
 99724*

*VJW*

*VJW*



4119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875

\*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: CUSTOMER #: 38900000  
 MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET

SLSPRSN #: 10000  
 CUSTOMER ORDER NUMBER: POS-02984  
 DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS  
 IN 46218  
 BUYER: BOB

SHIP VIA: ABF F.O.B.: OUR PLANT  
 FREIGHT BILL NUMBER:

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET

PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 TERMS: SEE BELOW

INDIANAPOLIS  
 IN 46218  
 ATTENTION:  
 TAG #:  
 TAG #:

MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
6	1			MTM TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT	
				FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM; BALANCE OF FUNDS DUE NET 30 DAYS.	RECV. 31,500 8/9/05 CIC# 60160	

RECEIVED BY *Frank L. Smith*

DATE 8-9-05

DECLARED VALUE IS ----- \$48,400.00



6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-6823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in cursive script that reads "Denise Hernandez".

Denise Hernandez  
Sales Department

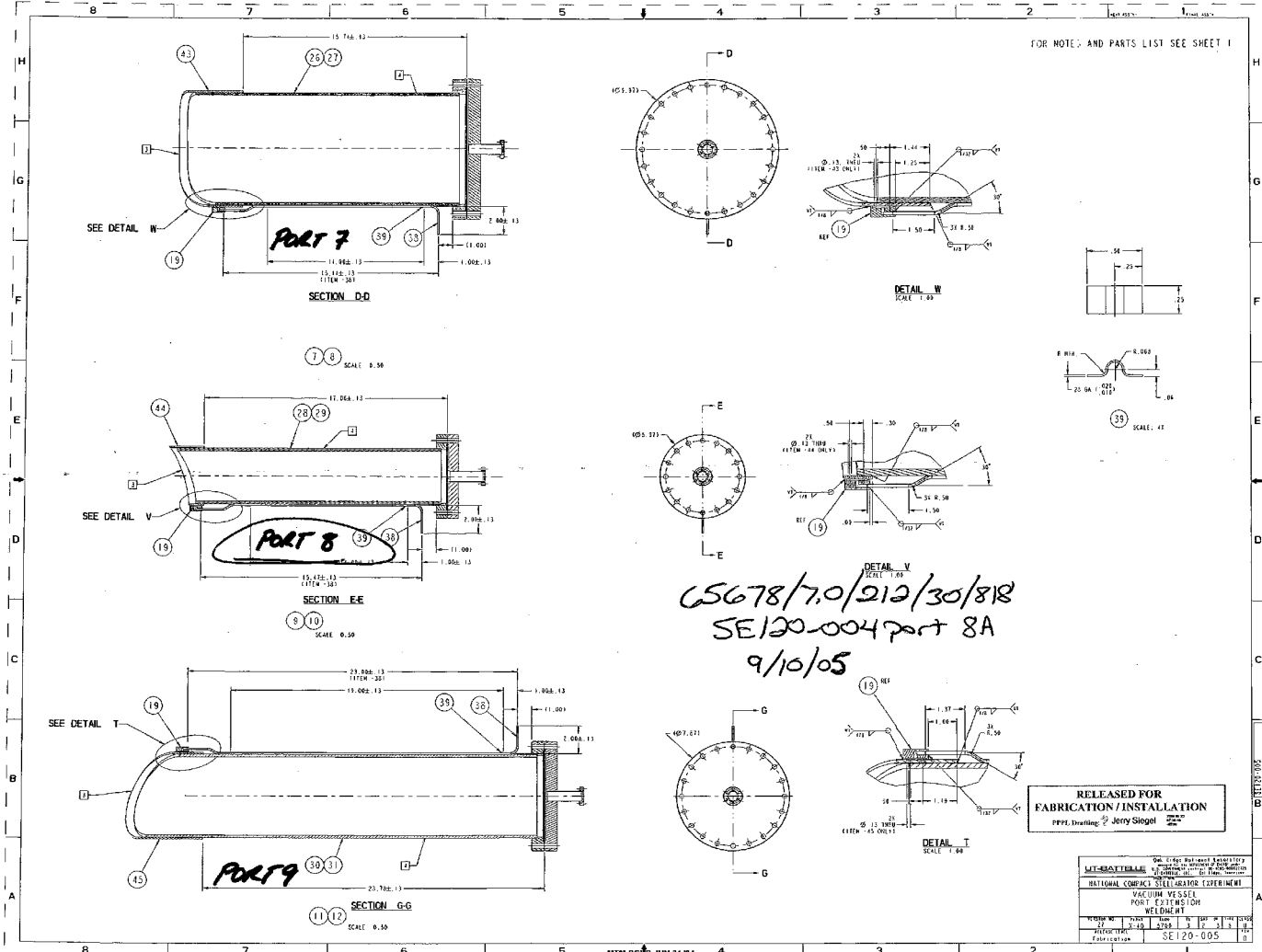
**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 8 - Item: 148

Workorder: 65678/7-0 Sub:212 Op:20

Part: SE120-004 PORT 8 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATION REQUI EMENTS.	933-D.L	933-D.L	
(20)		VWI - COMPLETED WELD		CWI				09-09-05	09-09-05	A



65678/7.0/212/30/818  
SE120-004 part 8A  
9/10/05

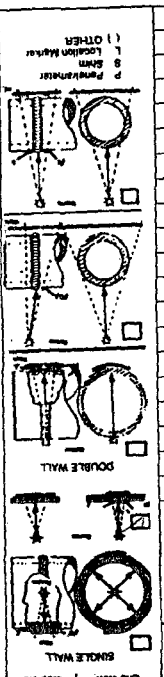
RELEASED FOR  
FABRICATION / INSTALLATION  
PPPL Drafting Jerry Siegel

THE RANDOLPH BROS. COMPANY NATIONAL CONTACT SEALS VACUUM VESSEL PORT FITTING WELDMENT	
DRAWN BY DATE CHECKED BY DATE	SE 120-005



4959  
10320 Chester Road  
Woodlawn, Ohio 45215

CLIENT Major Tool & Machine		INTERPRETER Robert Weaver/II	JOB NO. 13850891	P.O. NO. N/A	DATE 9/10/05
ISO/FILM 28152	ISO/FILM 118x034	CURRISMA 33	FOCAL SPOT SIZE .151"	ISO 15"	FOOT 14.8125"
WELD PROCESS PAW	MATERIAL SPEC. A5 INconel	MATERIAL DIAMETER 3.5"	MATERIAL THICKNESS .1875"	PEWELT ASTM 1A	SHILL N/A
DESCRIPTION 65678/7.0/010/30/818 3 SE 100-004 part 8		ASME VIII, CW-51			
EXPOSURE 1.010"	FILM TYPE Kodak AA Double	FILM PROCESSING Auto	ACCEPTANCE STANDARD ASME VIII, CW-51	END VIEW	SIDE VIEW
WELDING IDENTIFICATION NUMBER	WELDER IDENTIFICATION	SIZE	QUALITY LEVEL	SLAG	POROUSITY
LONG 0-1 J.S	1A	1A	.008"		
ATTACH SCALAR PRINTING	FILM SERIAL NUMBER	CRACK	LACK OF FILL	LACK OF PEN	LACK FUSION
		INTERNAL CONVEXITY	INTERNAL CONCAVITY	THICKEN	MELT THROUGH
		BURR THROUGH	CRATER/HAUT	CRACK	CRACK
		INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDENTATIONS	WELD CONTOUR
		MISMATCH	FILM ARTIFACT	VISUAL CONCERNING	FILM SENSITIVITY
		SEE REMARKS	ACCEPT	REJECT	




Robert Weaver (Signature) Cooperheat MOS Signature  
 Douglas D. Weaver (Signature) Customer Representative Signature  
 Date: 9/10/05

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 8 - Item: 151

Workorder: 65678/7-0 Sub:212 Op:50

Part: SE120-004 PORT 8 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.040	854-R.U 10-20-05		

A



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 8 - Item: 153

Workorder: 65678/7-0 Sub:215 Op:20

Part: SE120-004 PORT 8 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				09-02-05	09-02-05	

A






**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 8 - Item: 156

Workorder: 65678/7-0 Sub:215 Op:50

Part: SE120-004 PORT 8 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.022	131-W.A 10-20-05		

A

Quality Assurance Documentation for Part ID: SE120-004 PORT 8A - Item: 157

Workorder: 65678/7-0 Sub:16 Op:10

**Part: SE120-004 PORT 8A - PORT 8A SUB-ASSEMBLY - PORT 8A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P8AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P8AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	

Date: 5/3/2005

**CERTIFICATE OF CONFORMANCE**I hereby certify that the products provided to **MAJOR TOOL & MACH.**on Purchase Order **P05-00920**and Varian Sales Order **319315350**

have been manufactured in accordance with all applicable Varian drawings and Varian specifications.

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
001	31	fa06000133	6.00" ADAPTER

27  
05.06.05  
95987 wx  
line 2-33



5.9.05

Varian, Inc.

Mark L. Baribeault  
Quality Manager

Quality Assurance Documentation for Part ID: SE120-004 PORT 8B - Item: 159

Workorder: 65678/7-0 Sub:17 Op:10

**Part: SE120-004 PORT 8B - PORT 8B SUB-ASSEMBLY - PORT 8B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P8BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P8BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	



6119 FULTON  
P.O. BOX 120430  
HOUSTON, TEXAS 77219  
713/695-6000  
FAX 713/695-6725  
S/O NUMBER 250332

SOLD TO: HAYNES INTERNATIONAL  
NORTHWOODS IND. PARK  
12241 FM 529  
HOUSTON,  
TX 77041  
P.O. NUMBER 1552

DRIP TO: HAYNES INTERNATIONAL  
12241 FM 529  
HOUSTON,  
TX 77041  
TAG #:

METALLURGICA  
TEST REPORT  
DATE 3/28/0  
PAGE

ITEM	DESCRIPTION	MATERIAL	SPEC	BASE SPEC	PIECES
001	8"OD, 188AW PIPE X 28"LG	FORM & TACK ENDS SQUARE &	625	S443	S8443
004	4"OD, 188AW PIPE X 28"LG	FORM & TACK ENDS SQ & DEBURRED	625	S443	S8443
005	4"OD, 188AW PIPE X 34"LG FORM	& TACK ENDS SQ & DEBURRED	625	S443	S8443

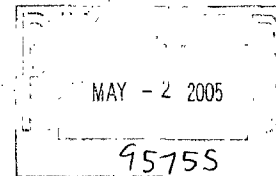
ITEM	HEAT #	C	MN	P	S	SI	CR	NI	MO	CU	CO	CBATA	N	FE	V	W
001	2650-4-6731	.020	.240	.008		.200	21.510	59.880	8.590		.230	3.430		4.680		
004	2650-4-6731	.020	.240	.008		.200	21.510	59.880	8.590		.230	3.430		4.680		
005	2650-4-6731	.020	.240	.008		.200	21.510	59.880	8.590		.230	3.430		4.680		

ITEM	AL	TI	SM	PR	ZN	AS	MG	ALATI	O	BASE MATERIAL MANUFACTURER	M.S.N.
001	.210	.290								HAYNES INTERNATIONAL	
004	.210	.290								HAYNES INTERNATIONAL	
005	.210	.290								HAYNES INTERNATIONAL	

ITEM	YIELD	TENSILE	ELONG		R/A	BHM	HEAT TREAT		Q&NCH	IMPACT TEST	SIZE (10mm X)	TEMP DEG-F	RESULTS (FT/LBS)			LATERAL EXPANSION			% DUCTIL FRACTUR
			2	8			TEMP	TIME					1	2	3	1	2	3	
001	60,500	121,000	51.0			235													
004	60,500	121,000	51.0			235													
005	60,500	121,000	51.0			235													

HT# 2650-4-6731 (TA) = <.05  
GRAIN SIZE = 4.5  
HT# 2650-4-6731 (TA) = <.05  
GRAIN SIZE = 4.5  
HT# 2650-4-6731 (TA) = <.05  
GRAIN SIZE = 4.5

LABOR ONLY TO MANUFACTURE FROM CUSTOMER'S MATERIAL  
\*\*\*\*\* MADE IN THE USA \*\*\*\*\*



5/2/05  
MTM 09

1-12  
B.J.

NOTARIZED MILL TEST REPORTS AVAILABLE UPON REQUEST.

\*N-WATER  
A-AIR  
FC-FURNACE COOL  
Q-OIL  
QT-AIR QUENCH  
AND 1250F TEMPER

WE CERTIFY THAT ALL CHEMICAL ANALYSIS, MECHANICAL PROPERTIES, TEST RESULTS AND STATEMENTS OF PERFORMANCE RECORDED HEREIN, ARE ACCORDING TO THE RECORDS OF MACH INTERNATIONAL. MATERIALS HEREIN ST ARE IN COMPLIANCE WITH ALL SPECIFICATIONS LISTED ABOVE.

DATE 5/28/05 SIGNATURE *[Signature]*



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 9 - Item: 162

Workorder: 65678/7-0 Sub:218 Op:20

Part: SE120-004 PORT 9 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			VISUAL INSPECTION	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		AWI			F COMPLETED WELD	06-22-05	06-22-05	

A

4959

10520 Chester Road  
Woodlawn, Ohio 45215

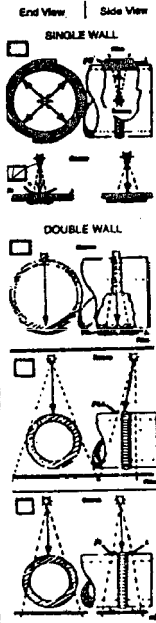


James Berg

CLIENT Major Tool + Machine	INTERPRETER/LEVEL Robert Weaver/II	RADIOGRAPHER Robert Weaver	JOB NO. 13850252-4	P.O. NO.	DATE 7-24-05					
ISOTOPE/RAY IR 192	DIA. X LENS/V .118" x .094"	CURIES/MA 51.9	FOCAL SPOT SIZE .151"	SFD 15"	SOD 14.81"	TIME 1:50	FILM PROCESSING Auto	FILM TYPE Kodak T	FILM TECHNIQUE Double	PS SCREENS .010"
WELD PROCESS PAW-MAC	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER 6"	MATERIAL THICKNESS .187"	PENETRANT ASTM 1A	SHIM N/A	ACCEPTANCE STANDARD ASME VIII Div. 1	UW-51			

DESCRIPTION  
65678/9.0/2B/30/818  
SE120-004 port 9

FITTING SERIALIZING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRANT		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF FEN	LACK FUSION	INTERNAL CORROSION	INTERNAL CORCAVITY	TUNGSTEN	MELT-THROUGH	BURN-THROUGH	CRATER/PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INCLUSIONS	WELD CONTOUR	IR-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT		
			SIZE	QUALITY LEVEL																										
SEAM	0-1	J.S.	1A	.08																										
	1-2																													
	2-3																													



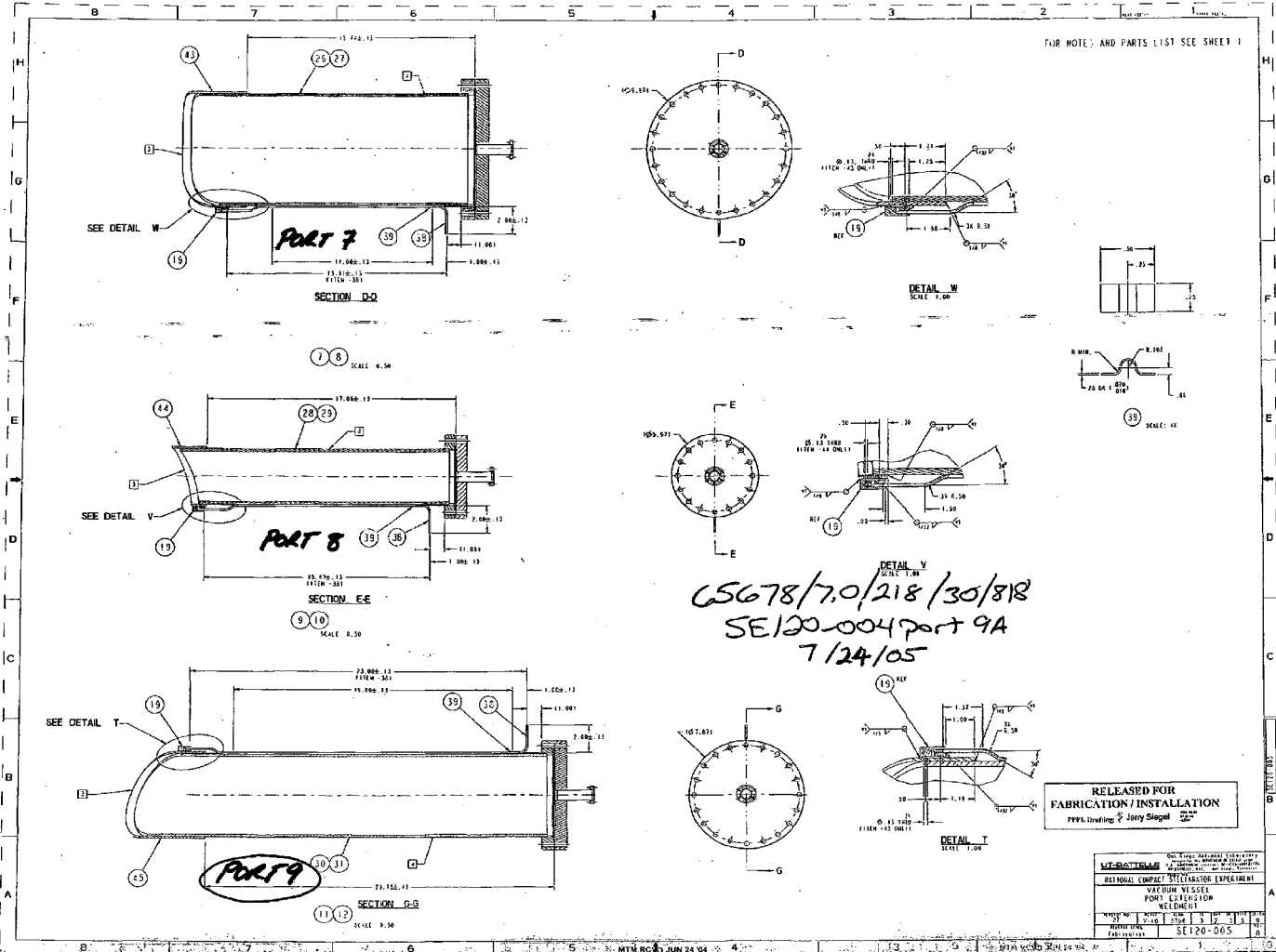
P Penetrant  
S Shim  
L Location Marker  
I OTHER

Robert Weaver 655514/II  
Cooperheat-MQS Signature  
V Berg 655506/IA

Prugh D. Edwards  
Customer Representative Signature

7-24-05  
Date

MC110337.TIF1



MTM REV 10 JUN 24 04

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 9 - Item: 165

Workorder: 65678/7-0 Sub:218 Op:34

Part: SE120-004 PORT 9 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Mag. Perm: 1.02 Mu Max	MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)								08-16-05			
*		ROUNDNESS WITHIN .030"	CALIPER	QA		J-707	.030	840-G.M			A
(20)									08-16-05		

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 9 - Item: 167

Workorder: 65678/7-0 Sub:221 Op:20

Part: SE120-004 PORT 9 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				06-27-05	06-27-05	A

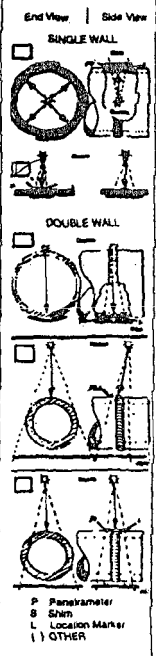


4959  
10620 Chester Road  
Woodlawn, Ohio 45215

JAMES BERG

CLIENT Major Tool + Machine	INTERPRETER LEVEL Robert Weaver/II	RADIOGRAPHER Robert Weaver	JOB NO. 1385052-4	P.O. NO.	DATE 7-24-05
ISOTOPE RAY IR 192	DIAPHRAGM .118" x .094"	CURIES/HR 51.9	FOCAL SPOT SIZE .151"	SFD 15"	SOD 14.81"
WELD PROCESS PAW-MAC	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER 6"	MATERIAL THICKNESS 1.87"	PENETRANT ASTM IA	SHR N/A
DESCRIPTION 65678/9.0/221/30/818 SE120-004 part 9	REMARKS	FILM PROCESSING Auto	FILM TYPE Kodak T	FILM TECHNIQUE Double	F8 SCREENS .010"
ACCEPTANCE STANDARD ASME VIII Div. 1 UW-51					

FITTING SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRANT		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK OF FUSION	INTERNAL CORROSION	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURR THROUGH	CRATER PIT	CORROSION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERN	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
			SIZE	QUALITY LEVEL																								
Seam	0-1	J.S.	IA	100B																								
	1-2																											
	2-3																											



Robert Weaver 655514/II  
Cooperheat/MQS Signature

James Berg 655506/II

Douglas D. Edwards  
Customer Representative Signature

7-24-05  
Date

MC110338.TIF



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 9 - Item: 170

Workorder: 65678/7-0 Sub:221 Op:34

Part: SE120-004 PORT 9 - TUBE, 6.0 OD X 0.188 WALL - SE120-004-17 TUBE, 6.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)		Mag. Perm: 1.02 Mu Max						08-16-05			
*			CALIPER	QA		J-707	.030	840-G.M			A
(20)		ROUNDNESS WITHIN .030"						08-16-05			



Quality Assurance Documentation for Part ID: SE120-004 PORT 9A - Item: 171

Workorder: 65678/7-0 Sub:18 Op:10

**Part: SE120-004 PORT 9A - PORT 9A SUB-ASSEMBLY - PORT 9A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P9AF		MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICTIONS	709-K.A	933-D.L		A
(30)				CWI					09-20-05	09-20-05	
*		VWI - EXTERIOR FILLETS P9AF		MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICTIONS	709-K.A	933-D.L		A
(40)					CWI				09-20-05	09-20-05	

Quality Assurance Documentation for Part ID: SE120-004 PORT 9B - Item: 173

Workorder: 65678/7-0 Sub:19 Op:10

**Part: SE120-004 PORT 9B - PORT 9B SUB-ASSEMBLY - PORT 9B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P9BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-21-05		
*		VWI - EXTERIOR FILLETS P9BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-21-05	09-21-05	



CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No. No. De Facture Rechnungs Nr. 436027001-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenspezifika P0500964	Report No. Rapport No. Zeugnis Nr. 26050429106	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES**  
**International**

ORIGINAL

Haynes International  
1029 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellauschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestelleunge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 28.500 VVSA PORT 6 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
---	---	--

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00c1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
---	--	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hte. Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeltstansversuch						
Ultimate Zugfestigkeit	Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong. in 5" Extension	RA		Temp.	Ultimate Zugfestigkeit	Yield Lim. Elong. A 1% 1% Streckgrenze	0.2% Yield Lim. Elong. A 0.2% 0.2% Streckgrenze	% Elong. in 5" Along 20"	RA		Temp.	Stress Constraining Spannung	Stress Rupture Stärke	% Elong. in 5" Along 20"	RA	
123000 PSI		63000 PSI	51 %		(1)(A)													
126000 PSI		64000 PSI	49 %		(2)(A)													
132000 PSI		64000 PSI	45 %		(3)(A)													

Certified By • Certifié Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician  
4/29/2005  
(1) 2741306701 (2) 2741680501 (3) 2911844501

*Troy Reynolds*

MTM 09  
5/2/05

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 436027001-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenbestellnr 205U0964	Report No. Rapport No Zeugnis Nr 20050429106	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4
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**HAYNES**  
**International**

ORIGINAL  
Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Beneficiario/ff <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 28.500 VVSA PORT 6 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
--	---	--

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
--	--	--

Annealed Hardness Durete Recuit Gezucht Haerte	Aged Hardness Durete Vieilli Gealtert Haerte	Grain Size Grossor De Grain Korngrösse						IGA	Uniformity	Carbonyl Rate	Oxidation Rate	Charpy Impact Test				Creep Rupture				
		Units/Size	Preparation Grain Size	Very Fine	Coarse Ultra Fin	4-A	Fig/W Figure Number					Attack Dept.	Condition	Test Method	Temper Avg	Temper 1	Temper 2	Temper 3	Test Evalu Veeuech	Stress Constatant Spannung
97 HRB 100 HRB 93 HRB	(1)(A) (2)(A) (3)(A)	5 5 6																		

Certified By • Certifie Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician  
4/29/2005 (1) 2741306701 (2) 2741680301 (3) 2941844501

*Troy Reynolds*

MTM 09  
5/2/05

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CERTIFICATION OF TESTS - RAPPORT D'ESSAIS CERTIFIEE - WERKSZEUGNIS

Invoice No No. De facture Rechnungs Nr 436027001-1	Date Entered Date De Commande Bestelldatum 03/11/05	Customer Reference Reference Client Kundenshaft/daten PO560964	Report No. Rapport No. Zeugnis Nr 29050429106	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanrnschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destinataire • Bestelldatng <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 28.500 VVSA PORT 6 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Spécification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-442, 00e1, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC	

**HAYNES**  
**International**

ORIGINAL  
Haynes International  
1020 West Park Avenue  
PO Box 9913  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-485 Revision H as applicable.  
Mill Orders Used: 2741306701 (1 PC), 2741680501 (3 PC), 2941844501 (2 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Bescheinigt Durch: Troy Reynolds  
Certification Technician

4/20/2005

*Troy Reynolds*

MTM  
09  
5/2/05

MC107793.TIF4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

ORIGINAL

Invoice No. No. De Facture Rechnung Nr 436027002-1	Date Entered Date De Commande Bestelldatum 03-11-05	Customer Reference Référence Client Kundenbestellnr P0500964	Report No. Rapport No Zeugnis Nr 20050429108	Pages of Pages Page(s) Page(s) Anzahl der Seiten 1 OF 4
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**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestimmung <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 32.500</b> <b>VVSA PORT 10 TUBE</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>
--	--	---

Specification • Spécification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00el, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
---	--	--

Heat Number Numero de Casin Charge No	Chemical Analysis • Analyse Chimique • Chemische Analyse																		
	Al	B	C	Co (Ni+Ti)	Cu	Cr	Ni	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W		
2650 4 6730	0.21		0.03	3.61	0.24	21.69	0.07	4.07	0.3	8.49	60.78	0.007	0.002	0.16	0.27				BUTT END *03
2650 4 6731	0.21		0.02	3.54	0.23	21.51	0.08	4.68	0.26	8.59	59.88	0.008	<0.002	0.2	0.29				BUTT END *03
2650 4 6769	0.13		0.026		0.2535	22.32	0.0631	4.499	0.2755	8.75	59.77	0.0072	0.004	0.246	0.2595				BUTT END *01

Certified By • Certifié Par • Bescheinigt Durch: **Troy Reynolds** 4/29/2005  
Certification Technician

*Troy Reynolds*

MTH 09  
5/2/05

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ORIGINAL

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZUEUGNIS				
Invoice No. No. De Facture Rechnungs Nr. 436027602-1	Date Entered Date De Commande Bescholdatum 03/11/05	Customer Reference Reference Client Kundenbestelldatum P0500964	Report No. Rapport No. Zeugnis Nr. 20050429108	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4

Sold To • Client • Bestellanachricht	Ship To • Destinataire • Bestimmung
<b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	<b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA

Product Description • Description Produit • Material Beschreibung
<b>0.250 x 31.375 x 32.500</b> <b>VVSA PORT 10 TUBE</b> <b>HAYNES(R) 625 ALLOY PLATE</b> <b>Nadcap CERTIFICATE NUMBER 0089</b> <b>S400E,S1000E, EN 10204 3.1.B, AS9100</b>

Specification • Specification • Spezifikation	Quantity Ordered Quantite Commande Bestellmenge	Quantity Shipped Quantite Expedie Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; ASTM-B-443, 60el, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hte Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeistandversuch					
Ultimate Zugfestigkeit	% Yield Tens. A 1% % Streckgrenze	0.2% Yield Tens. A 0.2% 0.2% Streckgrenze	% Elong In % Abzug EN % Dehnung	%RA %		Temp. Temp.	Ultimate Zugfestigkeit	% Yield Tens. A 1% % Streckgrenze	0.2% Yield Tens. A 0.2% 0.2% Streckgrenze	% Elong In % Abzug EN % Dehnung	%RA %		Temp. Temp.	Stress Charge Spannung	Time Heure Dauer	% Elong In % Abzug EN % Dehnung	%RA %
123000 PSI		63000 PSI	51 %		(1)(A)												
126000 PSI		64000 PSI	49 %		(2)(A)												
132000 PSI		64000 PSI	45 %		(3)(A)												

Certified By • Certifie Par • Bescheinigt Durch: Troy Reynolds  
4/29/2005 (1) 2741306701 (2) 2741680501 (3) 2941864501  
Certification Technician

*Troy Reynolds*

MTM 09  
5/2/05

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

ORIGINAL

Invoice No. No. De Facture Rechnungs Nr 436627062-1	Date Entered Date De Commande Date d'entree 03/11/05	Customer Reference Reference Client Kundenbestellnummer P0500964	Report No. Rapport No. Zeugnis Nr 20050429108	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellausschreib. <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Ship To • Destination • Bestimmung <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>		Product Description • Description Produit • Material Beschreibung <b>0.250 x 31.375 x 32.500 VYSA PORT 10 TUBE HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr 1; ASTM-B-443, 00el, UNS# N06625, Gr 1; PS-489, E			Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM AND ALPHA SOURCE CONTAMINATION.  
Material conforms to PS-483 Revision H as applicable.  
Mill Orders Used: 2741306701 (1 PC), 2741680501 (3 PC), 2941644501 (2 PC)  
(A) 1750 °F to 1950 °F

Certified By • Certifié Par • Beseheint Durch: Troy Reynolds 4/29/2005  
Certification Technician

*Troy Reynolds*



5/2/05

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE BATCHES SHOWN. THIS MATERIAL MEETS THE REQUIREMENTS OF THE HAYNES CERTIFICATION PROGRAM. THE HAYNES CERTIFICATION PROGRAM IS A QUALITY ASSURANCE PROGRAM FOR THE HAYNES INTERNATIONAL. THE HAYNES CERTIFICATION PROGRAM IS A QUALITY ASSURANCE PROGRAM FOR THE HAYNES INTERNATIONAL. THE HAYNES CERTIFICATION PROGRAM IS A QUALITY ASSURANCE PROGRAM FOR THE HAYNES INTERNATIONAL.

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**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 10 - Item: 176

Workorder: 65678/7-0 Sub:225 Op:20

Part: SE120-004 PORT 10 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				06-27-05	06-27-05	A



4959  
10520 Chester Road  
Woodlawn, Ohio 45215

CLIENT Major Tool + Machine	INTERMETER LEVEL Robert Weaver/II	RADIOGRAPHER Robert Weaver	JOB NO 13850052-2	P.O. NO	DATE 7/16/05					
ISOTOPE/RAY IR 192	CLIA X LENS/CL .118" x .054"	CURIES/MA 56	FOCAL SPOT SIZE .151"	SFD 15"	SOD 14.75"	TIME 1:45	FILM PROCESSING Auto	FILM TYPE Kodak T	FILM TECHNIQUE Double	PS SCREENS .010"
WELD PROCESS PAW-MAC	MATERIAL SPEC 625 Inconel	MATERIAL DIAMETER 10"	MATERIAL THICKNESS .25"	PENETRIMETER ASTM 1A	SHIM N/A	ACCEPTANCE STANDARD ASME VIII Div. 1 UW-51				

DESCRIPTION  
65678/7.0/225/30/818  
SE120-004 part 10

FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRIMETER		SLAG	POROSITY	POPOSSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER/FIT	CORROSION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	YIELD CONTOUR	RE-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	
			SIZE	QUALITY LEVEL																									
Seam	0-1	J.S.	1A	.008																									
	1-2																												
	2-3																												

End View | Side View

SINGLE WALL

DOUBLE WALL

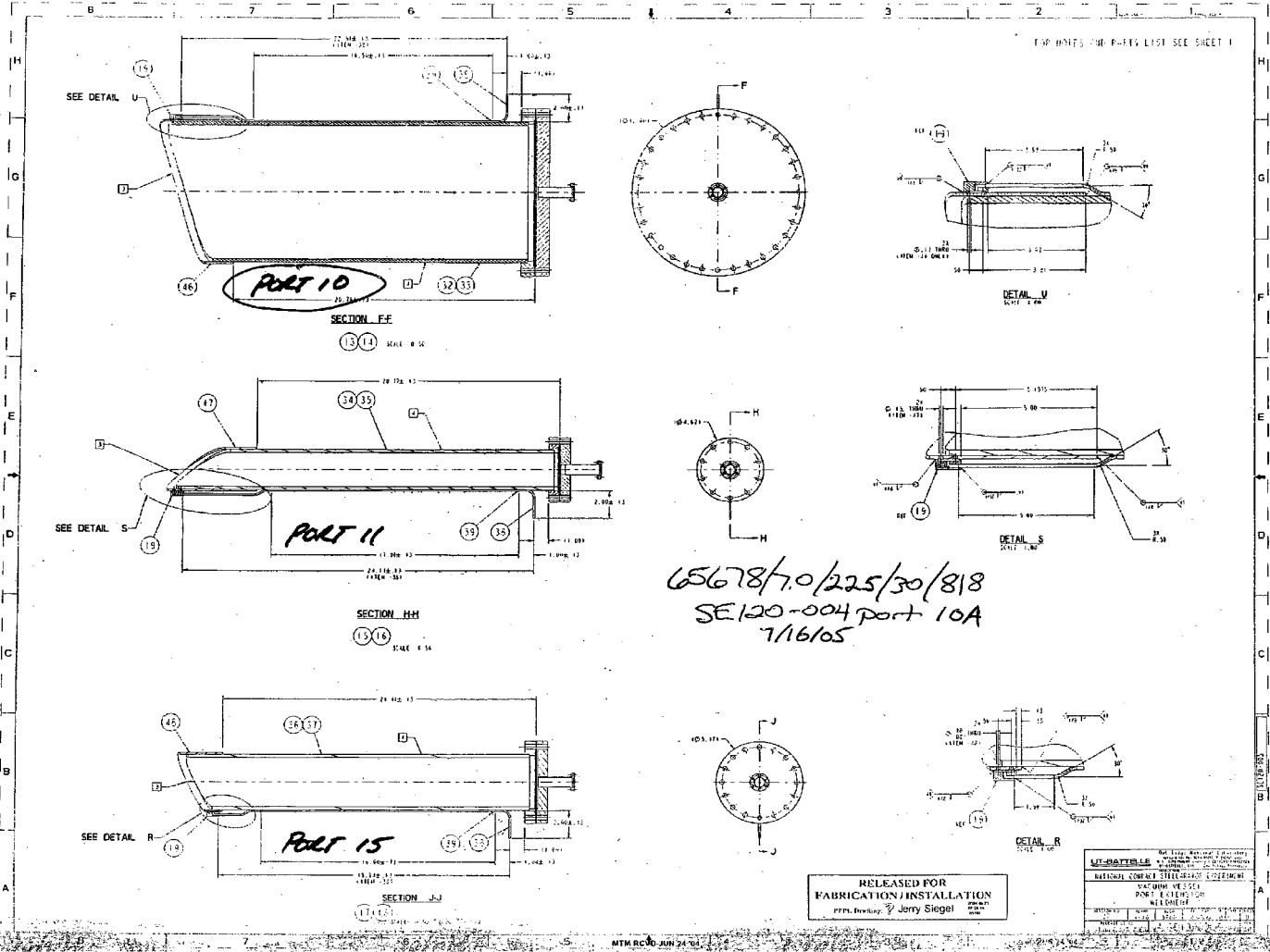
P Penetrimeter  
 S Shm  
 L Location Marker  
 ( ) OTHER

*Robert Weaver* 655514/H  
Cooperheat-MQS Signature

*Douglas D. Edwards*  
Customer Representative Signature

7/16/05  
Date

MC110324.TIF1



65678/7.0/225/30/818  
 SE120-004 part 10A  
 7/16/65

RELEASED FOR  
 FABRICATION/INSTALLATION  
 PPPL Drawing by Jerry Siegel

U-DATE	11/16/65
NATIONAL COMBAT INFORMATION CENTER	
SACRAMENTO, CALIF.	
DATE	11/16/65

MC115438.T1F1

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 10 - Item: 179

Workorder: 65678/7-0 Sub:225 Op:34

Part: SE120-004 PORT 10 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Mag. Perm: 1.02 Mu Max	MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M 08-16-05			A
(10)											
*		ROUNDNESS WITHIN .060"	CALIPER	QA		J-1103	.060	840-G.M 08-16-05			A
(20)											

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 10 - Item: 181

Workorder: 65678/7-0 Sub:230 Op:20

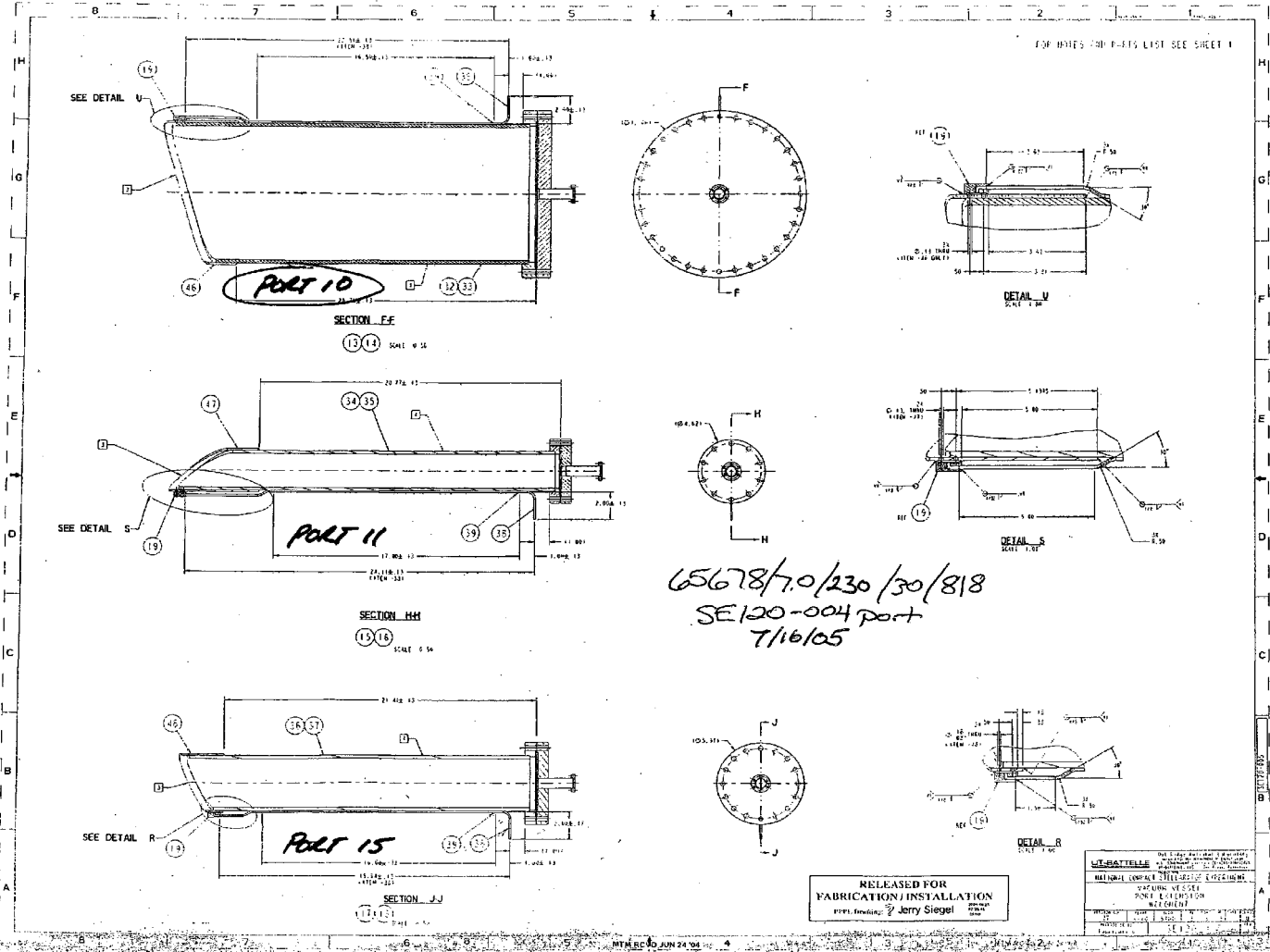
Part: SE120-004 PORT 10 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			VISUAL INSPECTION	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		AWI			F COMPLETED WELD	06-22-05	06-22-05	

A







**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 10 - Item: 184

Workorder: 65678/7-0 Sub:230 Op:34

Part: SE120-004 PORT 10 - TUBE, 10.0 OD X 0.188 WALL - SE120-004-19 TUBE, 10.0 OD X 0.188 WALL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Mag. Perm: 1.02 Mu Max	MASTER GAGE	QA		J-1270	LESS THAN 1.01	840-G.M			A
(10)								08-17-05			
*		ROUNDNESS WITHIN .060"	CALIPER	QA		J-1103	.060	840-G.M			A
(20)									08-17-05		

Quality Assurance Documentation for Part ID: SE120-004 PORT 10A - Item: 185

Workorder: 65678/7-0 Sub:20 Op:10

**Part: SE120-004 PORT 10A - PORT 10A SUB-ASSEMBLY - PORT 10A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P10AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-21-05	09-26-05		
*		VWI - EXTERIOR FILLETS P10AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)				CWI				09-21-05	09-26-05		

Quality Assurance Documentation for Part ID: SE120-004 PORT 10B - Item: 189

Workorder: 65678/7-0 Sub:21 Op:10

**Part: SE120-004 PORT 10B - PORT 10B SUB-ASSEMBLY - PORT 10B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P10BF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-22-05	09-27-05		
*		VWI - EXTERIOR FILLETS P1B0F		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-22-05	09-27-05	

Quality Assurance Documentation for Part ID: SE120-004 PORT 11A - Item: 193

Workorder: 65678/7-0 Sub:22 Op:10

**Part: SE120-004 PORT 11A - PORT 11A SUB-ASSEMBLY - PORT 11A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P11AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(30)				CWI				09-22-05	09-22-05		
*		VWI - EXTERIOR FILLETS P11AF		MFG		VISUAL	OK	358-D.M	933-D.L		A
(40)					CWI				09-22-05	09-22-05	



**Eagle Alloys Corporation**

117 West Park Ct. Talbott, TN 37877  
Ph: (423) 586-8738 Fx: (423) 586-7456  
E-Mail: eaglealloys@aol.com

**CERTIFICATE OF COMPLIANCE**

**CUSTOMER**  
Major Tool & Machine, Inc.

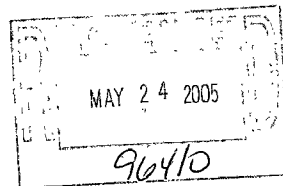
**DATE**  
5-23-05

**PURCHASE ORDER NUMBER**  
P05-02476

**OUR ORDER NUMBER**  
5-1337

<b>MATERIAL</b>	<b>SIZE</b>	<b>QTY</b>	<b>CONFORMS TO:</b>
Alloy 625 welded pipe	2-1/2" sch 10	20 ft	ASTM-B-705, PS483, PS 489

**RM ID: A8519**



Line 1  
B-7

**Certified By:**  
*Rodney Bowlin*

5/24/05

BRISTOL METALS L.P.  
BRISTOL TN. U.S.A.  
MILL TEST REPORTTO: EAGLE ALLOYS CORPORATION  
117 WEST PARK CT  
TALBOTT, TN 37877CUST NO: 557512  
ORDER NO: 14762  
PO NO: 8294  
DATE: 01/21/2005HEAT NO.: 26504674 2.5" WELDED PIPE SCH. 10S ALLOY 1625 UNS#N06625 ASTM  
RM ID: A8219 B705-03 / ASME SB705-01, 03 ADD. CLASS 2, FULL FINISHED.

ALUMINUM	.2	CARBON	.033
CHROMIUM	22.0024	COPALT	.1849
IRON	4.5278	MANGANESE	.2605
MOLYBDENUM	8.8153	NB+TA	3.5003
NICKEL	59.3567	PHOSPHORUS	.007
SILICON	.19	SULFUR	.002
TITANIUM	.2644	HARD RB	93
ELONG %	47		
TENSILE	131000	YIELD	64000
ANNEALED	YES	EDDY CURRENT	OK
FLATTENING	OK	TENSION	OK
HYDRO PRESSURE	1000 PSI		

Annealed at 1925 Deg. F. and water quenched to  
below 800 Deg. F. in less than 3 minutesBristol Metals has a Quality Management System that is in  
compliance with ISO 9001:2000Hardness in accordance with NACE MR0175  
Bristol Metals does not add Mercury during any manufacturing process.  
Chemical content is % by weight.  
Mechanical test results are in English units (inches and pounds).  
Certification is in accordance with EN10204 (DIN 50049) 3.1.B.  
We certify this report to be true and accurate, according to our records on file  
No weld repairs have been performed on the base material.

Bristol Metals L.P.

*Daniel Singleton*  
Representative

MIBR



Quality Assurance Documentation for Part ID: SE120-004 PORT 11B - Item: 195

Workorder: 65678/7-0 Sub:23 Op:10

**Part: SE120-004 PORT 11B - PORT 11B SUB-ASSEMBLY - PORT 11B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VWI - INTERIOR COVER PASS / FILLET P11BF		MFG		VISUAL	WELD ACCEPTABLE PER CUSTOMER DRAWING SPECIFICATION REQUIREMENTS.	933-D.L	933-D.L	A
(30)				CWI				09-22-05	09-22-05	
*		VWI - EXTERIOR FILLETS P11BF		MFG		VISUAL	WELDS ACCEPTABLE PER CUSTOMER DRAWING SPECIFICATION REQUIREMENTS.	933-D.L	933-D.L	A
(40)				CWI				09-22-05	09-22-05	



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 12A - Item: 197

Workorder: 65678/7-0 Sub:2 Op:30

**Part: SE120-004 PORT 12A - PORT 12A SUB-ASSEMBLY - PORT 12A SUB-ASSEMBLY (VERTICAL FABRICATED PORT)**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	197-T.FI	933-D.L		A
(10)		VWI ROOT PASS WELD P12A1		CWI				10-04-05	10-04-05		
*				MFG		VISUAL	COVER PASS WELD O	933-D.L	933-D.L		A
(50)		VWI COVER PASS WELD P12A1		CWI				10-14-05	10-14-05		
*				MFG		VISUAL	OK	197-T.FI	933-D.L		A
(60)		VWI ROOT PASS WELD P12A2		CWI				10-04-05	10-04-05		
*				MFG		VISUAL	COVER PASS WELD O	933-D.L	933-D.L		A
(100)		VWI COVER PASS WELD P12A2		CWI				10-14-05	10-14-05		

Quality Assurance Documentation for Part ID: SE120-004 PORT 12A - Item: 198

Workorder: 65678/7-0 Sub:2 Op:40

**Part: SE120-004 PORT 12A - PORT 12A SUB-ASSEMBLY - PORT 12A SUB-ASSEMBLY (VERTICAL FABRICATED PORT)**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL 10X	ACCEPT	683-K.M	933-D.L	
(20)		VWI - ROOT PASS P12AF		CWI				10-12-05	10-12-05	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	933-D.L	
(50)		VWI - COVER PASS P12AF		CWI			DRAWINGS AND SPE FICATIONS	10-14-05	10-14-05	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	933-D.L	
(60)		VWI - FILLET WELDS P12AF		CWI			DRAWINGS AND SPE FICATIONS	10-14-05	10-14-05	A



COOPERHEAT

MQS

4959

10520 Chester Road  
Woodlawn, Ohio 45215

CLIENT Major Tool + Machine		INTERPRETER/LEVEL Robert Weaver/II		RADIOGRAPHER Robert Weaver		JOB NO 13850291	P.O. NO N/A	DATE 10/14/05		
ISO/PEX-RAY IR192	DIA. X LENS .118" x .079"	CURIES/MA 90	FOCAL SPOT SIZE .142"	SFD 15"	SOD 14.5"	TIME 3:20	FILM PROCESSING Auto	FILM TYPE Kodak MX125	FILM TECHNIQUE Double	PS SCREENS .010"
WELD PROCESS GTAW	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER N/A	MATERIAL THICKNESS .5"	PENETRATOR ASTM 1B	SHIM N/A	ACCEPTANCE STANDARD ASME VIII, Div. 1, UW-51				

DESCRIPTION  
65678/70/2/70/818  
SE120-004 Port 12A  
Page 1 of 2

FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK OF FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER/PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	
			SIZE	QUALITY LEVEL																									
1	0-14	D.M.	1B	.013"		✓																							
2	0-14					✓																							
	0-1					✓																							
	1-2																												
	2-3																												

End View | Side View

SINGLE WALL

DOUBLE WALL

OTHER

Legend:  
P Penetrator  
S Shim  
L Location Marker  
() OTHER

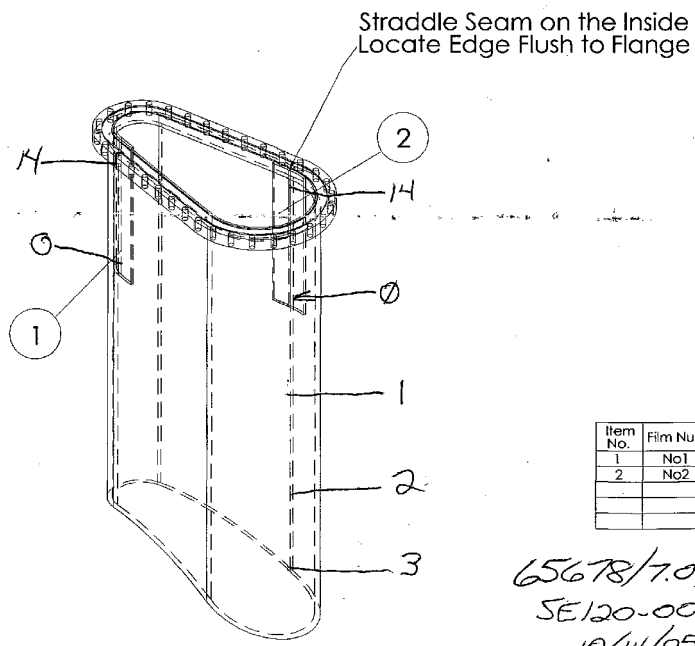
Robert Weaver 655514/II  
Cooperheat-MQS Signature  
Robert weaver 655514/II 1/9/06

Customer Representative Signature

10/14/05  
Date

MC115223.TIF1

Rev:	By	Date	Description
1A	LAK	8/9/05	initial release
2A	LAK	10/14/05	moved films



Item No.	Film Number	Center Point	Location	Comment
1	No1			
2	No2			

65678/7.0/2/70/38 W  
SE120-004 port 12A  
10/14/05  
Page 2 of 2

Checked	Drawn	DATE	SCALE
Checked	Drawn		
Approved	Checked		
Checked	Approved		

\*CDCP, Inc. (or address as appropriate)

Port 12 X-Ray  
Film Layout

Size: DWG. No. SE120-004-39-MTM Rev: 2A  
Scale: 1:1 Weight: 1 Sh1 of 1

THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF CDCP, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN CONSENT OF CDCP, INC.

Quality Assurance Documentation for Part ID: SE120-004 PORT 12A - Item: 201

Workorder: 65678/7-0 Sub:2 Op:80


Part: SE120-004 PORT 12A - PORT 12A SUB-ASSEMBLY - PORT 12A SUB-ASSEMBLY (VERTICAL FABRICATED PORT)

Drawing ID: SE122-018 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	G6	$\varnothing$ .030 A B C-D DIA. 0.531 THRU +/- 0.005" (32X)	INDICATOR	MFG QA		P-4101	.531---.534; 0.010 POSITION MAX	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (20)	G7	$\varnothing$ .012 A B C-D DIA. .136 +/- .005 X .38 DP +/- .010" 8-32 UNC .25 DP +/- .010" (8X)	THREAD PLUG GA	MFG QA		A-74	.136--.138 DIA.X.37 5 DP. 8-32 ACCEPT; 0.002 POSITION MAX	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (30)	D2	$\sphericalangle$ 0.015"	INDICATOR	MFG QA		P-4101	.002	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (40)	D3	.149 +.000/-.008"	DEPTH MICROMET	MFG QA		P-200	.143---.144	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (50)	D3	1.25 +/- .010"	OD MICROMETER	MFG QA		P-196	1.254--1.255	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (60)	C3	R .03 (tool radius) (2X)	RADIUS GAGE	MFG QA		P-4511	.0319	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (70)	D3	.94 +/- .010"	CALIPER	MFG QA		P-193	.940--.941	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (90)	G7	.471 +/- .005" (2X)	CALIPER	MFG QA		P-193	0.472	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (100)	G8	R 2.875 (verify tool path)		MFG QA		PGRM. #29203	ACCEPT	506-R.LI 10-20-05	295-C.W 10-20-05	A
1* (150)	E3	BREAK CORNERS R .005 MIN (2X) (visual verification)		MFG		VISUAL	ACCEPT	506-R.LI 10-20-05		A
1* (160)	G5	R 5.563 (verify tool path)				PGRM # 29203	ACCEPT			A

Quality Assurance Documentation for Part ID: SE120-004 PORT 12A - Item: 202

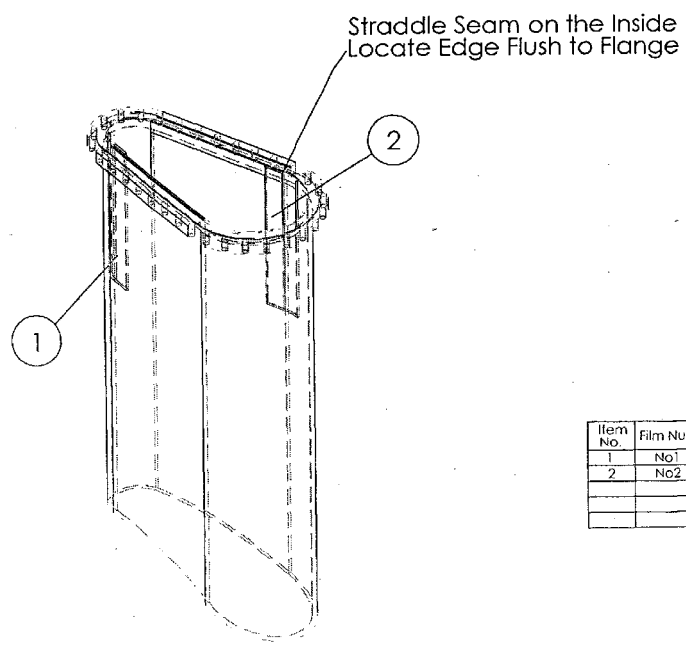
Workorder: 65678/7-0 Sub:2 Op:120

Part: SE120-004 PORT 12A - PORT 12A SUB-ASSEMBLY - PORT 12A SUB-ASSEMBLY (VERTICAL FABRICATED PORT)

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 0.375	CMM	QA		00064	+/-0.1875 CHECKS - 0.100 TO +0.300 OR 0.113 OHL (ACCEPT PER NC 18487)	854-R.U			A
(10)		PROFILE VERIFICATION						05-03-06			
*		Magnetic Permeability 1.02 Max	MASTER GAGE	QA		J-1165	LESS THAN 1.02	212-J.LE			A
(20)								10-26-05			
*		Interior Surface Finish 32 Micro-Inch RA	PROFILOMETER	QA		J-825	25-30 (ACCEPT PER NC 18486)	854-R.U			A
(30)								05-03-06			
*		Material Thickness: .500 +.04 / -.01"	OD MICROMETER	QA		J-722	.521-.528	854-R.U			A
(40)								10-26-05			
*		CLEANLINESS PER PS483		QA		VISUAL	CLEANLINESS ACCEPTABLE PER PS483	854-R.U			A
(50)								10-26-05			
*		Flange face Finish 125 Micro-Inch RA	PROFILOMETER	QA		J-825	80-100	854-R.U			A
(60)								10-26-05			
*		Magnetic Permeability 1.2 Max (at flange we	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U			A
(70)								10-26-05			



Rev	By	Date	Description
1A	LAK	8/9/05	Initial release
2A	LAK	10/14/05	moved films



Item No.	Film Number	Center Point	Location	Comment
1	No1			
2	No2			

<small>QUALITY CONTROL SPECIFICATIONS</small> Design: _____ Material: _____ Supplier: _____ Test: _____ Date: _____		CDCP, Inc. Part 12 X-Ray Film Layout Rev 2A
--	--	--



Quality Assurance Documentation for Part ID: SE120-004 PORT 12B - Item: 205

Workorder: 65678/7-0 Sub:3 Op:30

**Part: SE120-004 PORT 12B - PORT 12B SUB-ASSEMBLY - PORT 12B SUB-ASSEMBLY (VERTICAL FABRICATED PORT)**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	OK	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD P12B1		CWI				10-12-05	10-12-05	A
*				MFG		VISUAL	OK	358-D.M	933-D.L	
(50)		VWI COVER PASS WELD P12B1		CWI				10-13-05	10-13-05	A
*				MFG		VISUAL	OK	358-D.M	933-D.L	
(60)		VWI ROOT PASS WELD P12B2		CWI				10-12-05	10-12-05	A
*				MFG		VISUAL	OK	358-D.M	933-D.L	
(100)		VWI COVER PASS WELD P12B2		CWI				10-13-05	10-13-05	A

Quality Assurance Documentation for Part ID: SE120-004 PORT 12B - Item: 206

Workorder: 65678/7-0 Sub:3 Op:40

**Part: SE120-004 PORT 12B - PORT 12B SUB-ASSEMBLY - PORT 12B SUB-ASSEMBLY (VERTICAL FABRICATED PORT)**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE	219-T.L	581-D.E		A
(20)		VWI - ROOT PASS P12BF		CWI				10-22-05	10-20-05		
*				MFG		VISUAL	ACCEPTABLE	837-J.D	581-D.E		
(50)		VWI - COVER PASS P12BF		CWI				10-20-05	10-20-05		A
*				MFG		VISUAL	ACCEPTABLE PER CU	581-D.E	581-D.E		A
(60)		VWI - FILLET WELDS P12BF		CWI			OMER REQUIREMENT	10-21-05	10-21-05		



4959  
10520 Chester Road  
Woodlawn, Ohio 45215

CLIENT Major Tool + Machine	INTERPRETER/LEVEL Robert Weaver/II	RADIOGRAPHER Robert Weaver	JOB NO 13850291	P.O. NO N/A	DATE 10/14/05
ISOTOPE/RAY JR192	DIAPHRAGM .118" x .079"	CURIES/HR 90	FOCAL SPOT SIZE .140"	SFD 15"	SOD 14.5"
WELD PROCESS GTAW	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER N/A	MATERIAL THICKNESS .5"	PENETRATOR ASTM 1B	SHIM N/A
FILM PROCESSING Auto				FILM TYPE Kodak MX125	FILM TECHNIQUE Double
ACCEPTANCE STANDARD ASME VIII, Div. 1, UW-51				PB SCREENS .010"	

DESCRIPTION  
65678/70/3/70/818  
SE120-004 part 12B  
Page 1 of 2

REMARKS

FITTING SCM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEYITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER/PT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MISMATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT	
			SIZE	QUALITY LEVEL																									
1	0-14	D.M.	1B	.013"		✓																							
2	0-14					✓																							
	0-1					✓																							
	1-2																												
	2-3																												

End View | Side View

**SINGLE WALL**

**DOUBLE WALL**

P Penetrator  
 S Shim  
 L Location Marker  
 ( ) OTHER

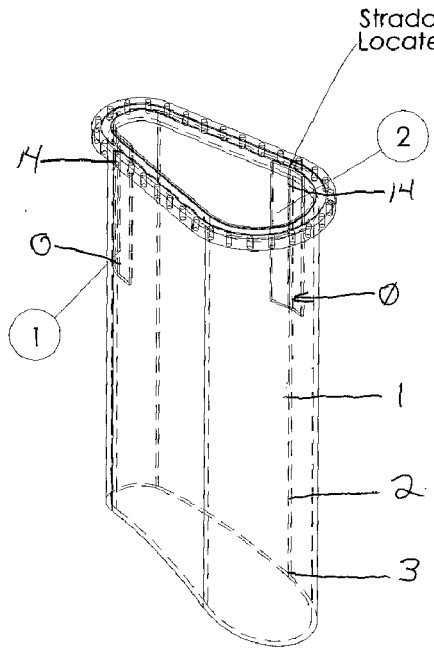
Robert Weaver 65514/II  
Cooperheat-MQS Signature

Customer Representative Signature

10/14/05  
Date

MC112734.TIF1

Rev	By	Date	Description
1A	LAK	8/9/05	initial release
2A	LAK	10/14/05	moved films



Straddle Seam on the Inside  
Locate Edge Flush to Flange

Item No.	Film Number	Center Point	Location	Comment
1	No1			
2	No2			

65678/7.0/3/70/88  
SE120-004 port 12B  
10/14/05  
Page 2 of 2

UNIT	DATE	TIME	DATE
Operator	LAK	10/14/05	
Operator			
Operator			
Operator			

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Port 12 X-Ray  
Film Layout


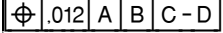
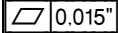
SE120-004-39-MTM 2A

Scale: 1:1 Weight: 1 SHT of 1

Quality Assurance Documentation for Part ID: SE120-004 PORT 12B - Item: 209

Workorder: 65678/7-0 Sub:3 Op:80

Part: SE120-004 PORT 12B - PORT 12B SUB-ASSEMBLY - PORT 12B SUB-ASSEMBLY (VERTICAL FABRICATED PORT)

Drawing ID: SE122-018 Rev: 1				INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC		GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	G6	 DIA. 0.531 THRU +/- 0.005" (32X)		CALIPER	MFG  QA		P-193  P4101	.531---.533---.008  TIR.	506-R.LI  10-24-05	667-J.B  10-24-05	A
1* (20)	G7	 DIA. .136 +/- .005 X .38 DP +/- .010" 8-32 UNC .25 DP +/- .010" (8X)		THREAD PLUG GA  CALIPER	MFG  QA		A-74  P-193	.136 X.375 DP. 8-3  2 X .25 DP ACCEPT	506-R.LI  10-23-05	667-J.B  10-24-05	A
1* (30)	D2	 0.015"		INDICATOR	MFG QA		P-4101	.006	506-R.LI 10-24-05	667-J.B 10-24-05	A
1* (40)	D3	.149 +.000/-.008"		DEPTH MICROMET	MFG QA		P-200	.145---.147	506-R.LI 10-23-05	667-J.B 10-24-05	A
1* (50)	D3	1.25 +/- .010"		OD MICROMETER	MFG QA		P-196	1.253	506-R.LI 10-23-05	667-J.B 10-24-05	A
1* (60)	C3	R .03 (tool radius) (2X)		RADIUS GAGE	MFG QA		P-4511	.032	506-R.LI 10-23-05	667-J.B 10-24-05	A
1* (70)	D3	.94 +/- .010"		CALIPER	MFG QA		P-193	.940--.941	506-R.LI 10-23-05	667-J.B 10-24-05	A
1* (90)	G7	.471 +/- .005" (2X)		CALIPER	MFG QA		P-193	.471--.472	506-R.LI 10-23-05	667-J.B 10-24-05	A
1* (100)	G8	R 2.875 (verify tool path)			MFG QA		PGRM. #2903	ACCEPT	506-R.LI 10-23-05	667-J.B 10-24-05	A
1* (150)	E3	BREAK CORNERS R .005 MIN (2X) (visual verification)			MFG		VISUAL	ACCEPT	506-R.LI  10-23-05		A
1* (160)	G5	R 5.563 (verify tool path)			MFG		PGRM. # 2903	ACCEPT	506-R.LI 10-24-05		A



4119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 695-6725 FAX NUMBER

ORDER DATE MACH B/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: CUSTOMER #: 28900000 SLSPRSN #: 10000  
 MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: P05-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05  
 INDIANAPOLIS- SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	B/O	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
1	9	9pc. 34"lg	4"OD .250AW PIPE X 34"LG (-0+1/4) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: 6PCS PART# SE120-004 PORT 17 TAG: 6PCS PART# SE120-004 PORT FJS	EA 132793	81404C
				99716	
				99715	
2	6	6pc. 42"lg	4"OD .250AW PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT '17	EA 132793	81404C
				99721	

Re: 08.17.05 wx



6119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 495-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38800000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05  
 INDIANAPOLIS SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	U/M	HEAT NUMBER	MACH P.O. #
3	18	18 Pcs. 52"lg		4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 625 S8443 NO LONG SEAM BEVEL TAG: (LPC) PART# SE120-004 PORT 17 (SP) PART# SE120-004 PORT 18 (LPC) PART# SE120-004 PORT 2 (LPC) PART# SE120-004 PORT 8	EA	132793	81404C
						9976A	
						<i>See last page for customer/ vendor revision.</i>	
						99720	
						99723	
						99724	
4	1			CONTACT MAJOR TOOL TRANS. REPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #0E-AC02-76-CH03073			LT
							<i>JW</i>
5	1			BAND PIPE TO WOODEN PALLETS & SHRINK WRAP COMPLETELY			LT
							<i>JW</i>



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 495-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000  
 SOLD TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET

SLSPRN #: 10000  
 CUSTOMER ORDER NUMBER: POS-03984  
 DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS  
 IN 46218  
 BUYER: BOB

SHIP VIA: ABF F.O.B.: OUR PLANT  
 FREIGHT BILL NUMBER:

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET

PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 TERMS: SEE BELOW

INDIANAPOLIS  
 IN 46218  
 ATTENTION:  
 TAG #:  
 TAG \$:

MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QUANTITY	B/O	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
5	1	1		MIN TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT RECV. 31,500 8/9/05 CHK# 60160	
FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM BALANCE OF FUNDS DUE NET 30 DAYS.						

RECEIVED BY *Frank L. Smith*  
 DATE 8-9-05 DECLARED VALUE IS ----- \$48,400.00





6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-8823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in black ink that reads "Denise Hernandez". The signature is written in a cursive, flowing style.

Denise Hernandez  
Sales Department

**INSPECTION DATA CHECKLIST**

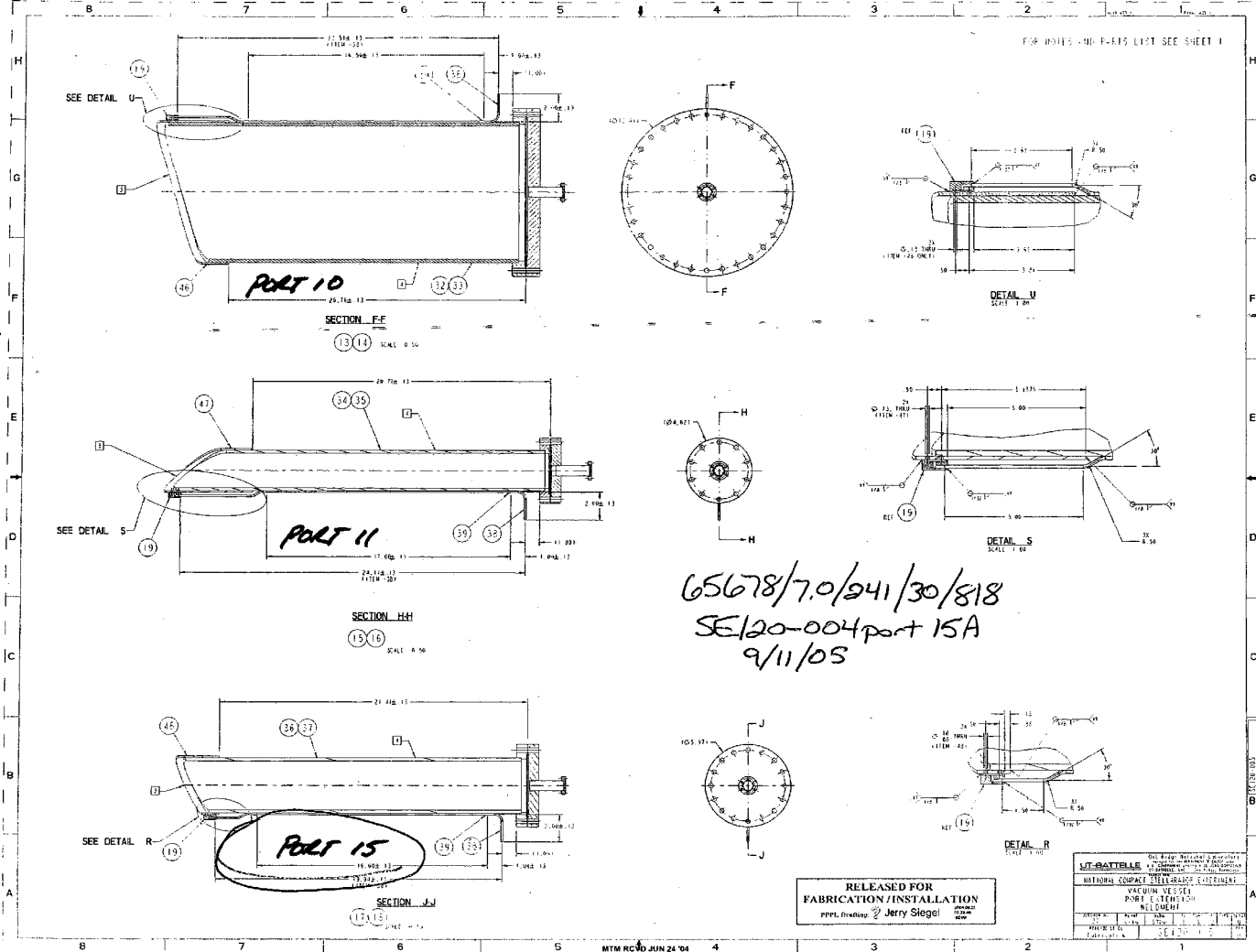
Quality Assurance Documentation for Part ID: SE120-004 PORT 15 - Item: 211

Workorder: 65678/7-0 Sub:241 Op:20

Part: SE120-004 PORT 15 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				08-30-05	08-30-05	

A



65678/7.0/241/30/818  
SE/20-004 part 15A  
9/11/05

UT-GATTELE		REV. 1	
MATERIAL: 304L STAINLESS STEEL		REV. 2	
PART: PORT ELEMENT		REV. 3	
WELDING: WELDED		REV. 4	
DATE: 09/11/05	BY: JERRY SIEGEL	DATE: 09/11/05	BY: JERRY SIEGEL




**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 15 - Item: 214

Workorder: 65678/7-0 Sub:241 Op:50

Part: SE120-004 PORT 15 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	INDICATOR	QA		J-1294	.025	085-D.G 10-15-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 15 - Item: 216

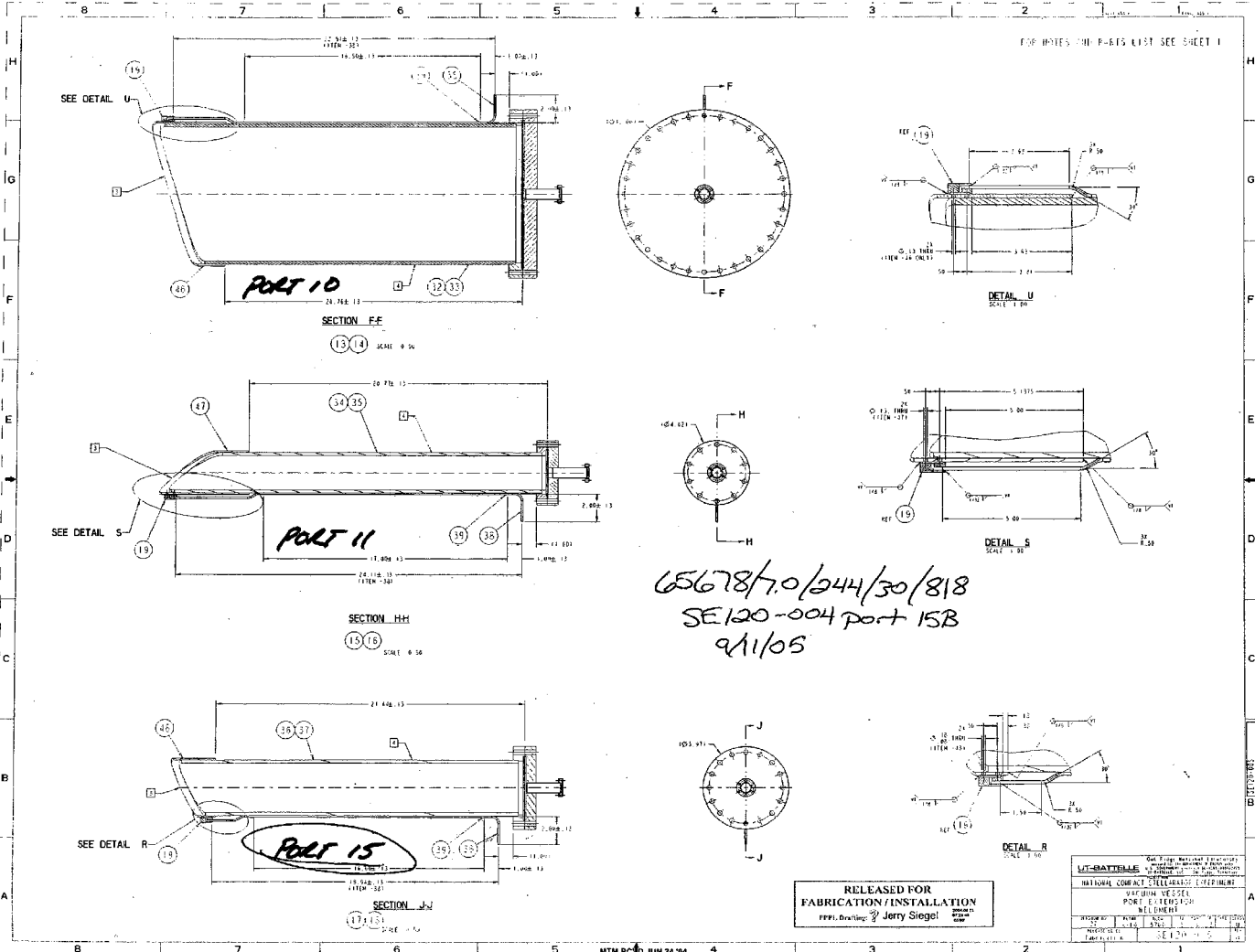
Workorder: 65678/7-0 Sub:244 Op:20

Part: SE120-004 PORT 15 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				08-30-05	08-30-05	

A





65678/7.0/244/30/818  
 SE 120-004 port 15B  
 9/11/05

LIT-BATTOLLE	
NATIONAL CONTACT CELLULOSE (NIPMONT)	
REFORM VESSEL	
PORT 15 (PORT 15B)	
WELDMENT	
PROJECT	SE 120-004
DATE	9/11/05
DESIGNER	JERRY SIEGEL
CHECKED	
APPROVED	




**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 15 - Item: 219

Workorder: 65678/7-0 Sub:244 Op:50

Part: SE120-004 PORT 15 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	INDICATOR	QA		J-1294	.02	085-D.G 10-15-05		

A

Quality Assurance Documentation for Part ID: SE120-004 PORT 15A - Item: 220

Workorder: 65678/7-0 Sub:24 Op:10

Part: SE120-004 PORT 15A - PORT 15A SUB-ASSEMBLY - PORT 15A SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P15AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P15AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	

Quality Assurance Documentation for Part ID: SE120-004 PORT 15B - Item: 222

Workorder: 65678/7-0 Sub:25 Op:10

**Part: SE120-004 PORT 15B - PORT 15B SUB-ASSEMBLY - PORT 15B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P15BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P15BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	



6119 FULTON / 77022  
 P.O. BOX 190630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 28900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05  
 INDIANAPOLIS- SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC. PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 1458 E. 19TH. STREET TERMS: SEE BELOW  
 INDIANAPOLIS  
 IN 46218  
 ATTENTION: WILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
1	9	9pc. 34"lg	4"OD .250AM PIPE X 34"LG (-0+1/4) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: 4PCS PART# SE120-004 PORT 17 TAG: 3PCS PART# SE120-004 PORT 17	EA 132793	81404C
				99716	
				99715	
2	6	6pc. 42"lg	4"OD .250AM PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT 17	EA 132793	81404C
				99721	

Re: 08.17.05 WX



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 696-4000  
 (713) 696-6725 FAX NUMBER

ORDER DATE 7/21/05 MACH S/O NUMBER 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET  
 INDIANAPOLIS IN 46218  
 BUYER: BOB

CUSTOMER #: 38800000  
 SLS PRSN #: 10000  
 CUSTOMER ORDER NUMBER: POS-03984  
 DEL ACT: DEL EST: 8/04/05

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET  
 INDIANAPOLIS IN 46218  
 ATTENTION:  
 TAG #:  
 TAG #:

SHIP VIA: AFB F.O.B.: OUR PLANT  
 FREIGHT BILL NUMBER:  
 PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 TERMS: SEE BELOW

MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
3	18	18 PCS. 52"lg		4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 425 SQ443 NO LONG SEAM BEVEL TAG: <u>4PC</u> PART# SE120-004 PORT 17 <u>4PC</u> PART# SE120-004 PORT 18 <u>4PC</u> PART# SE120-004 PORT 2 <u>4PC</u> PART# SE120-004 PORT 8	EA 132793	81404C
4	1			CONTACT MAJOR TOOL TRANS. DEPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #0E-AC02-74-CH03073	LT	
5	1			BAND PIPE TO WOODEN PALLETS & SHRINK WRAP COMPLETELY	LT	

*9976A see last page for customer/vendor revision.*

*99726*

*99723*

*99724*

*JTW*



6119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 495-6000  
 (713) 496-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 28900000 SLSPRSN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05  
 INDIANAPOLIS IN 46218 SHIP VIA: ABF F.O.B.: OUR PLANT  
 BUYER: BOB FREIGHT BILL NUMBER:  
 SHIP TO: MAJOR TOOL & MACHINE INC. PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 1458 E. 19TH. STREET TERMS: SEE BELOW  
 INDIANAPOLIS IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	QUANTITY	ORDER	S/O	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
6	1			MTM TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT RECV. 31,500 8/19/05 CIC# 60160	
				FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM		
				BALANCE OF FUNDS DUE NET 30 DAYS.		

RECEIVED BY Frank Smith  
 DATE 8-9-05 DECLARED VALUE IS ----- \$48,400.00



6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-6823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in cursive script that reads "Denise Hernandez".

Denise Hernandez  
Sales Department

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 17 - Item: 225

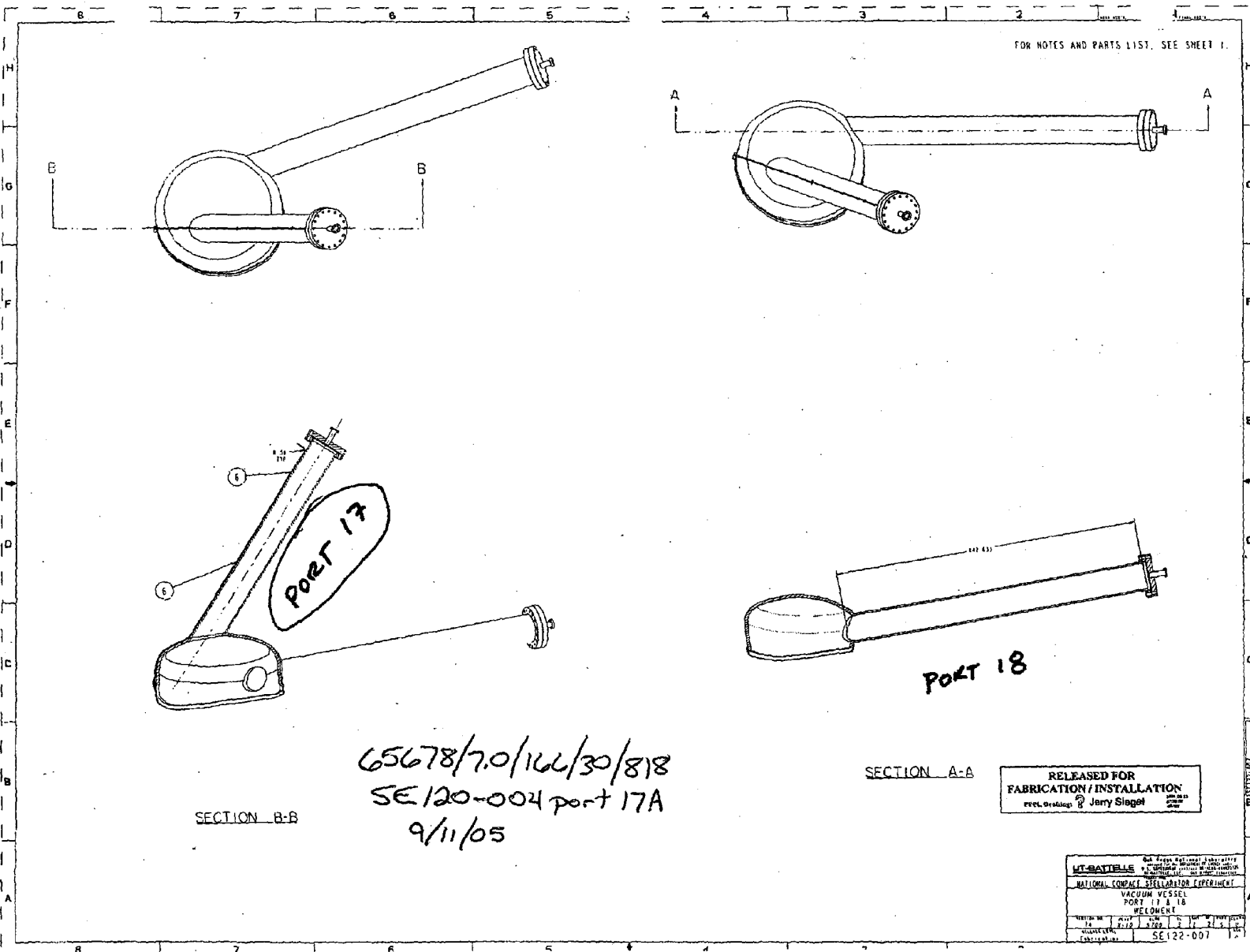
Workorder: 65678/7-0 Sub:166 Op:20

Part: SE120-004 PORT 17 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				08-30-05	08-30-05	A







FOR NOTES AND PARTS LIST, SEE SHEET 1.

SECTION B-B

65678/7.0/166/30/818  
 SE 120-004 port 17A  
 9/11/05

SECTION A-A

RELEASED FOR  
 FABRICATION / INSTALLATION  
 Rev. 01/04/05 Jerry Siegel

HT-BATTELLE NATIONAL COMPACT RESEARCH LABORATORY EXPERIMENT	
VACUUM VESSEL PORT 17 & 18 WELDMENT	
DATE: 9/11/05 DRAWN BY: JERRY SIEGEL CHECKED BY:	SE 120-007

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 17 - Item: 228

Workorder: 65678/7-0 Sub:166 Op:50

Part: SE120-004 PORT 17 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		○ 0.06	HEIGHT GAGE	QA		J-530	.038	131-W.A 10-17-05		

A

**INSPECTION DATA CHECKLIST**

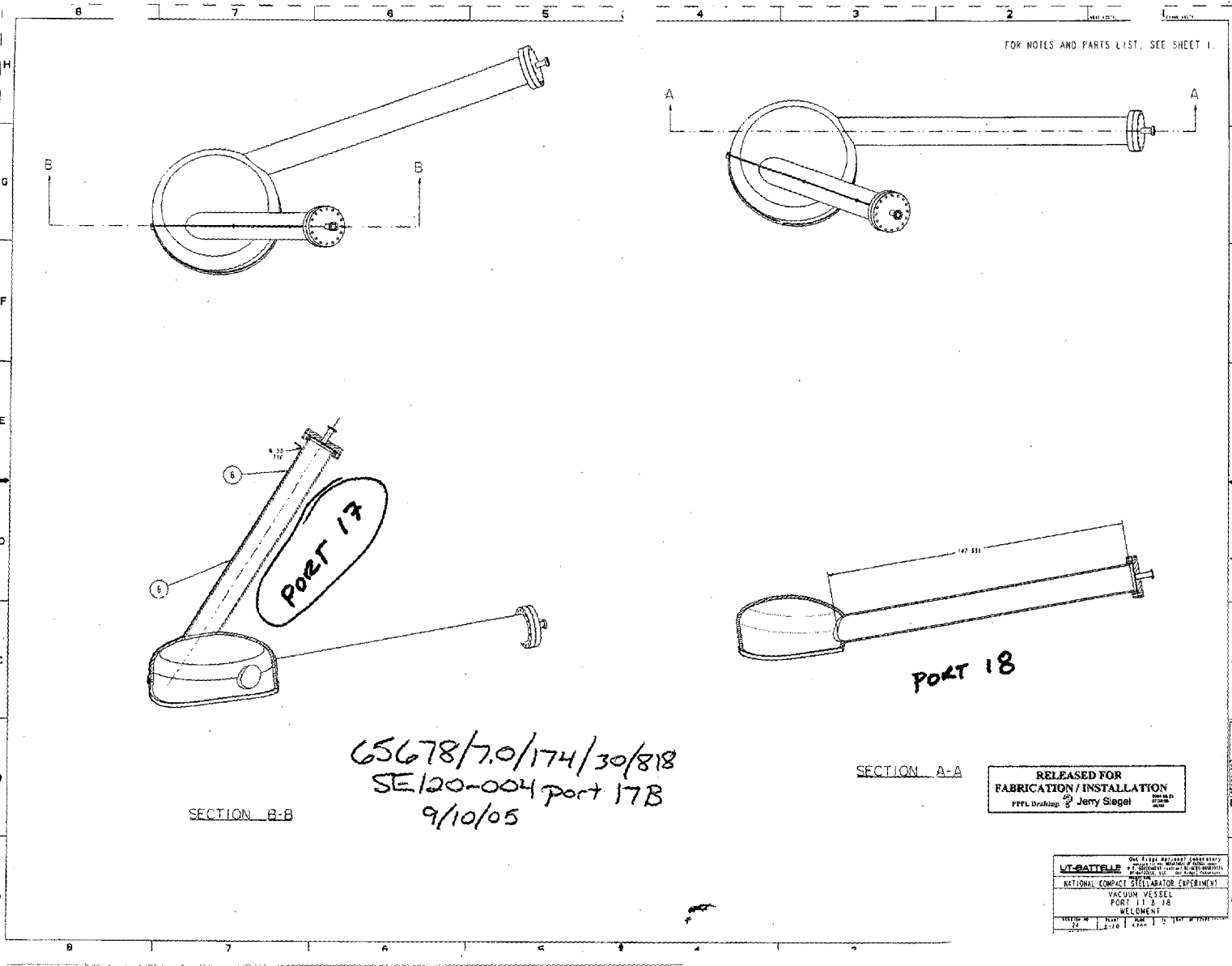
Quality Assurance Documentation for Part ID: SE120-004 PORT 17 - Item: 230

Workorder: 65678/7-0 Sub:174 Op:20

Part: SE120-004 PORT 17 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				08-31-05	08-31-05	A





FOR NOTES AND PARTS LIST, SEE SHEET 1.

SECTION B-B

65678/7.0/174/30/818  
SE 120-004 port 17B  
9/10/05

SECTION A-A

RELEASED FOR  
FABRICATION / INSTALLATION  
PPPL Drafting Jerry Siegel


VT-CATTELE		VT-CATTELE	
NATIONAL CONTACT OSCILLATOR EXPERIMENT		NATIONAL CONTACT OSCILLATOR EXPERIMENT	
VACUUM VESSEL		VACUUM VESSEL	
PORT 17 & 18		PORT 17 & 18	
WELDMENT		WELDMENT	
DATE	REV	DATE	REV
9/10/05	1	9/10/05	1

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 17 - Item: 233

Workorder: 65678/7-0 Sub:174 Op:50

Part: SE120-004 PORT 17 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.038	131-W.A 10-17-05		

A

Quality Assurance Documentation for Part ID: SE120-004 PORT 17A - Item: 234

Workorder: 65678/7-0 Sub:162 Op:10

**Part: SE120-004 PORT 17A - PORT 17A SUB-ASSEMBLY - PORT 17A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P17AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P17AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	



Quality Assurance Documentation for Part ID: SE120-004 PORT 17B - Item: 235

Workorder: 65678/7-0 Sub:164 Op:10

**Part: SE120-004 PORT 17B - PORT 17B SUB-ASSEMBLY - PORT 17B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P17BF		MFG		VISUAL	OK	093-M.S	933-D.L		A
(30)				CWI				11-01-05	11-01-05		
*		VWI - EXTERIOR FILLETS P17BF		MFG		VISUAL	OK	093-M.S	933-D.L		A
(40)					CWI				11-01-05	11-01-05	



4119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE 7/21/05 MACH S/O NUMBER 250875

\*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: CUSTOMER #: 38800000 SLSPRSN #: 10000  
 MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: P05-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS: SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 IN 46218 TERMS: SEE BELOW

INDIANAPOLIS ATTENTION: MILL TEST REPORTS:  
 IN 46218 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
1	9	9pc. 34"lg	4"OD .250AW PIPE X 34"LG (-0+1/4) FORM & TACK 625 SB442 NO LONG SEAM BEVEL TAG: 4PCS PART# SE120-004 PORT 17 TAG: 3PCS PART# SE120-004 PORT 17	EA 132793	814040
				99716	
				99715	
2	6	6pc. 42"lg	4"OD .250AW PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB442 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT 17	EA 132793	814040
				99721	

Rec: 08.17.05 wx



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 495-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE 7/21/05 MACH S/O NUMBER 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 88900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 9/04/05  
 INDIANAPOLIS SHIP VIA: AFB F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
3	18	18 pcs. 52"lg		4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 625 58443 NO LONG SEAM BEVEL TAG: (1PC) PART# SE120-004 PORT 17 (5PC) PART# SE120-004 PORT 18 (4PC) PART# SE120-004 PORT 2 (2PC) PART# SE120-004 PORT 8	EA 132793	81404C
4	1			CONTACT MAJOR TOOL TRANS. LT DEPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #05-AC02-76-CH03073		
5	1			BAND PIPE TO WOODEN PALLETS LT & SHRINK WRAP COMPLETELY		

*9976A see last page for customer/vendor revision.*

*99726*  
*99723*  
*99724*

*VJW.*

*VJW.*



4119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000      SLSPRSN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC.      CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET      DEL ACT:      DEL EST: 8/04/05

INDIANAPOLIS      SHIP VIA: ABF      F.O.B. :OUR PLANT  
 IN 46218      FREIGHT BILL NUMBER:

BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET      PREPAID/CHG:      PREPAID/ALLOW:      COLLECT: X  
 TERMS: SEE BELOW

INDIANAPOLIS  
 IN 46218  
 ATTENTION:  
 TAG #:  
 TAG \$:

MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
6	1			MTM TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT RECV. 31,500 8/9/05 CIC# 60160	
FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM BALANCE OF FUNDS DUE NET 30 DAYS						

RECEIVED BY Frank J. Smith  
 DATE 8-9-05      DECLARED VALUE IS ----- \$48,400.00



6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-6823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in cursive script that reads "Denise Hernandez".

Denise Hernandez  
Sales Department

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 18 - Item: 237

Workorder: 65678/7-0 Sub:171 Op:20

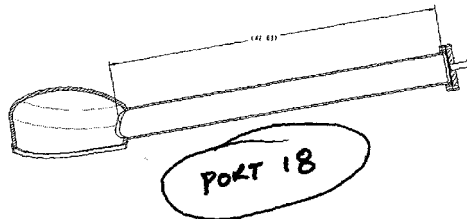
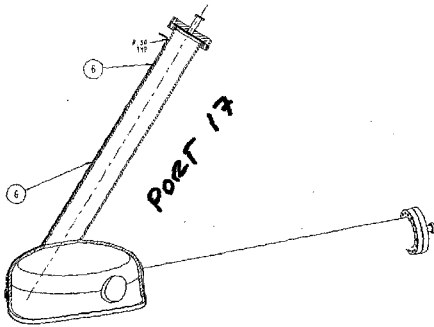
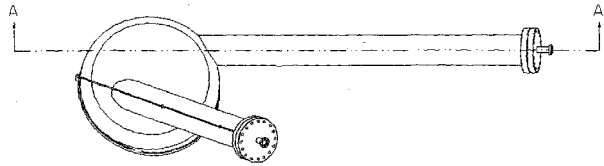
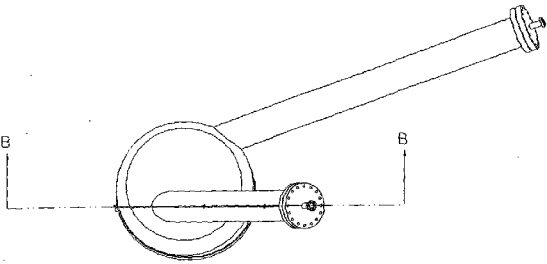
Part: SE120-004 PORT 18 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATION REQUI EMENTS.	933-D.L	933-D.L	
(20)		VWI - COMPLETED WELD		CWI				09-09-05	09-09-05	

A



FOR NOTES AND PARTS LIST, SEE SHEET 1.



65678/7.0/171/30/818  
 SE120-004 port 18A  
 9/10/05

SECTION B-B

SECTION A-A

RELEASED FOR  
 FABRICATION / INSTALLATION  
 PPL: Drablog ? Jerry Siegel

UT-BATTELLE		OAK RIDGE NATIONAL LABORATORY	
NATIONAL COMPACT STELLARATOR EXPERIMENT		VACUUM VESSEL	
PORT 17 & 18		WELDMENT	
DATE	BY	DATE	BY
9/10/05	JSS	9/10/05	JSS
FABRICATION		SE122-007	



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 18 - Item: 240

Workorder: 65678/7-0 Sub:171 Op:50

Part: SE120-004 PORT 18 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		○ 0.06	HEIGHT GAGE	QA		J-530	.036	854-R.U 10-20-05		

A



4119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE 7/21/05 MACH S/O NUMBER 250875

\*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: CUSTOMER #: 38800000 SLSPRSN #: 10000  
 MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: P05-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS: SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 IN 46218 TERMS: SEE BELOW

INDIANAPOLIS ATTENTION: MILL TEST REPORTS:  
 IN 46218 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 TAG #: NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
1	9	9pc. 34"lg	4"OD .250AW PIPE X 34"LG (-0+1/4) FORM & TACK 625 SB442 NO LONG SEAM BEVEL TAG: 4PCS PART# SE120-004 PORT 17 TAG: 3PCS PART# SE120-004 PORT 17	EA 132793	814040
				99716	
				99715	
2	6	6pc. 42"lg	4"OD .250AW PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB442 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT 17	EA 132793	814040
				99721	

Rec: 08.17.05 wx



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 495-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE 7/21/05 MACH S/O NUMBER 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 88900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 9/04/05  
 INDIANAPOLIS SHIP VIA: AFB F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
3	18	18 pcs. 52"lg		4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 625 58443 NO LONG SEAM BEVEL TAG: (1PC) PART# SE120-004 PORT 17 (5PC) PART# SE120-004 PORT 18 (4PC) PART# SE120-004 PORT 2 (2PC) PART# SE120-004 PORT 8	EA 132793	81404C
4	1			CONTACT MAJOR TOOL TRANS. LT DEPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #05-AC02-76-CH03073		
5	1			BAND PIPE TO WOODEN PALLETS LT & SHRINK WRAP COMPLETELY		

*9976A see last page for customer/  
 vendor revision.*

*99726*  
*99723*  
*99724*

*VJW.*

*VJW*



4119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 695-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: CUSTOMER #: 38900000 SLSPRSN #: 10000  
 MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS IN 46218 BUYER: BOB SHIP VIA: ABF F.O.B.: OUR PLANT  
 FREIGHT BILL NUMBER:

SHIP TO: MAJOR TOOL & MACHINE INC. PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 1458 E. 19TH. STREET TERMS: SEE BELOW

INDIANAPOLIS IN 46218 ATTENTION: TAG #: TAG \$: MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
6	1			MTM TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT RECV. 31,500 8/9/05 CIC# 60160	
FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM BALANCE OF FUNDS DUE NET 30 DAYS						

RECEIVED BY Frank Smith  
 DATE 8-9-05 DECLARED VALUE IS ----- \$48,400.00



6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-6823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in black ink that reads "Denise Hernandez". The signature is written in a cursive style with a large, looping "D" and "H".

Denise Hernandez  
Sales Department

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 18 - Item: 242

Workorder: 65678/7-0 Sub:177 Op:20

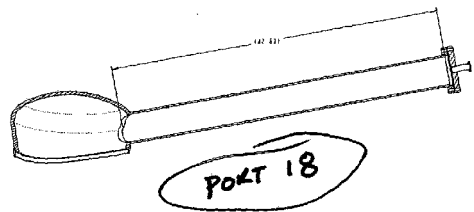
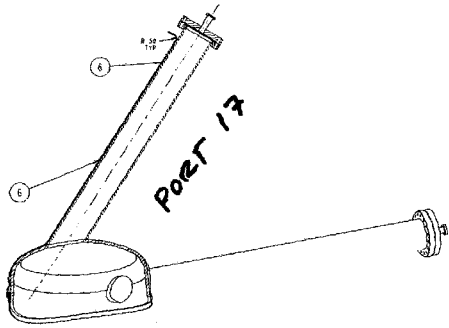
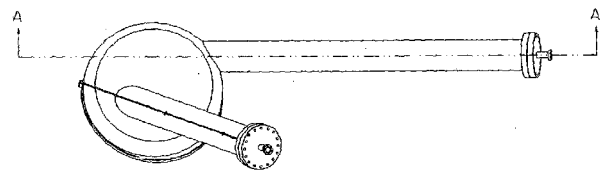
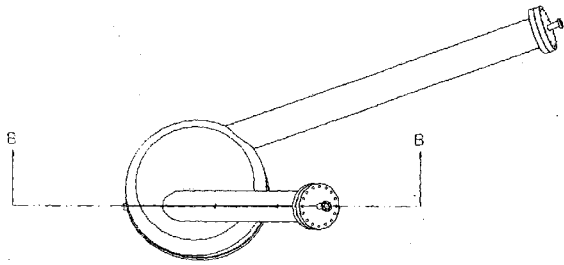
Part: SE120-004 PORT 18 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	WELD ACCEPTABLE P CUSTOMER DRAWIN PECIFICATION REQUI EMENTS.	933-D.L	933-D.L	
(20)		VWI - COMPLETED WELD		CWI				09-09-05	09-09-05	

A



FOR NOTES AND PARTS LIST, SEE SHEET 1.



SECTION B-B

65678/70/177/30/818  
 SE120-004 port 18B  
 9/10/05

SECTION A-A

RELEASED FOR  
 FABRICATION / INSTALLATION  
 VPPS Drawing: Jerry Siegel

MIGATELLE		NATIONAL COMPLEX DIVISION	
NATIONAL COMPLEX DIVISION EXPERIMENT			
VACUUM VESSEL			
PORT 17 & 18			
WELDMENT			
DATE	BY	APP.	REV.
10/11/05	JERRY SIEGEL		1
DESCRIPTION		SE122-007 13	




**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT 18 - Item: 245

Workorder: 65678/7-0 Sub:177 Op:50

Part: SE120-004 PORT 18 - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.055	854-R.U 10-20-05		

A

Quality Assurance Documentation for Part ID: SE120-004 PORT 18A - Item: 246

Workorder: 65678/7-0 Sub:163 Op:10

**Part: SE120-004 PORT 18A - PORT 18A SUB-ASSEMBLY - PORT 18A SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P18AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P18AF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	

Quality Assurance Documentation for Part ID: SE120-004 PORT 18B - Item: 247

Workorder: 65678/7-0 Sub:165 Op:10

**Part: SE120-004 PORT 18B - PORT 18B SUB-ASSEMBLY - PORT 18B SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET P18BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS P18BF		MFG		VISUAL	OK	197-T.FI	933-D.L		A
(40)				CWI				10-27-05	10-27-05		

Quality Assurance Documentation for Part ID: SE120-004 PORT FJS - Item: 248

Workorder: 65678/7-0 Sub:224 Op:10

**Part: SE120-004 PORT FJS - PORT FJS SUB-ASSEMBLY - PORT FJS SUB-ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - INTERIOR COVER PASS / FILLET PFJF		MFG		VISUAL	GOOD	197-T.FI	933-D.L		A
(30)				CWI				10-27-05	10-27-05		
*		VWI - EXTERIOR FILLETS PFJF		MFG		VISUAL	ALL RIGHT	197-T.FI	933-D.L		A
(40)					CWI				10-27-05	10-27-05	



4119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 493-6000  
 (713) 596-6725 FAX NUMBER

ORDER DATE 7/21/05 MACH S/O NUMBER 250675  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

SOLD TO: CUSTOMER #: 28800000 SLSFRSN #: 10000  
 MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: P05-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS: SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 INDIANAPOLIS TERMS: SEE BELOW  
 IN 46218  
 ATTENTION: MILL TEST REPORTS:  
 TAG #: X WITH SHIPMENT  
 TAG #: X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QTY	SHIP DESCRIPTION	U/M	HEAT NUMBER	MACH P.O. #
1	9	9pc. 34"lg	4"OD .250AW PIPE X 34"LG (-0+1/4) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: <del>EPC</del> PART# SE120-004 PORT 15 TAG: <del>EPC</del> PART# SE120-004 PORT FJE	EA	132793	81404C
					99716	
					99715	
2	6	6pc. 42"lg	4"OD .250AW PIPE X 42"LG (-0 +1/2) FORM & TACK 625 SB443 NO LONG SEAM BEVEL TAG: PART# SE120-004 PORT 17	EA	132793	81404C
					99721	

Rev: 08-17-05 wx



5119 FULTON / 77022  
 P.O. BOX 130430  
 HOUSTON, TEXAS 77219-0430  
 (713) 696-6000  
 (713) 696-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875  
 \*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000      SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC.      CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET      DEL ACT:      DEL EST: 8/04/05  
 INDIANAPOLIS      SHIP VIA: ARF      F.O.B.: OUR PLANT  
 IN 46218      FREIGHT BILL NUMBER:  
 BUYER: BOB  
 SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET      PREPAID/CHG:      PREPAID/ALLOW:      COLLECT: X  
 INDIANAPOLIS      TERMS: SEE BELOW  
 IN 46218  
 ATTENTION:  
 TAG #:      MILL TEST REPORTS:  
 TAG #:      X WITH SHIPMENT  
    X WITH INVOICE  
    NOT REQUIRED

ITEM	ORDER	QTY	SHIP	DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
3	18	18 pcs 52"lg		4"OD .250AW PIPE X 52"LG (-0,+1/2) FORM & TACK 625      60443 NO LONG SEAM BEVEL TAG: (1PC) PART# SE120-004 PORT 17 (5PC) PART# SE120-004 PORT 18 (4PC) PART# SE120-004 PORT 2 (3PC) PART# SE120-004 PORT 8	EA 132793	814040
4	1			CONTACT MAJOR TOOL TRANS. DEPT FOR SHIPPING INSTRUCTIONS 317-917-2404. REFERENCE PRIME CONTACT #0E-AC02-76-CH08073	LT	
5	1			BAND PIPE TO WOODEN PALLETS & SHRINK WRAP COMPLETELY	LT	

*9976A see last page for customer/  
 vendor revision.*  
 \_\_\_\_\_ 99726  
 \_\_\_\_\_ 99723  
 \_\_\_\_\_ 99724  
 ✓JW.  
 ✓JW.



6119 FULTON / 77022  
 P.O. BOX 130630  
 HOUSTON, TEXAS 77219-0630  
 (713) 495-6000  
 (713) 496-6725 FAX NUMBER

ORDER DATE MACH S/O NUMBER  
 7/21/05 250875

\*\*\*\*\*  
 \*\*\* SHIPPING DEPT \*\*\*  
 \*\*\*\*\*

CUSTOMER #: 38900000 SLSPRN #: 10000  
 SOLD TO: MAJOR TOOL & MACHINE INC. CUSTOMER ORDER NUMBER: POS-03984  
 1458 E. 19TH. STREET DEL ACT: DEL EST: 8/04/05

INDIANAPOLIS SHIP VIA: ABF F.O.B.: OUR PLANT  
 IN 46218 FREIGHT BILL NUMBER:  
 BUYER: BOB

SHIP TO: MAJOR TOOL & MACHINE INC.  
 1458 E. 19TH. STREET PREPAID/CHG: PREPAID/ALLOW: COLLECT: X  
 TERMS: SEE BELOW

INDIANAPOLIS  
 IN 46218  
 ATTENTION:  
 TAG #:  
 TAG #:  
 MILL TEST REPORTS:  
 X WITH SHIPMENT  
 X WITH INVOICE  
 NOT REQUIRED

ITEM	ORDER	QUANTITY	S/O	SHIP DESCRIPTION	HEAT U/M NUMBER	MACH P.O. #
4	1			MTM TO PAY \$31,500.00 PRIOR TO SHIPMENT	LT	
				FORWARD INVOICE TO BOB JOACHIM @ BJOACHIM@MAJORTOOL.COM; BALANCE OF FUNDS DUE NET 30 DAYS.	RECV. 31,500 8/9/05 CK# 60160	

RECEIVED BY *Paul F. Smith*

DATE 8-9-05 DECLARED VALUE IS ----- \$48,400.00



6119 Fulton Street  
P. O. Box 130630  
Houston, Texas 77219  
(713) 695-6000  
(800) 231-6823  
(713) 696-6725 Fax

August 18, 2005

To: Major Tool & Machine

Attn: Dave Wilkinson

Re: **Marking Authorization**  
**Major Tool Po# P05-03984**  
**Mach S/O# 250875**

Dear Dave,

The Quality Control Department at Mach Industrial Group states the following material 4"OD .250AW Pipe x 52"LG Port 17, needs to be marked as follows:

4"OD .250AW Pipe x 52"LG Port 18 HT#132793

Let me know if we can help in any other way.

Sincerely,

A handwritten signature in cursive script that reads "Denise Hernandez".

Denise Hernandez  
Sales Department



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT FJS - Item: 250

Workorder: 65678/7-0 Sub:247 Op:20

Part: SE120-004 PORT FJS - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG			ACCEPT	733-J.ST	712-W.	
(20)		VWI - COMPLETED WELD		CWI				09-02-05	09-02-05	A






**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT FJS - Item: 253

Workorder: 65678/7-0 Sub:247 Op:50

Part: SE120-004 PORT FJS - PIPE, 3.5" SCH. 40 - SE120-004-15 PIPE, 3.5" SCH. 40

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (40)		 0.06	HEIGHT GAGE	QA		J-530	.023	131-W.A 10-17-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004 PORT NB - Item: 255

Workorder: 65678/7-0 Sub:1 Op:30

**Part: SE120-004 PORT NB - NEUTRAL BEAM PORT EXTENSION SUB-ASSY - PORT NB SUB-ASSEMBLY PPPL NCSX VVSA NEUTRAL BEAM PORT EXT**

Drawing ID: SE120-004 Rev: 2		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	OK	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD PNB-1		CWI				09-09-05	09-09-05	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	933-D.L	
(50)		VWI COVER PASS WELD PNB-1		CWI			DRAWINGS AND SPE	09-10-05	09-15-05	A
							FICATIONS			
*				MFG		VISUAL	OK	358-D.M	933-D.L	
(60)		VWI ROOT PASS WELD PNB-2		CWI				09-09-05	09-15-05	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	933-D.L	
(100)		VWI COVER PASS WELD PNB-2		CWI			DRAWINGS AND SPE	09-10-05	09-15-05	A
							FICATIONS			

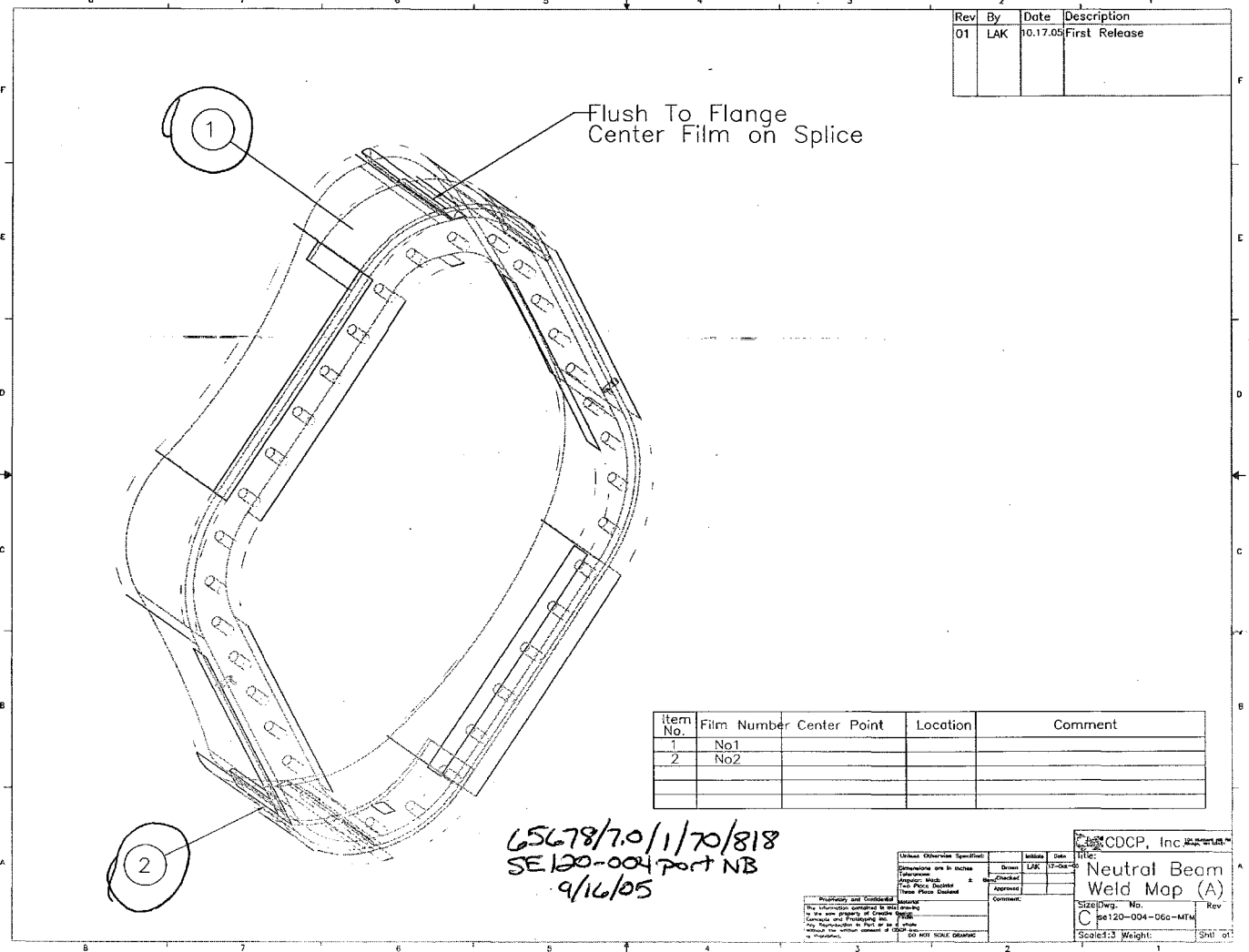
Quality Assurance Documentation for Part ID: SE120-004 PORT NB - Item: 256

Workorder: 65678/7-0 Sub:1 Op:40

**Part: SE120-004 PORT NB - NEUTRAL BEAM PORT EXTENSION SUB-ASSY - PORT NB SUB-ASSEMBLY PPPL NCSX VVSA NEUTRAL BEAM PORT EXT**

Drawing ID: SE120-004 Rev: 2		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VWI - ROOT PASS WELD PNBFB		MFG		VISUAL	ACCEPT	358-D.M	933-D.L	A
(20)				CWI				09-15-05	09-15-05	
*		VWI - COVER PASS WELD PNBFB		MFG		VISUAL	ACCEPT	358-D.M	933-D.L	A
(50)				CWI				09-15-05	09-15-05	

Rev	By	Date	Description
01	LAK	10.17.05	First Release



Item No.	Film Number	Center Point	Location	Comment
1	No1			
2	No2			

65678/7.0/1/70/818  
SE120-004 Port NB  
9/16/05

Copyright © 2005 CDCP, Inc.

Neutral Beam  
Weld Map (A)

Size: Dwg. No. C  
SE120-004-060-MTW

Scale: 1:3 Weight: 1

Sheet of 1

Properties and Credentials:  
This information is the property of CDCP, Inc. and is not to be distributed outside of CDCP, Inc. without the express written consent of CDCP, Inc.

Dimensions are in inches  
Tolerances:  
Fillet Welds: 1/16"  
Groove Welds: 1/16"  
Spot Welds: 1/16"  
Hole Position: 1/16"  
Hole Diameter: 1/16"  
Hole Location: 1/16"

Author: LAK  
Checked: LAK  
Approved: LAK  
Date: 10-17-05





Quality Assurance Documentation for Part ID: SE120-004 PORT NB - Item: 259

Workorder: 65678/7-0 Sub:1 Op:75


Part: SE120-004 PORT NB - NEUTRAL BEAM PORT EXTENSION SUB-ASSY - PORT NB SUB-ASSEMBLY PPPL NCSX VVSA NEUTRAL BEAM PORT EXT

Drawing ID: SE122-072 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	G8	$\varnothing .015$ A B C DIA. 0.531 THRU +/- 0.005" (34X)	PIN GAGE	MFG QA		J-669	RANGE .528 / .53 0	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (20)	D7	0.125 +/- 0.005" Dia. THROUGH TO ADJACENT HOLE (2X)	PIN GAGE	MFG QA		J-667	.125 2X	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (30)	G6	$\sphericalangle$ 0.015"	INDICATOR	MFG QA		P-3886	.002	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (40)	C6	0.750 +/- 0.005" (2X)	CALIPER	MFG QA		P-4478	.765 2X (ACCEPT PER NC 18288)	854-R.U 05-03-06	591-C.P 09-28-05	A
1* (50)	B6	0.88 +/- 0.01" (2X)	CALIPER PIN GAGE	MFG QA		P-4478 J-667	.882	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (60)	B5	0.625 +/- 0.005" (2X)	CALIPER	MFG QA		P-4478	.626 2X	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (70)	B5	DIA. 0.250 +/- 0.005" (2X)	PIN GAGE	MFG QA		J-667	.250 2X	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (80)	B5	1/8" NPT THREAD (2X)	THREAD PLUG GA	MFG QA		A-281	ACCEPT PER GAGE	184-T.HI 09-27-05	591-C.P 09-28-05	A
1* (90)	F8	26.5 DEG. +/- 0 DEG. 15' (2X)		MFG QA		PROGRAM	ACCEPT PER ENG.	591-C.P 09-28-05	591-C.P 09-28-05	A

Quality Assurance Documentation for Part ID: SE120-004 PORT NB - Item: 260

Workorder: 65678/7-0 Sub:1 Op:90

Part: SE120-004 PORT NB - NEUTRAL BEAM PORT EXTENSION SUB-ASSY - PORT NB SUB-ASSEMBLY PPPL NCSX VVSA NEUTRAL BEAM PORT EXT

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 0.375 PROFILE VERIFICATION	LASER	QA		1444	-0.035 / +0.098	522-R.D 10-11-05			A
*		Magnetic Permeability 1.02 Max	MASTER GAGE	QA		J-1271	LESS THAN 1.02	522-R.D 10-11-05			A
*		Interior Surface Finish 32 Micro-Inch RA	PROFILOMETER	QA		J-1258	ACCEPT	522-R.D 10-11-05			A
*		Material Thickness: .500 +.04 / -.01"	UT THICKNESS GA UT CAL BLOCK	QA		J-1009-NDT J-1157	0.505 / 0.524	522-R.D 10-11-05			A
*		CLEANLINESS PER PS483		QA		VISUAL	ACCEPT	522-R.D 10-11-05			A
*		Flange face Finish 32 Micro-Inch RA	PROFILOMETER	QA		J-1258	ACCEPT	522-R.D 10-11-05			A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004-16 - Item: 261

Workorder: 65678/7-0 Sub:235 Op:30

Part: SE120-004-16 - PIPE, 2.5" SCH. 10 - SE120-004-16 PIPE, 2.5" SCH. 10

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		Interior Surface Finish: 32 Micro-Inch Ra M	PROFILOMETER	QA		J-1152	6/31	503-B.H			A
(10)								09-13-05			
*		Mag. Perm: 1.02 Mu Max	MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H			A
(20)								09-13-05			
*		Mtl. Thk: 0.120 +/- 0.015"	OD MICROMETER	QA		J-722	111/115	503-B.H			A
(30)								09-13-05			

JUL 29 2005 10:12AM BRIGHTON TRU EDGE 513 771 2404 No.4876 P. 1/3

BRIGHTON TRU-EDGE HEADS  
 DIV OF ENERFAB  
 11861 MOSTELLER RD \* CINCINNATI OH 45241 \* (513)-771-2300  
 MTR COVER LETTER

MAJOR TOOL AND MACHINE  
 1458 E 19TH ST  
 INDIANAPOLIS IN 46218

ATTN : DOUG MCCORKLE  
 REFERENCE : CUSTOMER P/O P05-01008  
 BRIGHTON S/O 256223

TO WHOM IT MAY CONCERN:

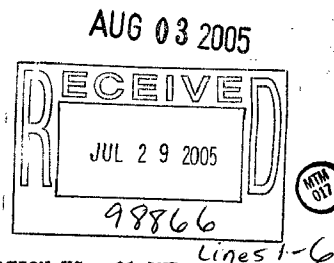
ATTACHED ARE COPIES OF MILL TEST REPORTS FOR THE FOLLOWING MATERIALS PROVIDED ON YOUR REFERENCED PURCHASE ORDER.

FORM ONLY

6-SB443-625 Style:2:1 Ellip Head Diam:18" OD 2:1 Ellip Head Diam:18" OD  
 18" OD .3750"-NOM WITH 2" OAH:6.19" SP.

Qty	Heat Number
6	2650-4-6771

CERTIFICATE OF COMPLIANCE



ALL HEADS WERE COLD FORMED AND ARE IN COMPLIANCE WITH REGULATION UG - 81 AND UG - 79 AS STATED IN SECTION VIII DIVISION I OF THE ASME BOILER AND PRESSURE VESSEL CODE. HEADS WERE FORMED WITHOUT COMING IN CONTACT WITH MERCURY OR ANY OF ITS COMPOUNDS.

IF YOU HAVE ANY FURTHER QUESTIONS CONCERNING MILL TEST REPORTS ONLY, PLEASE CONTACT ME IN CINCINNATI, OHIO AT 1-800-543-1644.

VERY TRULY YOURS,

*Rick Seiter*

BRIGHTON TRU-EDGE HEADS  
 DIV. OF ENERFAB

No. 4876 P. 2/3

BRIGHTON TRU EDGE 513 771 2404

Jul. 29. 2005 10:13AM

(4.846)  
4.8.5488

6.19

18-20. 4/2nd 30 inside

NO.	CIRCUMFERENCE	O.A.H.	SF THK.	ICR THK.	ICR	SF			TEMP	OUT OF ROUND	LAND	BEVEL	FLANGER STAMP	REMARKS
						TOE	STRT	TOTAL						
1		6 1/8					2"				20°	S		
2	4' 8 1/2	6 7/8	9/8	9/8				1"	18" 00	1/16	30° RN	OK		
3														
4														
5														
6	4' 8 1/2	6 1/4	9/8	9/8			2"	1"	18" 00	1/16	30° IS	OK		
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														

DATE \_\_\_\_\_

RELEASED FOR SHIPMENT BY \_\_\_\_\_

INSPECTED BY \_\_\_\_\_

DATE \_\_\_\_\_

FILE COPY 2

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS																				
Invoice No No. De Facture Rechnungs Nr 435724001-0	Date Entered Date De Commande Bestelldatum 03/09/05	Customer Reference Reference Client Kundenbestelldaten P05-01004	Report No. Rapport No Zeugnis Nr 20050527112	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4																
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>			Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>			Product Description • Description Produit • Material Beschreibung <b>0.375 x 25 x 25 .SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>														
Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellmenge 6 PC			Quantity Shipped Quantite Expediee Liefermenge 6 PC											
Heat Number Numero De Coudre Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	Ch+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W			
2650 4 6771	0.213		0.021	3.4	0.2638	21.67	0.0581	4.8419	0.2641	8.53	59.82	0.0072	0.003	0.137	0.3317				BUTT END *02	
	CHNB	Ta	Zr	Bi	Se	La	C-Nb	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo				
2650 4 6771	3.3944	<0.05																	BUTT END *02	

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/27/2005

*Amanda Aguirre*

MTM 016 JUN 09 2005

JUN 9 2005  
96892

Series 1-6

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS AS REQUIRED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE REVISION OF FALSE, FRAUDULENT OR FRAUDULENT STATEMENTS OR CLAIMS ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUESTING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TIF1

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 435724001-0	Date Entered Date De Commande Bestelldatum 03/09/05	Customer Reference Reference Client Kundenbestellidaten P05-01004	Report No. Rapport No Zeugnis Nr 20050527112	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinaataire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.375 x 25 x 25 SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
---	---	---

Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
---	---	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bel Raum Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zelstandversuch							
Ultimate Lim. Elast. A 1% Zugfestigkeit	1% Yield Lim. Elast. A 0.2% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EM % Dehnung	%RA		Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch	Stress Constitute Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA		
125000 PSI		60500 PSI	54 %		(1)(A)														

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician  
5/27/2005 (1) 2742656901

*Amanda Aguirre*

MTM 016 JUN 09 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, PROVIDED BY ANY EXCEPTION OR PURCHASE ORDER REQUIREMENT. THE RECORDING OF FALSE, INACCURATE OR FRAUDULENT STATEMENTS ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, ACCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TTF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 435724001-0		Date Entered Date De Commande Bestelldatum 03/09/05		Customer Reference Reference Client Kundenbestelldaten P05-01004		Report No. Rapport No Zeugnis Nr 20050527112		Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4																													
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>				Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>				Product Description • Description Produit • Material Beschreibung <b>0.375 x 25 x 25 .SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>																													
Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellmenge 6 PC		Quantity Shipped Quantite Expeditee Liefermenge 6 PC																													
Annealed Hardness Durete Recuit Gealtert Haerte		Aged Hardness Durete Vieilli Gealtert Haerte		Grain Size Grosueur De Grain Korngrösse				IGA		Uniformity		Corrosion Rate		Oxidation Rate		Charpy Impact Test				Creep Rupture																	
Grain Size Grain Size		Preheated Grain Size		Recry. Grain Grain %		Unrecry. Grain %		ALA		P&W Figure Number		Attack Depth		Corrosion		Test Method		MPY		Toughness Avg		Toughness I		Toughness II		Toughness 3		Test Eval Versuch Temp		Stress Constraine Spannung PSI		Hours Heures Stunden		% Elong In % Allong EN % Dehnung		% Elong @ 15 Hrs	
96 HRB		(J)(A)		5.5																																	

**HAYNES  
International**

FILE COPY 2  
Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician 5/27/2005 (1) 2742656901

*Amanda Aguirre*



JUN 09 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS ON THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, AS REQUIRED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE REWORKING OF FALSE, FICTITIOUS OR PARALLEL STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A VIOLATION UNDER FEDERAL LAWS GOVERNING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REGARDING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TIF3



**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

Invoice No. No. De Facture Rechnungs Nr 435724001-0	Date Entered Date De Commande Bestelldatum 03/09/05	Customer Reference Reference Client Kundenbestelldaten P05-01004	Report No. Rapport No Zeugnis Nr 20050527112	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinaire • Bestelmenge <b>MAJOR TOOL AND MACHINE INC</b> 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.375 x 25 x 25 .SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E			Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC

**HAYNES**  
**International**

FILE COPY 2  
Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
 THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
 Material conforms to PS-483 Revision H as applicable.  
 Mill Orders Used: 2742656901 (6 PC)  
 (A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
 Certification Technician 5/27/2005

*Amanda Aguirre*



JUN 09 2005

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MC108864.TIF4

**Magnetic Permeability Test Witness**

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on April 19, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

**Heats Tested**

2650-4-6771  
2650-5-6797  
2650-5-6804

**Purchase Order Numbers**

P05-00965 – Panel 1  
P05-00966 – Panel 10  
P05-00967 – Panel 2  
P05-00994 – Panel 3  
P05-00996 – Panel 4  
P05-00997 – Panel 5  
P05-00999 – Panel 6  
P05-01001 – Panel 7  
P05-01002 – Panel 8  
P05-01003 – Panel 9  
P05-01004 – 25" dia discs



JUN 09 2005

Best Regards,

A handwritten signature in black ink, appearing to read "Marlin C. Losch III".

Marlin C. Losch III

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Frank Malinowski

E-Mail: [fmalinowski@pppl.gov](mailto:fmalinowski@pppl.gov)

Telephone: 609-243-2441

Fax: 609-243-2021

**Part: / SE122-112-3 (CF BLANK FLANGE)**

Drawing ID: SE122-113

Revision: 0

Customer P.O.: S005243-F

Serial No./Qty: N/A

Reported By: DOUG MCCORKLE

E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433

Fax: 317-634-9420

Problem: Magnetic Permeability requirement 1.02 Max  
Checks >1.05, but < 1.1

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED

---

Number of additional pages: \_\_\_\_\_

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Princeton University Plasma Physics Laboratory  
James Forrestal Campus  
P.O. Box CN17  
Princeton, N.J. 08543

26 August 2005

Ms. Teresa L. Hubbard  
Major Tool & Machine, Inc.  
1458 E. 19<sup>th</sup> Street  
Indianapolis, IN 46218

SUBJECT: Subcontract S005243-F  
Approved Disposition of Major Tool, Inc. Non-Conformance Reports  
17157, 17167, 17233, 17237, 17240, 17286, 17287, 17288, 17314,  
and 17342

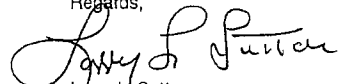
Dear Ms. Hubbard:

Attached are ten Major Tool & Machine, Inc. submitted Non-Conformance Reports (NCRs) and their disposition approved by the National Compact Stellarator Experiment (NCSX) Procurement Technical Representative and the Responsible Line Manager for the Vacuum Vessel Sub-Assembly.

Please note the one signed Project Disposition form applies to all ten of the NCRs.

If there are any questions pertaining to this matter I may be contacted at (609) 243-2441 and by e-mail [lsutton@pppl.gov](mailto:lsutton@pppl.gov).

Regards,

  
Larry L. Sutton  
Senior Subcontract Administrator

Attachments: As stated

cc: M. Viola



Date: 03/22/2005

**CERTIFICATE OF CONFORMANCE**

I hereby certify that the products provided to **MAJOR TOOL & MACHINE**  
 on Purchase Order **PO5-00920**  
 and Varian Sales Order **319315350**

have been manufactured in accordance with all applicable Varian drawings and  
 Varian specifications.

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
001	1	fa06000133	ADPT,CF,6.00-1.33, 2.5"

Varian, Inc.

Mark L. Baribeault  
 Quality Manager



3/28/05

03-28-05 WA  
 94652  
 line 1



Date: 04/15/2005

CERTIFICATE OF CONFORMANCE

I hereby certify that the products provided to **MAJOR TOOL & MACHINE**  
on Purchase Order **PO5-00920**

and Varian Sales Order **319315350**

have been manufactured in accordance with all applicable Varian drawings and  
Varian specifications.

<u>ITEM</u>	<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
001	1	fa06000133	ADAPTER,6-1.33"

04.20.05  
95448 wx  
line 2

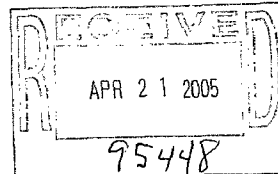


Varian, Inc.

4/21/05

*Mark L. Baribeault*

Mark L. Baribeault  
Quality Manager



EASTWOOD MANUFACTURING  
CERTIFICATION OF COMPLIANCE

CUSTOMER : MAJOR TOOL AND MACHINE  
ORDER # : P05-03373

DATE : 8-11-05  
OUR NUMBER 33676

WE CERTIFY THAT THE MATERIALS SUPPLIED ON YOUR ORDER  
LISTED ABOVE COMPLIES WITH THE REQUIREMENTS OF YOUR ORDER  
AND OF THE SPECIFICATIONS LISTED BELOW

DESCRIPTION :

Lot No.:	Part :	Heat No.:	
33676-1 552 PIECES	SE120-004-32 1/2-13 x 3 1/2 12-point screw ASTM A453 Grade 660	062313725	1/2" Round forged Heat treated per ASTM A453 Gr. 660 Tensile : WH #05-0809-05

08.12.05  
99477 WZ



DALE STARK  
EASTWOOD MANUFACTURING

Aug 11 05 04:23P



ap alloys, inc.

100 West Street Bridgewater, MA 02324-1095  
 (508) 580-1200 Outside Mass. 1-800-221-0786  
 FAX (508) 588-4726

**CERTIFICATE OF ANALYSIS**

TO EASTWOOD MANUFACTURING  
 6825 BREEN STREET  
 HOUSTON, TX 77086

Date JUNE 30, 2005

SHIPPED TO

Your Order 33541 Our Order 132634

1 BDL. 178# 1/2" DIA. X 12' R/L A-286 LAB NO. 062313725

Chemical Composition (When called for by specification)

LAB/ Heat No.	C.	Mn.	P.	S.	SI.	NI.	Cr.	Cu.	Mo.	TI.	CB.
062313725	.036	1.00	.030	.004	.55	26.69	14.11	.25	1.33	1.95	.03
				AL	V	CO	B				
				.10	.11	.08	.005				

Heat No. Yield Strength lbs. per sq. in. Rockwell Tensile Strength lbs. per sq. in. Elong. % in 2" Red. of Area

I certify the above material to conform with A-286

Declared to under oath before me this

\_\_\_\_\_ day of \_\_\_\_\_ 20\_\_

ap alloys, inc.

By *John J. Patis Jr.*



**Tensile Test Report**

Company: Eastwood Mfg. Date: 8/10/2005  
 Attention: Dale Stark Lab Report #: 05-0809-05  
 P.O. #: 33676  
 Material: ASTM A286  
 Identification: 1/2"x3-1/2"-12-Point

**TENSILE TEST**

Lab ID	Dimensions	Area	Yield Lbs.	Ultimate Load Lbs.	Yield P.S.I.	Tensile P.S.I.
R	.257 round	.0519	5,540	8,620	106,900	166,100

Elongation	Reduction of Area	Fracture	Comments
27.5%	52.6%	Ductile	

Tests performed in accordance with ASTM A370, E8, and WH Laboratories Quality Assurance Manual.  
 0.2% Offset Yield. Testing performed in accordance with ASTM A370.  
 Test specimens retained for one (1) week maximum; unused material is retained for one (1) month.

33676

33676



Approved by: Robert French  
 Robert French





**MDC VACUUM PRODUCTS CORP**  
23842 Cabot Blvd., Hayward CA 94545-1651  
Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
E-Mail: [sales@mdcvacuum.com](mailto:sales@mdcvacuum.com) - Web: <http://www.mdcvacuum.com>

*HIGH VACUUM COMPONENTS from one source...*

## **Certification of Conformance Catalog Products**

**COMPANY: MAJOR TOOL & MACHINE**

**ATTENTION: KATY DEBERNARDI**

**DATE: April 4, 2005**

**SUBJECT: CERTIFICATION OF PO# P05-00919**

This is to certify that the items shipped on the above referenced purchase order number comply with all standards in our MDC catalog.

**MIKE SCHULTZ**  
Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation  
e-mail: [fcasaray@mdcvacuum.com](mailto:fcasaray@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522

4/6/05  
95029  
94,95  
B.A.



4/6/05



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Phone: (510) 265-3500 x 3522



4/6/05  
95026  
88-90  
B.A.



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Phone: (510) 265-3500 x 3522

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*Dedicated to Quality and Service*



**MDC VACUUM PRODUCTS CORP**  
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Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
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**MIKE SCHULTZ**  
Shipping/Receiving Supervisor  
MDC Vacuum Product Corporation  
e-mail: [ksarav@mdcvacuum.com](mailto:ksarav@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522

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B.A.



**MDC VACUUM PRODUCTS CORP**  
23842 Cabot Blvd., Hayward CA 94545-1651  
Phone: 510.265.3500 - Fax: 510.887.0626 - Toll Free: 800.443.8817  
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Phone: (510) 265-3500 x 3522

4/6/05  
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4/6/05

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4/6/05  
95036  
103-105  
BJ.

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Shipping/Receiving Supervisor  
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Phone: (510) 265-3500 x 3522



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95039  
106-108  
B.A.

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***MIKE SCHULTZ***

Shipping/Receiving Supervisor  
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e-mail: [tcasaray@mdcvacuum.com](mailto:tcasaray@mdcvacuum.com)  
Phone: (510) 265-3500 x 3522

4/6/05 4/6/05  
95043  
109-111  
B.J.



*Dedicated to Quality and Service*



**Hanna Rubber Company**  
 1511 Baltimore Avenue  
 Kansas City, MO 64108-1301  
 (816) 221-9600  
 (816) 421-0583 Fax  
 (800) 591-3035  
 www.hanna-kc.com

**Certification of Conformance**

MAJOR TOOL & MACHINE, INC.  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, INDIANA 46218

Phone Number	317-636-6433
Fax Number	317-634-9420

Sales Order	231887
Purchase Order	P05-00998
Date	3/21/2005

Cure Date	4Q04
Shelf Life	4Q14
Batch Number	186407
Cage Code	99739

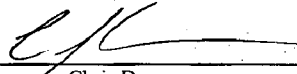
To Whom it May Concern:

This letter serves as certification that the materials in the parts stated below are in compliance with applicable specification requirements

Part Number	Quantity	Description
12Z-19.88X.210V	9 EA	VITON O-RING

Thank you,  
 Hanna Rubber Company

MAR 22 2005

  
 Chris Donovan  
 Government Contract Administrator

94447 RDY  
 Lines 1-6

MTM  
 09  
 3/30/05



**Hanna Rubber Company**  
 1511 Baltimore Avenue  
 Kansas City, MO 64108-1301  
 (816) 221-9600  
 (816) 421-0583 Fax  
 (800) 591-3035  
 www.hanna-kc.com

**Certification of Conformance**

MAJOR TOOL & MACHINE, INC.  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, INDIANA 46218

Phone Number	317-636-6433
Fax Number	317-634-9420

Sales Order	231887
Purchase Order	P05-00998
Date	3/21/2005

Cure Date	4Q04
Shelf Life	4Q14
Batch Number	186407
Cage Code	99739


To Whom it May Concern:

This letter serves as certification that the materials in the parts stated below are in compliance with applicable specification requirements

Part Number	Quantity	Description
12Z-37.29X.210V	12 EA	VITON O-RING

Thank you,  
 Hanna Rubber Company

MAR 22 2005

  
 Chris Donovan  
 Government Contract Administrator

94451 R21

lines 7-12



Mar 21 2005 16:15 P.01

Fax: 8164210583

HANNA RUBBER

MAJOR TOOL & MACHINE INC  
1458 E 19TH ST  
INDIANAPOLIS IN 46218

**YOUR PURCHASE  
ORDER NUMBER**  
P05-00869

MCMASTER-CARR  
600 COUNTY LINE ROAD  
ELMHURST IL 60126-2002  
IF THERE ARE ANY QUESTIONS ABOUT THIS  
SHIPMENT CONTACT OUR SALES DEPARTMENT  
(630)833-0300

**PAGE**  
**1 (MORE)**  
**MCM NUMBER**  
5473894-01

Today's Date:

Warehouse Location	McMaster Carr Part Number	Fill Quantity	Item Description	Your Line	Your Order	This Shipment
<b>P A C K I N G L I S T  E X T R A</b>	91259 A141	4 EA	ALLOY STEEL STANDARD SHOULDER SCREW 1" SHOULDER DIA, 4" SHOULDER LENGTH, 3/4"-10 THRD 65737-67/1	1	4 EA	4
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-101/7	2	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-112/7	3	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-123/7	4	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-134/7	5	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-155/7	6	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-101/8	7	1 PK	1

REFER TO: 5473894-01  
MAJOR TOOL & MACHINE INC

TAG  
CCP



2/14/05  
93238  
2/14/05 1-18.9

PACKER	NUMBER OF CARTONS	FILLER

LNS  
7

CYCLE

**CERTIFICATION OF  
COMPLIANCE**

This is to certify that, according to our records, the above item(s) furnished on your purchase order was supplied in accordance with the description and as illustrated in our catalog.

Sincerely,

Brian Hedstrom  
Quality Manager

MCM NO. 5473894-01 04

**PURCHASE ORDER**  
P05-00869

FROM:  
MCMASTER-CARR  
600 COUNTY LINE ROAD  
ELMHURST IL 60126-2002 USA

SHIP TO:

MAJOR TOOL & MACHINE INC  
1458 E 19TH ST  
INDIANAPOLIS IN 46218

CCP

MAJOR TOOL & MACHINE INC  
1458 E 19TH ST  
INDIANAPOLIS IN 46218

**YOUR PURCHASE  
ORDER NUMBER**  
P05-00869

MCMASTER-CARR  
600 COUNTY LINE ROAD  
ELMHURST IL 60126-2081  
IF THERE ARE ANY QUESTIONS ABOUT THIS  
SHIPMENT CONTACT OUR SALES DEPARTMENT  
(630)833-0300

**2**  
**MCM NUMBER**  
5473894-01

Today's Date:

Warehouse Location	McMaster Carr Part Number	Fill Quantity	Item Description	Your Line	Your Order	This Shipment
<b>PACKING LIST EXTRA</b>	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-112/8	8	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-123/8	9	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-134/8	10	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-153/8	11	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-101/9	12	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-112/9	13	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-123/9	14	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-134/9	15	1 PK	1
	98164 A133	1 PK	TYPE 316 SS BUTTON HEAD SOCKET CAP SCREW 8-32 THREAD, 1/4" LENGTH PKG = 100 EA/PK 65678-153/9	16	1 PK	1

  
 2/14/05

WEIGHT  
5

16 5473894-01  
MAJOR TOOL & MACHINE INC

MCMASTER-CARR  
WAREHOUSE INSTRUCTIONS

PURCHASE ORDER  
P05-00869

CYCLE

T



Where Quality Isn't Expensive....It's Priceless!

# DIVERSIFIED METALS

INCORPORATED

TOLL FREE: 800-628-3035  
 EMAIL: SALES@DIVERSIFIEDMETALS.COM  
 WEBSITE: WWW.DIVERSIFIEDMETALS.NET  
 49 MAIN STREET MONSON, MA 01057-0065

FAX: 413-267-3151  
 PHONE: 413-267-5101  
 CAGE CODE: 57067  
 PO BOX 65

## TEST CERTIFICATE

<b>Customer:</b> Major Tool & Machine 1458 East 19 <sup>th</sup> St Indianapolis, IN 46218  <b>Ship To Address:</b> Same	<b>Customer Order:</b> P05-05133  <b>Item No.:</b> 1  <b>P/N:</b> N/A  <b>Dimensions:</b> 2.000" DIA X 148.250" LONG  <b>Alloy/Grade:</b> NICKEL 625
--	--

**Specification/Grade:** ASTM-B-446

No. Of Cradles	No of Pieces	Length	Weight	Packing Slip No.	Heat No.	Lot No
1	1	148.250 INCHES	144.0 LBS	48278	900257	NONE

MILL TEST REPORT ATTACHED


MATERIAL HAS NOT BEEN EXPOSED TO MERCURY WHILE IN DIVERSIFIED METALS INC. FACILITY.

This is to certify that the material covered by this report and shipped on the above order has been inspected in accordance with, and has been found to meet the applicable requirements described herewith, involving any specifications forming a part of this description.

We certify that the Chemical Analysis and Physical Test Results applying on the above order number are correct and true.

QUALITY APPROVAL:

LeeAnn Goyette  
 Quality Control Administrator  
 Date: September 8, 2005

SEP 13 2005 

RECEIVED

SEP 12 2005

100481 JA

Scanned

Seite 1 1  
Page

Zeugnis-Nr. 200001  
Certificate no.

No. du certificat

Beschreibung über Werkstoffprüfung nach EN 10204 3.1  
Certificate of material tests according to EN 10204  
Certificat des essais des matériaux selon EN 10204

Die Lieferung entspricht den vereinbarten Lieferbedingungen.  
The above mentioned material has been delivered in accordance with the terms of the order.  
La livraison correspond aux conditions de livraison convenues.

BGH Edelstahl Freital GmbH, Postfach 10 15 66, D-01691 Freital

BGH Speciality Steel Inc.

5430 Brystone Drive  
77041 Houston, Tx  
USA

**BGH**  
**EDELSTAHL FREITAL**

Kunden-/Bestell-Nr. 39127DIV. Metals  
Customer order no.

Cde. no. du client BGH SO 1924

BGH-Werke-Nr. 58459301/61492  
BGH reference

Zeichen des Lieferwerkes Signet des Wärfachveränders  
Trade mark Inspectors stamp  
Signé du fournisseur Poisson de l'inspecteur



APPROVED BY CTR  
DATE 5/10/05  
CAROL RALPH  
Q.C. MANAGER

Erzeugnisform Product		Stab, rund, geschält Round bars, peeled		DIVERSIFIED METALS, INC. 49 MAIN STREET, MONSON, MA 01057 PH 413-267-5101/FAX 413-267-3151	
Materialbezeichnung Requirements		UNSN06625 ASTM B446 2000 / ASTM B446 2003 SAE AMS 5666 E 03/00 Nickel 625 - UNS N06625 HOT FINISHED AND ANNEALED DMJ ordering data UNS N06625, Rev. 8/11/98 ASTM B446 / ASME SB446, SAE AMS 5666 E 03/00 Level 1 / subsize		SOLD TO: CUSTOMER: <i>MARCO TOOL &amp; MACHINE</i> P.O.# <i>POS-05133</i> ITEM# <i>1</i>	
Beschreibung und Maßkontrolle Inspection and dimensional control ohne Beanstandung without objection		Erweiterung/Angebotbehandlung Metallprozess/secondary refining Mode d'élaboration/traitement ultérieur VIM		Verwechslungsprüfung (spektralanalytisch) (identification test (spectroanalytical)) examination of identification (analyse spectrale) ohne Beanstandung without objection	
Pos. Item	Anzahl Quantity	Abmessung Dimension	Gewicht kg Weight kg	Schmelz-Nr. Heat No.	
1	10	2,00" dia	866 1468 lb	900257	
Schmelz-Heat %	C ✓	Si ✓ Mn / P / S / Cr / Mo / Ni / Nb ✓	Fe ✓ Al / Co ✓		
900257	0,028	0,19 0,21 0,004 0,003 21,30 8,38 64,80 3,390	0,060 0,130 0,010		
	Ta	Fe / Nb+Ta ✓			
	0,006	1,33 3,396			
Condition of heat treat Traitement thermique		hot finished, annealed annealed at 1616°F followed by water quenching			
Probe-Nr. Test No.	Lage Loc.	Temp. °C	Rp0,2 ksi	Rm ksi	A4 %
Soill/Req.	L	RT	>=60	>=120	>=30
045BM1	L	RT	89	139	44
us test : no objection		crack test (Circograph): no objection.			
Sampling for tests was done in accordance with DMJ ordering data latest revision Country of origin: GERMANY Rm ksi... Ultimate Tensile Strength Rp0,2 ksi... Offset Yield Strength A4% ... Elongation on 4D					
Material no-weld repair. Material free from mercury or radium contamination. Each lot is sampled, tested and inspected in accordance with the specification and meets all specification requirements;					
grain size ASTM E 112: 5-6		SEP 13 2005			
Anlagen Certificate of approval Fich. Annex		Freigegeben Place and date Libre et date 27.09.2005		Abnahmebeauftragter Third Party Inspector Inspecteur de réception MUELLER <i>Mueller</i>	



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004-48 - Item: 301

Workorder: 65678/7-0 Sub:252 Op:30

Part: SE120-004-48 - VVSA CLEVIS BOSS "A" - CLEVIS BOSS "A" INTERFACING STRUCTURAL BOSS

Drawing ID: SE124-047 Rev: 0A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H 09-30-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004-48 - Item: 303

Workorder: 65678/7-0 Sub:293 Op:30

Part: SE120-004-48 - VVSA CLEVIS BOSS "A" - CLEVIS BOSS "A" INTERFACING STRUCTURAL BOSS

Drawing ID: SE124-047 Rev: 0A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H 09-30-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004-49 - Item: 305

Workorder: 65678/7-0 Sub:253 Op:30

**Part: SE120-004-49 - VVSA CLEVIS BOSS "B" - CLEVIS BOSS "B" INTERFACING STRUCTURAL BOSS**

Drawing ID: SE124-047 Rev: 0A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H 09-30-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004-50 - Item: 307

Workorder: 65678/7-0 Sub:254 Op:30

**Part: SE120-004-50 - VVSA CLEVIS BOSS "C" - CLEVIS BOSS "C" INTERFACING STRUCTURAL BOSS**

Drawing ID: SE124-047 Rev: 0A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H 09-30-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE120-004-51 - Item: 309

Workorder: 65678/7-0 Sub:255 Op:30

**Part: SE120-004-51 - VVSA CLEVIS BOSS "D" - CLEVIS BOSS "D" INTERFACING STRUCTURAL BOSS**

Drawing ID: SE124-047 Rev: 0A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H 09-30-05		

A

EASTWOOD MANUFACTURING  
CERTIFICATION OF COMPLIANCE

CUSTOMER : MAJOR TOOL AND MACHINE  
ORDER # : P05-03373

DATE : 7-15-05  
OUR NUMBER 33541

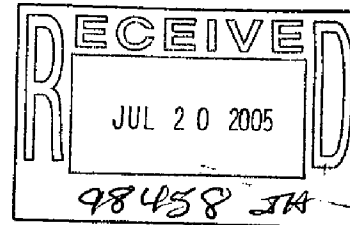
WE CERTIFY THAT THE MATERIALS SUPPLIED ON YOUR ORDER  
LISTED ABOVE COMPLIES WITH THE REQUIREMENTS OF YOUR ORDER  
AND OF THE SPECIFICATIONS LISTED BELOW

DESCRIPTION :

Lot No.:	Part :	Heat No.:
33541-2 552 PIECES	SE120-004-55 1/2-20 Hex nut A194 Gr 8	E28031
33541-3 654 Pieces	SE120-004-56 Washer ASTM A286	744072
33541-4 102 Pieces	SE120-004-57 1/2-20 x 2 12-point 12-point screw Inconel 718	HT9618EY



DALE STARK  
EASTWOOD MANUFACTURING



Lines 4-12  
4910212



JUL 22 2005

B&G Manufacturing Co., Inc  
 3067 Unionville Pike, P.O. Box 904, Hatfield, PA 19440-0904  
 General Telephone: 215-822-1925

EEO/AA



Customer:  
 Eastwood Manufacturing  
 6825 Breen Street  
 HOUSTON TX 77086  
 USA

**Quality certificate**

Date  
 06/16/2005  
 Purchase order item/date  
 33541 / 06/16/2005  
 Delivery item/date  
 80274266 000010 / 06/17/2005  
 Order item/date  
 206301 000010 / 06/16/2005  
 Page 1 of 1

We certify that the material supplied meets the requirements of the purchase order and the required material specification.

Material Number : 3692  
 Batch 009438A / Quantity 600 EA  
 Heat Number: E28031  
 Specification / Description  
 HVY HEX NUTS 304 SS  
 .500-20

33541

33541

Characteristic	Unit	Value
Specifications		- ADDITIONAL SPECS MAY EXIST - AISI 304*-CHEMS ONLY - ASME SA193-92A B8A CL.1A-CHEMS - ASME SA194-92A GR.8-CHEMS ONLY - ASME SA194-92A GR.8A-CHEMS ONL - ASTM A193-94B B8A CL.1A-CHEMS - ASTM A194-94A GR.8-CHEMS ONLY - ASTM A194-94A GR.8A-CHEMS ONLY
Carbon Content	%	0.0400
Chromium Content	%	18.0600
Manganese Content	%	1.0900
Nickel Content	%	9.0900
Phosphorus Content	%	0.0310
Silicon Content	%	0.3900
Sulfur Content	%	0.0050

B & G Manufacturing Co., Inc. By

*Margaretta Guillem*

Certification Specialist

BAR STOCK SPECIALTIES, INC.  
 11625 CHARLES STREET  
 HOUSTON TEXAS 77041  
 PH# 713-849-0055  
 PH# 713-466-3460 EASTWOOD MANUFACTURING

TO: 6825 BREEN DR.  
 HOUSTON, TX 77086-3719

\* C E R T I F I C A T E \*  
 \* O F T E S T \*

Customer P/O # 32770

Our Order # 011645

ITEM QUANTITY DESCRIPTION				LOT		
2 320 LB 1.125 (1 1/8 DIA.) ROUND BAR ASTM A193 GR.B7 ASTM SPEC DATE: 01B TEMPERING TEMP: 1340 F				3298		
				CARBON	MANGANESE	
				.4	.83	
Heat No.	TENSILE (PSI)	YIELD (PSI)	PHOSPHORUS	SULFUR	SILICON	
744072	146500	134400	.02	.02	.23	
ELONGATION	RED. OF AREA	HARDNESS (HB)	CHROMIUM	MOLY.		
20	60	293	.86	.17		
MACRO ETCH S1/R1/C1						

ITEM QUANTITY DESCRIPTION				LOT		
3 404 LB 2.500 (2 1/2 DIA.) ROUND BAR ASTM A193 GR.B7 ASTM SPEC DATE: 01b TEMPERING TEMP: 1330 F				3025		
				CARBON	MANGANESE	
				.43	.8	
Heat No.	TENSILE (PSI)	YIELD (PSI)	PHOSPHORUS	SULFUR	SILICON	
11628290	150600	135000	.012	.034	.26	
ELONGATION	RED. OF AREA	HARDNESS (HB)	CHROMIUM	MOLY.		
19	56	302	.87	.19		
MACRO ETCH S1/R1/C2						

Date: 01/14/05

We hereby certify that the foregoing data is a true copy of the data furnished to us by the producing mill.

BAR STOCK SPECIALTIES, INC.

BY: *Greg Neal*

Authorized Test Clerk

011645



RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS  
 (THIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER  
 FEDERAL LAW, TITLE 18, CHAPTER 47  
**STERN U. S.**

*HT9618EY12*  
**HUNTINGTON ALLOYS**  
**A Special Metals Company**  
 HUNTINGTON, WEST VIRGINIA 25720



**FORNE D**

CERTIFIED MATERIAL TEST REPORT		No. 50179	
HA ORDER NO./ITEM	DATE	PAGE	OF
100011836 1	05/13/02	1	3
QUANTITY	INSPECTED BY		
2190 LBS	HA/SMC		
CHARGE ORDER NO.	MARK ORDER NO.		
41137-5-S20062	41137-5-S20062		
DESCRIPTION OF MATERIAL SHIPPED	QUALITY CERTIFICATION REPRESENTATIVE		
INCONEL ALLOY 718 CD RND CENTERLESS GRD SOL TR	<i>W. M. M.</i>		
.5160 IN 132-156 IN NOM			

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLINGS, INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATIONS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED COMPANY REQUIREMENTS.

\*\*\*\*\*THIS REPORT RELATES ONLY TO THE ITEM(S) TESTED AND MAY NOT BE REPRODUCED EXCEPT IN FULL.\*\*\*\*\*  
 SPECIFICATIONS: ASTM B 637-98\ASME SB-637 2001 EDITION NO ADDENDA UNS: N07718  
 SAE AMS 5662L MARKING WAIVED WITH AMS 5663J CAPABILITY\  
 SPS-M-275M EXCEPT SOL TRT TIME\GE C50TF13 S16 AM 1 CHEM ONLY\  
 GE B50TF15 S29 CLASS D - CLASS E CAPABILITY MARKING WAIVED\  
 GE B50T69A-S6 AM 1 MARKING WAIVED\RBO 170-153 REV G CHEM ONLY\  
 HI SHEAR 156 REV D CHEM ONLY\GE S 400E\GE S-1000E\  
 QUALITY SYSTEM CERTIFICATION: ISO 9002 (ABS-QE CERT. 30125);  
 EN 10.204/DIN 50049 (CERT. 3.1.B)

**CHEMICAL ANALYSIS (WT %)**

HEAT#	C	MN	FE	SI	CU	NI	CR	AL
	TI	MG	CO	MO	TA	P	B	CA
	PB/PPM	BI/PPM	SE/PPM	NB+TA				
HT9618EY	0.03	0.08	17.78	0.0007	0.10	53.85	18.14	0.62
	0.92	0.001	0.20	3.13	5.07	0.008	0.003	0.001
	0.1	0.1	0.9	5.07	<0.01			

TESTED BY HUNTINGTON ALLOYS, 3200 RIVERSIDE DR., HUNTINGTON, WV 25705, ACCREDITED FOR PASTERNEK QUALITY AC  
 FIA PR CERT 0029 (EXPIRES 10/31/2003).  
 TO CONVERT PPM TO WT.%, MOVE DECIMAL POINT FOUR PLACES TO THE LEFT.  
 MELT METHOD: DUVAC (VIM ELECTRODE; VAR INGOT)

**MECHANICAL PROPERTIES**

HEAT/LOT	QUANTITY	HARDNESS	GRAIN		YIELD		TENSILE		KELG	R/A	BEC	
			SIZE	2XPSI	PSI	PSI	4D	%				
HT9618EY 12	232 PCS											
TEMP-HRC	-CAPABILITY	43.8		1674	2105	21.7	38.4			LONG		HEAT TREAT #1
TEMP-HRC	-CAPABILITY	42.6		1627	2096	22.2	40.7			LONG		HEAT TREAT #2
	-CAPABILITY			1434	1712	34.2	65.6			1200 LONG		HEAT TREAT #3
	-CAPABILITY			1378	1695	33.4	65.9			1200 LONG		HEAT TREAT #4
	-AS SHIPPED	97.3										

MC110063.TTF4

3/99

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS  
ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER  
FEDERAL LAW, TITLE 18, CHAPTER 47  
EASTERN U.S.

FORM E D

HUNTINGTON ALLOYS  
A Special Metals Company  
HUNTINGTON, WEST VIRGINIA 25720

31761-2



**CERTIFIED MATERIAL TEST REPORT** No. 50179

HA ORDER NO./ITEM	DATE	PAGE	OF
100011836 1	05/13/02	2	3
QUANTITY	INSPECTED BY		
2190 LBS	HA/SMC		
CHARGE ORDER NO.	MARK ORDER NO.		
41137-5-S20062	41137-5-S20062		

THIS IS TO CERTIFY THAT ALL REQUIRED SUPPLIERS INSPECTIONS AND TESTS  
HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFIC  
REQUIREMENTS THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES  
THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND THE  
MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH  
ALL ORDER AND INSPECTION REQUIREMENTS WE HEREBY CERTIFY THAT THE  
BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT RESULTS  
EVENTS

*[Signature]*  
QUALITY CERTIFICATION REPRESENTATIVE

DESCRIPTION OF MATERIAL SHIPPED  
INCONEL ALLOY 718 CD RND CENTERLESS GRD SOL TR  
.5160 IN 132-156 IN NOM

HARDNESS -HRC -CAPABILITY 43.7 HEAT TREAT #  
HARDNESS -HRC -CAPABILITY 43.6 HEAT TREAT #  
GRAIN SIZE-AS SHIPPED AGS ASTM NO. 10.0 TRANS  
NORMAL - TRAN  
STRESS RUPTURE-CAPABILITY 1200 DEG F / 105,000 PSI STRESS/ 091.5 HRS / 39.2XEL IN 4D /62.8XR  
STRESS RUPTURE SPECIMEN DIAMETER - .250"  
HEAT TREAT #1  
STRESS RUPTURE-CAPABILITY 1200 DEG F / 105,000 PSI STRESS/ 083.7 HRS / 31.9XEL IN 4D /63.7XR  
STRESS RUPTURE SPECIMEN DIAMETER - .250"  
HEAT TREAT #2  
YIELD STRENGTH WAS DETERMINED USING A STRESS STRAIN CURVE

MACROETCH TEST(S) SATISFACTORY

MI MICROSTRUCTURE TEST(S) SATISFACTORY  
MICROSTRUCTURE FREE OF LAVES PHASE AND BANDING OF ACICULAR PHASE

IT9610EX12 E50TF133 GRAIN SIZE: A) NORMAL STRUCTURE; B) AVERAGE GRAIN  
SIZE ANTK #10 ; C) ALA ASTM # 9.5 ; D) N/A

NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.

MATERIAL WAS SOLUTION ANNEALED IN A CONTINUOUS FURNACE AT 1780 DEG F FOR 11.1 MINUTES THEN WATER  
QUENCHED.

CAPABILITY HEAT TREAT #1: MILL ANNEALED + AGED 1325 DEG. F  
8 HOURS. FURNACE COOLED 100 DEG. F PER HOUR TO 1150 DEG. F  
HELD 8 HOURS. AIR COOLED.

CAPABILITY HEAT TREAT #2: MILL ANNEALED + SOLUTION TREATED  
100 DEG. F 1 HOUR. AIR COOLED. AGED 1325 DEG F 8 HOURS.  
COOLED 100 DEG. F PER HOUR TO 1150 DEG. F. HELD 8  
COOLED.

MC110063.TIF5

169

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS  
ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER  
FEDERAL LAW, TITLE 18, CHAPTER 47  
EASTERN U.S.

FORM D

HUNTINGTON ALLOYS  
A Special Metals Company,  
HUNTINGTON, WEST VIRGINIA 25720

31761-2



<b>CERTIFIED MATERIAL TEST REPORT</b>		<b>No. 50179</b>	
HA ORDER NO./ITEM	DATE	PAGE	OF
100011836 1	05/13/02	3	3
QUANTITY	INSPECTED BY		
2190 LBS	HA/SNC		
CHARGE ORDER NO.	MARK ORDER NO.		
41137-5-S20062	41137-5-S20062		

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS  
HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATIONS  
REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF  
THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE.  
THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH  
ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT  
ALL VALUES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT RE-  
QUIREMENTS.

*[Signature]*  
QUALITY CERTIFICATION REPRESENTATIVE

USUAL AND DIMENSIONAL EXAMINATION SATISFACTORY.  
MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPH.  
AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES:  
E. BOLEN.

MC110063.TIF6

**Industrial Parts & Equipment**  
**CERTIFICATE OF CONFORMITY**

SITA

No: 11206

Bill To:

Ship To:

ORIGINAL

MAJOR TOOL & MACHINE, INC. 1458-T E. 19TH STREET INDIANAPOLIS, IN 46218	MAJOR TOOL & MACHINE, INC. 1452-T E. 19TH STREET SHIPPING INDIANAPOLIS, IN 46218
---	---

Customer PO	Ship Date	Airway Bill Number
P05-04243	8/12/2005	

Part No.	Description	Cond	Qty	S/L	Control #	Cert No	PO Number
1.062 OD X .531 ID X .105 THK	WASHER, A286, ANSI B1822.1 T	NE	250	1	12931-1		P13555

AUG 16 2005  
 RECEIVED  
 AUG 16 2005  
 99618 JH

We hereby certify that the parts in this shipment conform with applicable specifications and that documentation and/or data is on file and available for examination.

Signed: Tom Mays  
 For and on behalf of Industrial Parts & Equipment

Inspectors Stamp



30518-1 198



**Allegheny Ludlum** Jessop Plate Products Division  
An Allegheny Technologies Company

500 Green Street CERTIFIED MATERIAL TEST REPORT  
Washington, Pennsylvania 15301

Page

**Bill to:**  
PLATE PROD DIV / A-L  
1201 VALLEY ROAD  
COATESVILLE PA

**Ship to:**  
PLATE PROD DIV / A-L  
1201 VALLEY ROAD  
COATESVILLE PA

19320

19320

PHIL CLADITIS  
Quality Assurance Representa

Memo No: 260311-00

Our Order no: RW4910400  
Your Order No: M E M D  
Date: 09/03/2004  
DUAL CERT

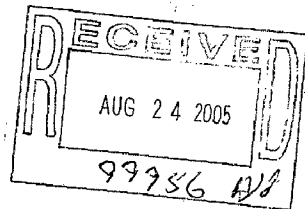
ALC 316/316L STAINLESS HRAP  
ASTM A240-04a ASME SA-240-01 ASTM A480-02 ASME SA-480-01  
AMS 5507F (316L) AMS 5524K (316) ASTM A666-03 COND A CHEM/PHYS TD  
ASTM A312-02 ASME SA-312-01 ASTM A479-02 ASME SA-479-01 ASTM A262-02  
PRACTICE E SCREEN PRAC A

Heat	Slip	Lot No	Size	Pcs	Weight
818102	34967 A	143182	1.5000 x 83.0000 x 260.0000	1	9488 GV-STOCK

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
818102	.018	1.57	.027	.0004	.31	10.14	16.38	2.10	.25	.37	.069

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Siz
143182	1.5000	33.9 KSI	81.5 KSI	61.0	81.0	BHN146		OK	

MATERIAL WAS NOT WELD REPAIRED  
MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY  
MATERIAL WAS SOLUTION ANNEALED (HEAT TREATED) ABOVE 1900F AND WATER QUENCHED  
DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE  
MATERIAL IS OF USA MELT AND MANUFACTURE



TRACER# 109293

MTM 016  
8.25.05

Line 1.6

ROLLED AND QUALITY ASSURANCE  
APPROVED *M. Rain*  
DATE 9/23/04

PAGE 1 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS. THE ABOVE INFORMATION HAS BEEN REPRODUCED FROM THE ORIGINAL CERTIFIED MATERIAL TEST REPORT.

ORIGINAL



**METALLURGICAL TEST REPORT**

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Certificate: 269530 07      Mail To:      SHIP To:      Date: 6/01/2005      Page: 1  
Customer: 2830 004      ROLLED ALLOYS      ROLLED ALLOYS      Steel: 316/316L  
9618 EAST HARDY ROAD      9618 EAST HARDY ROAD  
HOUSTON, TX 77063      HOUSTON, TX 77063

Your Order: J07509      NAB Order: AN 0318825 01      Finish: B2NF      Corrosion: ASTM A262/02a;180Bend-OK

**PRODUCT DESCRIPTION:**  
STAINLESS STEEL PLATE, HOT ROLLED, ANNEALED AND PICKLED.  
ASTM A240/04a, A480/04a, S66/03, ASME SA240/04, SA480/04, SA666/04  
(X GRAIN), Q48766D-A X NO PERM, AMS 5507R/AMS 5524J X MKK  
UNS S31600 / UNS S31603

**REMARKS:**  
Material free from mercury contamination. No weld repairs.  
EN 10204 3.1.B Q98763Y Cond A  
\* Melted & Manufactured in the USA  
Minimum anneal temperature 1950 F  
EN 10204 3.1.B/DIN 50049

Product ID #	Coil #	Thickness	Width	Weight	Length	Mark	Pieces
0565H7 CB	* 0565H7 CB	1.5000	48.0000	5,155 PLATE	240.00	1	1

**CHEMICAL ANALYSIS**

Heat	C	CO	CR	CU	FE	MO	N	NI	P	S	SI
65H7	.022	.205	16.953	.417	1.633	2.109	.050	10.110	.034	< .001	.500

**MECHANICAL PROPERTIES**

Product ID #	Coil #	1 d o 1 o 2	UTS KSI	.2% YS KSI	ELONG %-2"	Hard RB	TRACER#
0565H7 CB	0565H7	F T	80.35	42.09	57.50	80.00	119132

ROLLED ALLOYS QUALITY ASSURANCE  
APPROVED *M. Hess*  
DATE 6/1/05

QC ENGINEER *E. Hess*      6/01/2005  
ERIC HESS

MTM  
BIG  
8.26.08

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-018-1A BLANK - Item: 315

Workorder: 65678/7-0 Sub:291 Op:20

Part: SE122-018-1A BLANK - REWORK / REPAIR PER N/C - N/C # \_\_\_\_\_

Drawing ID: SE122-018 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	C8	R2.69 +/- 0.010"	CMM	MFG QA		00064	2.693	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (20)	B8	R4.69 +/- 0.010"	CMM	MFG QA		00064	4.692	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (30)	F5	20 DEGREES	CMM	MFG QA		00064	20.004	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (40)	B5	R7.38 +/- 0.010"	CMM	MFG QA		00064	7.373	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (50)	B8	R5.38 +/- 0.010"	CMM	MFG QA		00064	5.383	212-J.LE 09-01-05	212-J.LE 09-01-05	A





# Certificate of Conformance

## EXOTIC METAL TREATING INC.

6234 E. Hanna Avenue • Indianapolis, Indiana

Certificate # 50413

Vendor Code # 107576

P.O. # P05-05334

**NADCAP**

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts CONFORMS to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # 05-1708

DATE SHIPPED 9-15-05

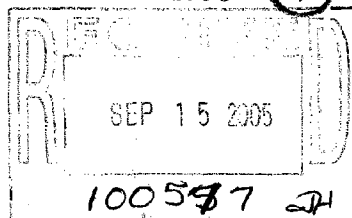
**QUANTITY**

**DESCRIPTION**

3 PCS	SE122-018-1A JOB #65678-291/7, 65678-282/8, 65678-282/9 SEQ #50
3 PCS	SE122-018-1B JOB #65678-292/7, 65678-283/8, 65678-283/9 SEQ #50 MATERIAL: 316 SS

SOLUTION ANNEALED PER AMS-2759-4 REV: B IN VACUUM  
AT 2000°F ± 25°F FOR 90 MINUTES MINIMUM & GAS FAN COOLED.

SEP 19 2005



Lines 1-6

Sworn and subscribed to before me...

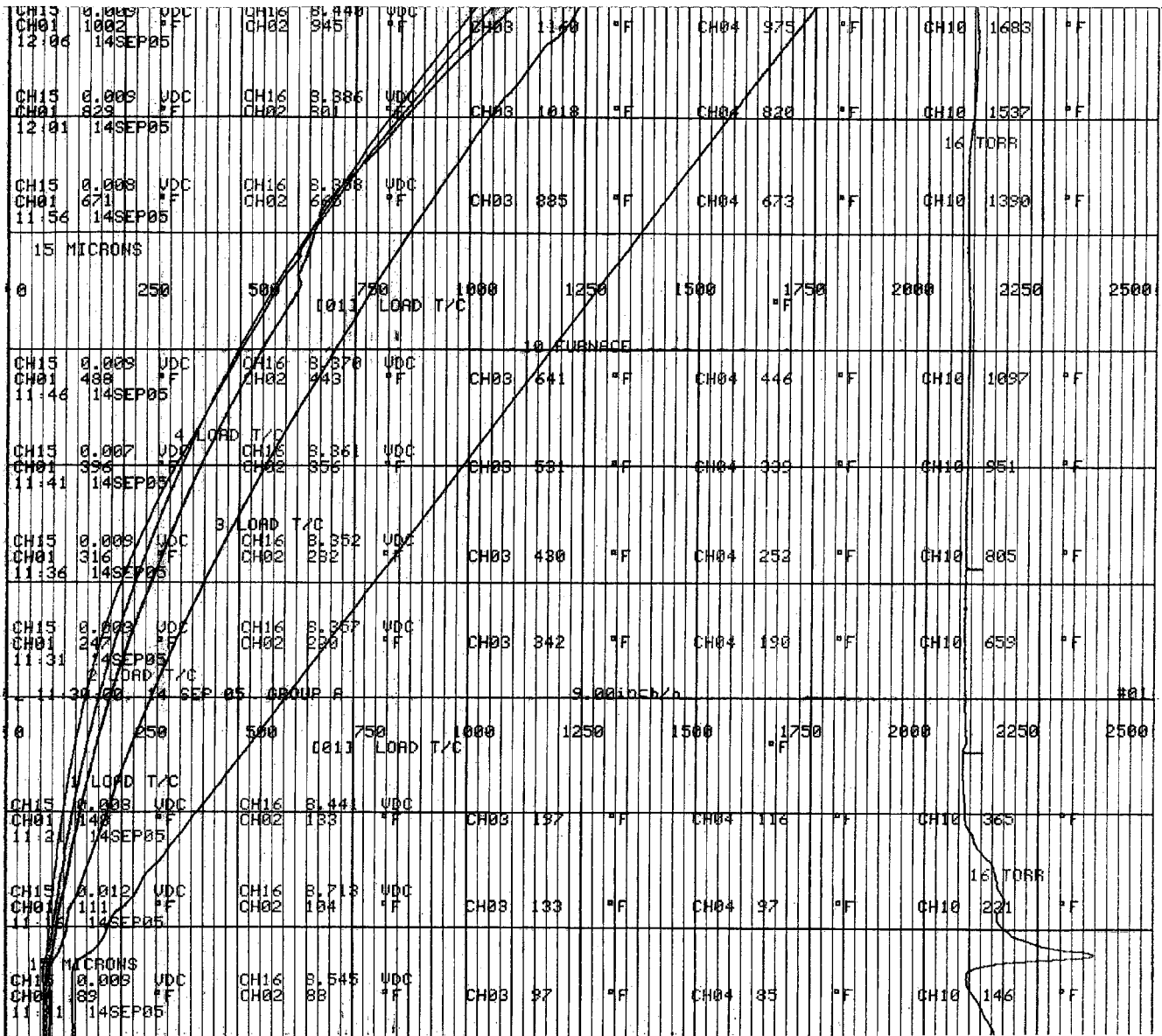
on 9-15-05   
Notary Public Morgan County - State of Indiana

My commission expires 09-30-09

(Name)

(Title)

CH16 CH02	10.136 87	UDC *F	CH16 CH02	10.24 87	UDC *F	CH03	95	*F	CH04	84	*F	CH10	147	*F
11:06 14SEP05														
4 LOAD T/C														
250 500 750 1000 1250 1500 1750 2000 2250 2500														
CH16 CH02	10.184 85	UDC *F	CH16 CH02	10.24 85	UDC *F	CH03	92	*F	CH04	82	*F	CH10	150	*F
17:06 14SEP05														
3 LOAD T/C														
CH16 CH02	10.232 84	UDC *F	CH16 CH02	10.24 84	UDC *F	CH03	90	*F	CH04	81	*F	CH10	150	*F
10:31 14SEP05														
2 LOAD T/C														
CH16 CH02	10.334 82	UDC *F	CH16 CH02	10.24 82	UDC *F	CH03	86	*F	CH04	80	*F	CH10	149	*F
10:46 14SEP05														
1 LOAD T/C														
15:45:00 14 SEP 05 GROUP A 9.00inch/h #01														
CH16 CH02	10.367 80	UDC *F	CH16 CH02	10.24 80	UDC *F	CH03	82	*F	CH04	79	*F	CH10	143	*F
10:41 14SEP05														
* 10:36:50 14 SEP 05 9.00inch/h #01														
10:36:22 14 SEP 05 9.00inch/h #01														
10:35:49 14 SEP 05 PRINT H														
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p style="text-align: center;"><b>EXOTIC METAL TREATING, INC.</b> 6234 EAST HANNA AVENUE • INDIANAPOLIS, IN 46203</p> <p>DATE: <u>9-14-05</u> COMPANY: <u>Major Tool</u></p> <p>LOAD #: <u>05-1708</u> MATERIAL: <u>347 SS</u></p> <p>QTY: <u>3</u> P/N: <u>SE 122-018-1A</u></p> <p style="padding-left: 40px;"><u>3</u> <u>SE 122-018-1B</u></p> </div>														
FURNACE: <u>V-3</u> ATMOS: <u>VAL</u>														
REF. SPEC.: <u>AMS 2759/4-B</u>														
RECORDER: <u>V-3 E</u> TIME START: <u>10:36am</u>														
<div style="display: flex; justify-content: space-between;"> <span>250 500</span> <span>2000 2250 2500</span> <span>TOPP 16</span> </div>														



CH15	0.000	JDC	CH16	0.343	JDC	CH03	1985	"F	CH04	1990	"F	CH10	2016	"F
CH01	1984	"F	CH02	1976	"F									
13:03	14SEP05													
CH01	1982	"F	CH02	1972	"F	CH03	1982	"F	CH04	1987	"F	CH10	2016	"F
13:01	14SEP05													
- 13:00:00 14 SEP 05 GROUP A 9.00inch/h #01														
CH15	0.000	JDC	CH16	0.370	JDC	CH03	1969	"F	CH04	1973	"F	CH10	2012	"F
CH01	1969	"F	CH02	1955	"F									
12:56	14SEP05													
2 LOAD T/C														
CH15	0.000	JDC	CH16	0.375	JDC	CH03	1951	"F	CH04	1954	"F	CH10	2012	"F
CH01	1952	"F	CH02	1930	"F									
12:51	14SEP05													
LOAD T/C														
CH15	0.000	JDC	CH16	0.444	JDC	CH03	1921	"F	CH04	1913	"F	CH10	2012	"F
CH01	1924	"F	CH02	1887	"F									
12:46	14SEP05													
0 250 500 750 1000 1250 1500 1750 2000 2250 2500														
15 MICRONS														
CH15	0.000	JDC	CH16	0.371	JDC	CH03	1803	"F	CH04	1771	"F	CH10	1981	"F
CH01	1811	"F	CH02	1786	"F									
12:36	14SEP05													
CH15	0.000	JDC	CH16	0.376	JDC	CH03	1726	"F	CH04	1695	"F	CH10	1969	"F
CH01	1731	"F	CH02	1625	"F									
12:31	14SEP05													
10 FURNACE														
CH15	0.000	JDC	CH16	0.319	JDC	CH03	1612	"F	CH04	1536	"F	CH10	1907	"F
CH01	1613	"F	CH02	1469	"F									
12:26	14SEP05													
4 LOAD T/C														
CH15	0.000	JDC	CH16	0.328	JDC	CH03	1512	"F	CH04	1398	"F	CH10	1878	"F
CH01	1489	"F	CH02	1386	"F									
12:21	14SEP05													
0 250 500 750 1000 1250 1500 1750 2000 2250 2500														
3 LOAD T/C														
- 12:15:00 14 SEP 05 GROUP A 9.00inch/h #01														
CH15	0.000	JDC	CH16	0.376	JDC	CH03	1823	"F	CH04	1131	"F	CH10	1829	"F
CH01	1193	"F	CH02	1095	"F									
12:11	14SEP05													
LOAD T/C														

14102 14SEP05 15 MICRONS		0	250	500	750	1000	1250	1500	1750	2000	2250	2500
					(011) LOAD T/C				"F			
CH15 0.000 UDC CH01 1987 *F 13.52 14SEP05	CH16 8.234 UDC CH02 1987 *F	CH03 1989 *F	CH04 1996 *F	CH10 2001 *F	10 FURNACE							
CH15 0.000 UDC CH01 1987 *F 13.47 14SEP05	CH16 8.244 UDC CH02 1987 *F	CH03 1989 *F	CH04 1997 *F	CH10 2001 *F	4 LOAD T/C							
- 13.45:00 14 SEP 05 GROUP A		9.00inch/h		#01								
CH15 0.000 UDC CH01 1988 *F 13.42 14SEP05	CH16 8.254 UDC CH02 1988 *F	CH03 1990 *F	CH04 1997 *F	CH10 2002 *F	3 LOAD T/C							
CH15 0.000 UDC CH01 1988 *F 13.37 14SEP05	CH16 8.257 UDC CH02 1988 *F	CH03 1990 *F	CH04 1999 *F	CH10 2002 *F	2 LOAD T/C							
		0	250	500	750	1000	1250	1500	1750	2000	2250	2500
					(011) LOAD T/C				"F			
CH15 0.000 UDC CH01 1990 *F 13.27 14SEP05	CH16 8.298 UDC CH02 1990 *F	CH03 1992 *F	CH04 2000 *F	CH10 2001 *F	1 LOAD T/C							
CH15 0.000 UDC CH01 1993 *F 13.22 14SEP05	CH16 8.329 UDC CH02 1992 *F	CH03 1995 *F	CH04 2002 *F	CH10 2003 *F	16 TORR							
15 MICRONS												
CH15 0.000 UDC CH01 1993 *F 13.17 14SEP05	CH16 8.348 UDC CH02 1991 *F	CH03 1995 *F	CH04 2002 *F	CH10 2012 *F								
CH15 0.000 UDC CH01 1991 *F 13.12 14SEP05	CH16 8.344 UDC CH02 1987 *F	CH03 1993 *F	CH04 1999 *F	CH10 2012 *F	15 FURNACE							
		0	250	500	750	1000	1250	1500	1750	2000	2250	2500
					(011) LOAD T/C				"F			
		4 LOAD T/C										

CH01 14:57	396 14SEP05	FFA	CH02 1145	FF	CH03 1019	°F	CH04 1036	°F	CH10 416	°F	
CH15 CH01	10.25 1163	UVC °F	CH16 CH02	10.25 1308	UVC °F	CH03 1188	°F	CH04 1207	°F	CH10 536	°F
0	250		500		750		1000		1250		1500
CH15 CH01	10.25 1598	UVC °F	CH16 CH02	10.25 1720	UVC °F	CH03 1623	°F	CH04 1647	°F	CH10 1020	°F
14:42	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	10.25 1928	UVC °F	CH16 CH02	10.25 1954	UVC °F	CH03 1935	°F	CH04 1946	°F	CH10 1769	°F
14:37	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	0.010 1987	UVC °F	CH16 CH02	7.692 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:35	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	0.009 1987	UVC °F	CH16 CH02	7.726 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:32	14SEP05										
0	250		500		750		1000		1250		1500
14:30:00	14 SEP 05	GROUP A			9.00inch/h						#01
CH15 CH01	0.009 1987	UVC °F	CH16 CH02	7.777 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:27	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	0.009 1987	UVC °F	CH16 CH02	7.855 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:17	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	0.009 1987	UVC °F	CH16 CH02	7.884 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:12	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	0.009 1987	UVC °F	CH16 CH02	7.921 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:07	14SEP05										
0	250		500		750		1000		1250		1500
CH15 CH01	0.009 1987	UVC °F	CH16 CH02	7.954 1987	UVC °F	CH03 1988	°F	CH04 1996	°F	CH10 2001	°F
14:02	14SEP05										
0	250		500		750		1000		1250		1500

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15:37	14 SEP 05													
	4 LOAD T/C													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	265	"F	CH04	277	"F	CH10	156	"F
CH01	272	"F	CH02	345	"F									
15:52	14 SEP 05													
	3 LOAD T/C													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	293	"F	CH04	307	"F	CH10	162	"F
CH01	300	"F	CH02	382	"F									
15:47	14 SEP 05													
	2 LOAD T/C													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	325	"F	CH04	339	"F	CH10	169	"F
CH01	331	"F	CH02	422	"F									
15:42	14 SEP 05													
	1 LOAD T/C													
0	250	500	750	1000	1250	1500	1750	2000	2250	2500				
			1011	LOAD T/C										
CH15	10.25	UDC	CH16	10.25	UDC	CH03	408	"F	CH04	423	"F	CH10	187	"F
CH01	411	"F	CH02	518	"F									
15:32	14 SEP 05													
	10 FURNACE													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	461	"F	CH04	477	"F	CH10	200	"F
CH01	463	"F	CH02	577	"F									
15:27	14 SEP 05													
	9 FURNACE													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	526	"F	CH04	542	"F	CH10	218	"F
CH01	526	"F	CH02	648	"F									
15:22	14 SEP 05													
	8 FURNACE													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	594	"F	CH04	611	"F	CH10	237	"F
CH01	590	"F	CH02	721	"F									
15:17	14 SEP 05													
15:00	14 SEP 05	GROUP A												
		250	500	750	1000	1250	1500	1750	2000	2250	2500	#01		
				1011	LOAD T/C									
				LOAD T/C										
CH15	10.25	UDC	CH16	10.25	UDC	CH03	770	"F	CH04	787	"F	CH10	298	"F
CH01	758	"F	CH02	902	"F									
15:07	14 SEP 05													
	7 FURNACE													
CH15	10.25	UDC	CH16	10.25	UDC	CH03	886	"F	CH04	903	"F	CH10	347	"F
CH01	869	"F	CH02	1015	"F									
15:02	14 SEP 05													
	6 FURNACE													
				LOAD T/C										

4275 M

MC111911.TIF





Quality Assurance Documentation for Part ID: SE122-018-1A - Item: 317

Workorder: 65678/7-0 Sub:2 Op:118

**Part: SE122-018-1A - PORT 12A SUB-ASSEMBLY - PORT 12A SUB-ASSEMBLY (VERTICAL FABRICATED PORT)**

Drawing ID: SE122-018 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	D3	0.94 +/- 0.010"	CALIPER	QA		J-708	.943	854-R.U 10-26-05			A
1* (20)	D3	R.005 MIN. (2X)	RADIUS GAGE	QA		R-21 VISUAL	.005 (2X)	854-R.U 10-26-05			A
1* (30)	D2	.149 + .000/- .008"	CALIPER	QA		J-708	.146	854-R.U 10-26-05			A
1* (40)	D3	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	8	854-R.U 10-26-05			A
1* (50)	D3	63 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	40	854-R.U 10-26-05			A
1* (60)		32 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	TOOL MARKS ON END WITHOUT FLANGE--100 (ACCEPT PER NC 1848 6)	854-R.U  05-03-06			A



Commercial Heat Treating  
512 South Harding Street  
Indianapolis, IN 46221  
Phone: 317-636-2421 Fax: 317-636-4902



**Certification**

**Order Number**  
**275191**

Customer: 00001026  
MAJOR TOOL & MACHINE INC.  
1458 E.. 19TH STREET  
INDPLS, IN 46218

Shipped To:  
MAJOR TOOL & MACHINE INC.  
1458 E.. 19TH STREET  
INDPLS, IN 46218

Customer Purchase Order No.	Customer Shipper No.	Material Type	Mat'l Heat Code	Lot Number
P05-05721		316		

Process: ANNEAL  
**PROCESSING SPECIFICATIONS**

Requirement	Specified	Qty Tested	Test Results

Line#	Quantity	Weight	Part Number/Description	Revision
1	3		TEST SAMPLES & SE122-018	
2			316SS SOLUTION ANNEAL & WATER QUENCH	
3			PER AMS 2759/4	

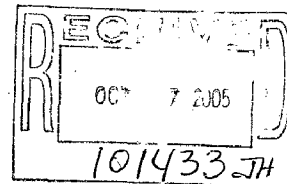
**COMMENTS**

PARTS WERE SOLUTIONED ANNEALED AND WATER QUENCHED PER AMS 2759/4.

**KARRIE AMMERMAN** 10-7-05  
Karrie Ammerman Date Signed



OCT 10 2005



Line 5 1-2



104 ENTERPRISE DRIVE  
P.O. BOX 419  
READING, MICHIGAN 49274  
(517) 283-3811  
FAX (517) 283-3698

### CERTIFICATE OF CONFORMANCE

DATE: November 1, 2005  
TO: Major Tool & Machine, Inc.  
ATTN: Dave Wilkinson

Part Number: 65678-37  
Purchase Order #: P05-05958  
Part Name: Vessel Detail  
Work Order #: RI. 10101  
Quantity: One (1)

This is to certify that the above order was processed in accordance with accepted industry standards; polished bottom and sides of groove to a 16 micro-inch surface finish.

Signature:  Title: President Date: 11-2-05

1101-05  
102211  
line 1 at



NOV 09 2005

Quality Assurance Documentation for Part ID: SE122-018-1B - Item: 322

Workorder: 65678/7-0 Sub:3 Op:118

Part: SE122-018-1B - PORT 12B SUB-ASSEMBLY - PORT 12B SUB-ASSEMBLY (VERTICAL FABRICATED PORT)

Drawing ID: SE122-018 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	D3	0.94 +/- 0.010"	CALIPER	QA		P-2056	.939/.940	503-B.H 11-02-05		A
1* (20)	D3	R.005 MIN. (2X)		QA		VISUAL	ACCEPT	503-B.H 11-02-05		A
1* (30)	D2	.149 + .000/- .008"	DEPTH MICROMET	QA		P-5018	.146/.148	503-B.H 11-02-05		A
1* (40)	D3	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-1152	4	503-B.H 11-02-05		A
1* (50)	D3	63 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-1152	6	503-B.H 11-02-05		A
* (60)		Flange face Finish 32 Micro-Inch RA	PROFILOMETER	QA		J-1152	24	503-B.H 11-02-05		A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-018-1B - Item: 323

Workorder: 65678/7-0 Sub:292 Op:20

Part: SE122-018-1B - -

Drawing ID: SE122-018 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	C8	R2.69 +/- 0.010"	CMM	MFG QA		00064	2.687	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (20)	B8	R4.69 +/- 0.010"	CMM	MFG QA		00064	4.689	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (30)	F5	20 DEGREES	CMM	MFG QA		00064	20.03	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (40)	B5	R7.38 +/- 0.010"	CMM	MFG QA		00064	7.372	212-J.LE 09-01-05	212-J.LE 09-01-05	A
1* (50)	B8	R5.38 +/- 0.010"	CMM	MFG QA		00064	5.379	212-J.LE 09-01-05	212-J.LE 09-01-05	A

Outokumpu Stainless Plate, Inc.



Certificate of Analysis and Tests

OUR ORDER 0244161 - 01

HEAT & PIECE 604254-2B 03/28/05

SOLD TO: ROLLED ALLOYS  
P O BOX 310

SHIP TO: ROLLED ALLOYS  
125 WEST STERNS ROAD  
734-847-0561

TEMPERANCE MI 48182

MI 48182

----- YOUR ORDER & DATE -----

T51463

2/03/05

TAG# 3003-2599-00-1

----- ITEM DESCRIPTION -----

HEAT & PIECE 604254 - 2B  
WEIGHT 1516  
FINISH 1  
GRADE 316L / 316  
DIMENSIONS .187 X 96.000 X 265.000 EXACT  
UNS-S31603 / UNS-S31600

----- SPECIFICATIONS -----

\*\*\* MFG IN NEW CASTLE, IN, USA FROM SLABS IMPORTED FROM SWEDEN  
AMS 5507F EXCEPT LINE MARK AMS 5524R EXCEPT LINE MARK  
ASTMA240-04A ASMESA240 04 ED ASTM A480-04 ASME SA480 04ED  
ROLLED ALLOYS SPECS 316L/316 NAFTA CTRY ORIGIN = SLB CTRY  
NO GRIPPER MARKS NO WELD REPAIRS  
ASTM A262-02A PRACTICE A ASTM A262-02A PRACTICE E

PLATES & TEST PCS SOLUTION ANNEALED @ 1950 DEGREES FAHRENHEIT MINIMUM.  
THEN WATER COOLED OR RAPIDLY COOLED BY AIR  
FREE FROM MERCURY CONTAMINATION AT CURRENT DETECTION LIMITS  
HOT ROLLED, ANNEALED & PICKLED (HRAP)

----- MECHANICAL & OTHER TESTS -----

HARDNESS RB 76  
GRAIN SIZE 5  
YIELD STRENGTH (PSI) 37198  
TENSILE STRENGTH (PSI) 83880  
BEND OK  
INTERGRANULAR CORROSION OK  
ELONGATION % IN 2" 50.1  
REDUCTION OF AREA % 64.7

ISO 9001-2000  
DIN Cert#  
10388

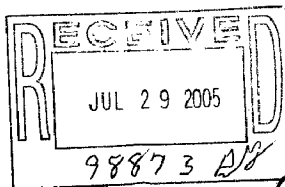


TRACER# 116158

----- CHEMICAL COMPOSITION -----

CARBON	(C)	.016
MANGANESE	(MN)	1.72
PHOSPHORUS	(P)	.032
SULFUR	(S)	.001
SILICON	(SI)	.35
CHROMIUM	(CR)	16.44
NICKEL	(NI)	10.16
COBALT	(CO)	.19
COPPER	(CU)	.47
MOLY	(MO)	2.04
NITROGEN	(N)	.04
COLUMBIUM	(CB)	.013
TITANIUM	(TI)	.004
ALUMINIUM	(AL)	.007
TIN	(SN)	.008

AUG 03 2005



ROLLED ALLOYS QUALITY ASSURANCE

APPROVED *James Douberman*

DATE 3-29-05

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATION(S) AND THAT THE RESULTS OF ALL TESTS ARE ACCEPTABLE.

JAMES DOUBERMAN, QUALITY ASSURANCE MANAGER

CERTIFICATE IN CONFORMANCE WITH DIN50049 3.1.B/EN10204 3.1.B

*James Douberman*

Outokumpu Stainless Plate, Inc.  
P.O. Box 370  
New Castle, Indiana 47362

Quality Assurance Documentation for Part ID: SE122-019-1A - Item: 325

Workorder: 65678/7-0 Sub:107 Op:20

Part: SE122-019-1A - PORT 12A SEAL RETAINER - SE120-004-3 / SE122-019-1A PORT 12A SEAL RETAINER

Drawing ID: SE122-019 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	F3	0.149 + 0 / - 0.008"	OD MICROMETER	MFG QA		P-3743	.146 - .1485	445-J.PU 10-27-05	591-C.P 10-27-05	A
1* (20)	G4	0.54 +/- 0.010" (CONSTANT)	CALIPER	MFG QA		P-5041	.540-.543	601-K.R 10-26-05	591-C.P 10-27-05	A
1* (30)	G3	75.0 deg. +/- 0 deg. 15' (2X)	PROTRACTOR	MFG QA		P-5043	75.	601-K.R 10-26-05	591-C.P 10-27-05	A
1* (40)	F4	63 MICRO-INCH SURFACE FINISH (2X)	PROFILOMETER	MFG QA		J-1181	14.8	445-J.PU 10-27-05	591-C.P 10-27-05	A
1* (50)	D6	DIA. 0.187 (+/- 0.005") (8X)	PIN GAGE	MFG QA		J-667	OK TO GAGE PINS	601-K.R 10-26-05	591-C.P 10-27-05	A
1* (60)	D6	0.094 +/- 0.005 (8X)	DEPTH MICROMET	MFG QA		P-5045	.093-.095	601-K.R 10-26-05	591-C.P 10-27-05	A
1* (70)	D6	DIA. 0.343 +/- 0.005" (8X)	PIN GAGE	MFG QA		J-668	OK TO GAGE PINS	601-K.R 10-26-05	591-C.P 10-27-05	A
1* (80)	D6	⊕ ∅0.012   A   B   C - D (8X)	INDICATOR MACHINE	MFG QA		P-5046 571	W/IN .002	601-K.R 10-26-05	591-C.P 10-27-05	A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-019-1A - Item: 326

Workorder: 65678/7-0 Sub:107 Op:30

Part: SE122-019-1A - PORT 12A SEAL RETAINER - SE120-004-3 / SE122-019-1A PORT 12A SEAL RETAINER

Drawing ID: SE122-019 Rev: 1		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H		
(10)		Magnetic Permeability 1.02 Max						11-01-05		

A



Quality Assurance Documentation for Part ID: SE122-019-1B - Item: 328

Workorder: 65678/7-0 Sub:120 Op:20

Part: SE122-019-1B - PORT 12B SEAL RETAINER - SE120-004-3 / SE122-019-1B PORT 12B SEAL RETAINER

Drawing ID: SE122-019 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	F3	0.149 + 0 / - 0.008"	OD MICROMETER	MFG QA		P-5034	.145-.148	601-K.R 10-27-05	591-C.P 10-27-05	A
1* (20)	G4	0.54 +/- 0.010" (CONSTANT)	CALIPER	MFG QA		P-5041	.540-.548	601-K.R 10-25-05	591-C.P 10-27-05	A
1* (30)	G3	75.0 deg. +/- 0 deg. 15' (2X)	PROTRACTOR	MFG QA		P-5043	75.0 DEG	601-K.R 10-25-05	591-C.P 10-27-05	A
1* (40)	F4	63 MICRO-INCH SURFACE FINISH (2X)	PROFILOMETER	MFG QA		J-1181	34.8	601-K.R 10-27-05	591-C.P 10-27-05	A
1* (50)	D6	DIA. 0.187 (+/- 0.005") (8X)	CALIPER	MFG QA		P-5041	.188	601-K.R 10-25-05	591-C.P 10-27-05	A
1* (60)		0.094 +/- 0.005 (8X)	CALIPER	MFG QA	D6	P-5041	.096-.098	601-K.R 10-25-05	591-C.P 10-27-05	A
1* (70)	D6	DIA. 0.343 +/- 0.005" (8X)	PIN GAGE	MFG QA		J-668	OK TO GAGE PINS	601-K.R 10-27-05	591-C.P 10-27-05	A
1* (80)	D6	⊕ ∅0.012   A   B   C - D (8X)	INDICATOR MACHINE	MFG QA		P-5046 571	W/IN .002	601-K.R 10-27-05	591-C.P 10-27-05	A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-019-1B - Item: 329

Workorder: 65678/7-0 Sub:120 Op:30

**Part: SE122-019-1B - PORT 12B SEAL RETAINER - SE120-004-3 / SE122-019-1B PORT 12B SEAL RETAINER**

Drawing ID: SE122-019 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H		
(10)		Magnetic Permeability 1.02 Max						11-01-05		

A

Quality Assurance Documentation for Part ID: SE122-049-1A - Item: 330

Workorder: 65678/7-0 Sub:8 Op:118

**Part: SE122-049-1A - PORT 4A SUB-ASSEMBLY - PORT 4A SUB-ASSEMBLY (PERSONNEL ACCESS PORT)**

Drawing ID: SE122-049 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	D3	0.94 +/- 0.010"	CALIPER	QA		J-96	.940-.944	854-R.U 11-09-05			A
1* (20)	D3	R.005 MIN. (2X)	RADIUS GAGE	QA		R-21	GREATER THAN .005	854-R.U 11-09-05			A
1* (30)	D2	.149 + .000/- .008"	CALIPER	QA		J-96	.143-.146	854-R.U 11-09-05			A
1* (40)	D3	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	8-10	854-R.U 11-09-05			A
1* (50)	D3	63 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	10-20	854-R.U 11-09-05			A
1* (60)		32 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	28-30	854-R.U 11-09-05			A

Quality Assurance Documentation for Part ID: SE122-049-1A - Item: 331

Workorder: 65678/7-0 Sub:126 Op:20

Part: SE122-049-1A - NCSX VVSA PORT 4A FLANGE - SE120-004-5 / SE122-049A NCSX VVSA PORT 4A FLANGE

Drawing ID: SE122-049 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		R4.33 +/- 0.010" (4x)	CMM	MFG QA		00064	4.327	688-S.A 08-15-05	591-C.P 08-15-05	A
1* (20)		23.66 +/- 0.010"	CALIPER	MFG QA		J-549	23.657	688-S.A 08-15-05	591-C.P 08-15-05	A
1* (30)		34.66 +/-0.010"	CALIPER	MFG QA		J-549	34.655	688-S.A 08-15-05	591-C.P 08-15-05	A
1* (40)		40.00 +/- 0.010"	CALIPER	MFG QA		J-549	39.997	688-S.A 08-15-05	591-C.P 08-15-05	A
1* (50)		29.00 +/- 0.010"	CALIPER	MFG QA		J-549	29.00	688-S.A 08-15-05	591-C.P 08-15-05	A
1* (60)		R7.00 +/- 0.010" (4x)	CMM	MFG QA		00064	6.997	688-S.A 08-15-05	591-C.P 08-15-05	A



# Certificate of Conformance

## EXOTIC METAL TREATING INC.

Certificate # 50308

Vendor Code # 107576

6234 E. Hanna Avenue • Indianapolis, Indiana

P.O. # P05-04921

**NADCAP**

Exotic Metal Treating Inc. hereby certifies that all materials used in the manufacture of parts CONFORMS to the material and/or manufacturing specifications indicated in drawings or specifications as called for on purchase order referenced hereon. Test reports are on file with us or with our suppliers for examination and indicate conformance with the applicable requirements. The parts listed below are processed in accordance with the drawings or specifications called for on referenced purchase order that are current on the date on which the order was accepted. Pertinent details of the work performed are on file at this facility under the process heat number listed hereon.

HEAT # 05-1580

DATE SHIPPED 8-25-05

**QUANTITY**

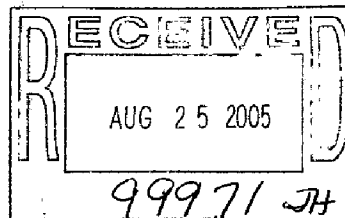
**DESCRIPTION**

1 PC	SE122-049-1B	JOB #65678-145/7 SEQ #50
1 PC	SE122-049-1A	JOB #65678-126/7 SEQ #50
	MATERIAL: 316 SS	



8.25.05


SOLUTION ANNEALED PER AMS-2759-4 REV: B IN VACUUM AT 2000°F ± 25°F FOR 90 MINUTES MINIMUM & GAS FAN COOLED.



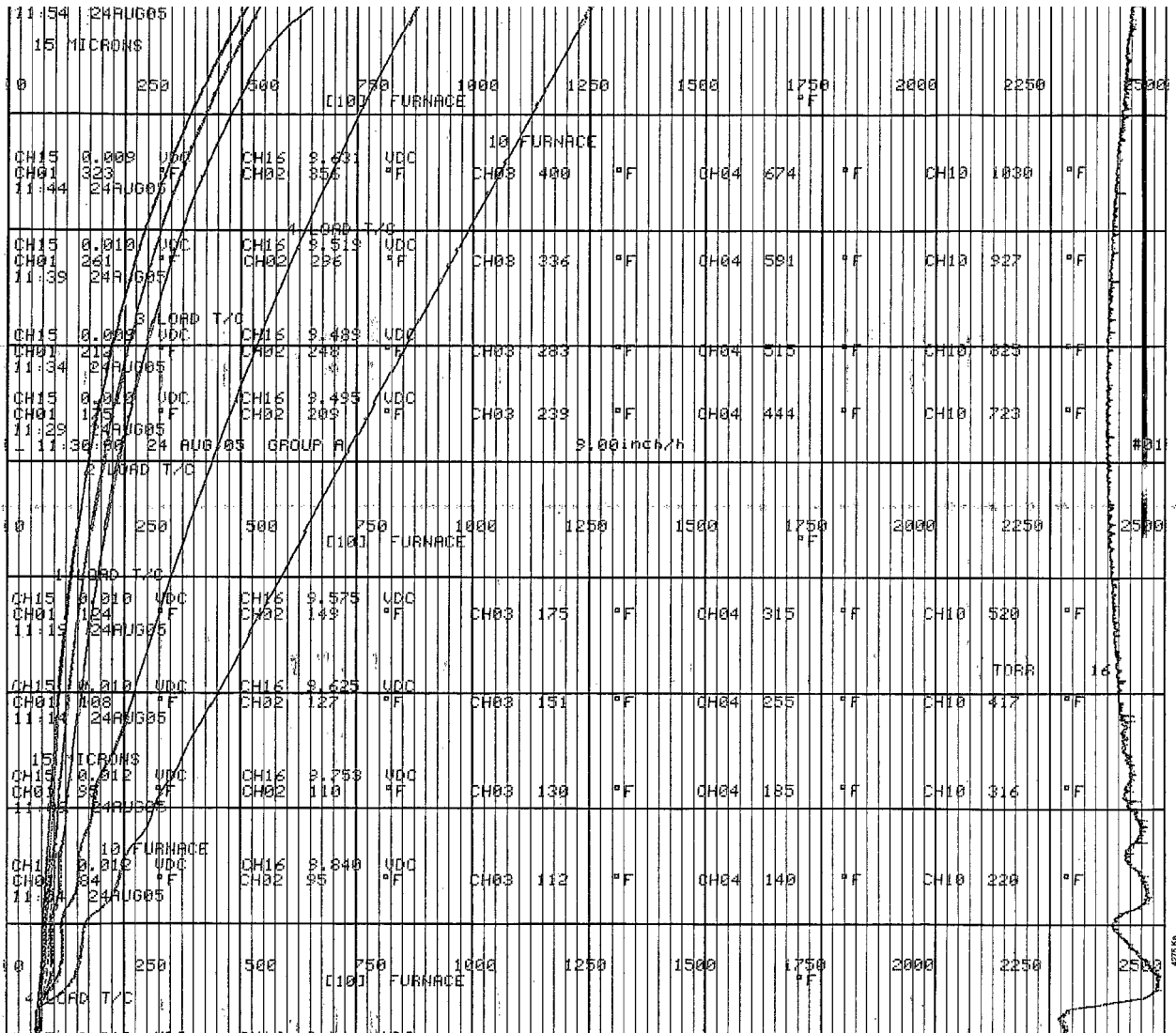
Sworn and subscribed to before me...  
 on 8-25-05  
 Notary Public Morgan County - State of Indiana  
 My commission expires: 9-30-09

[Signature]  
 (Name)  
JH  
 (Title)

CH01 72 °F	CH02 74 °F	CH03 73 °F	CH04 73 °F	CH10 67 °F	
10:54 24AUG05					
3 LOAD T/C					
CH05 0.212 UDC	CH16 10.17 UDC	CH03 72 °F	CH04 73 °F	CH10 66 °F	
CH01 72 °F	CH02 74 °F				
10:43 24AUG05					
2 LOAD T/C					
CH05 0.398 UDC	CH16 10.20 UDC	CH03 72 °F	CH04 73 °F	CH10 65 °F	
CH01 72 °F	CH02 74 °F				
10:44 24AUG05					
10:45:00 24 AUG 05	GROUP A		9.00inch/h		#01
LOAD T/C					
CH05 0.255 UDC	CH16 10.20 UDC	CH03 72 °F	CH04 73 °F	CH10 63 °F	
CH01 72 °F	CH02 74 °F				
10:39 24AUG05					
10:34:23	24 AUG 05		9.00inch/h		#01
					CAL 100%
					CAL 100%
CH01 72 °F	CH02 74 °F	CH03 72 °F	CH04 73 °F	CH10 59 °F	
10:33 24AUG05					
2 LOAD T/C					
CH05 0.200 UDC	CH16 10.20 UDC				
10:30:00 24 AUG 05	GROUP A				#01
CH01 72 °F	CH02 74 °F	CH03			
10:27 24AUG05					
10:23:14	24 AUG 05		9.00inch/h		#01
09:40:15 24 AUG 05	PAINT INHIBIT				#01
09:35:40	24 AUG 05		9.00inch/h		#01
12:58:26 15 AUG 05	PAINT INHIBIT				#01
12:58:08	15 AUG 05		9.00inch/h		#01

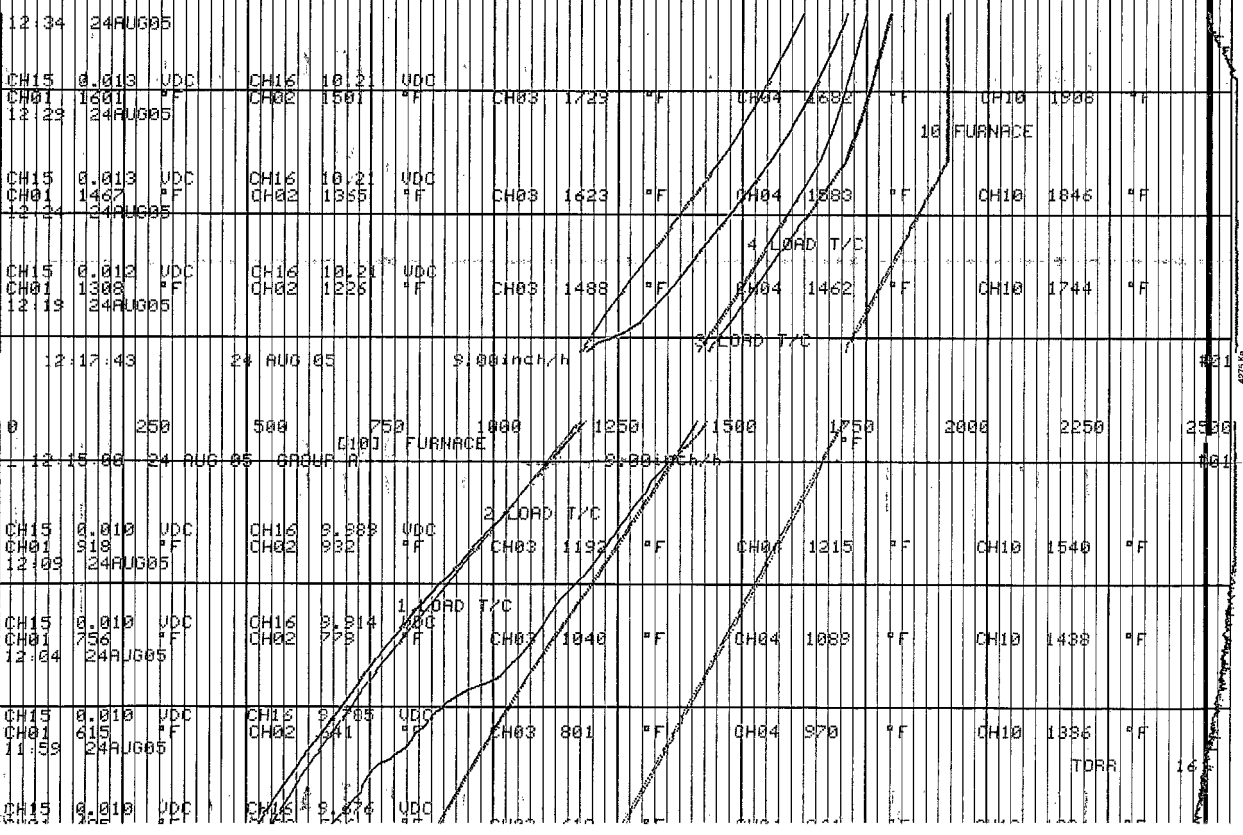

**8-25-05**  
**EXOTIC METAL TREATING, INC.**  
 6234 EAST HANNA AVENUE • INDIANAPOLIS, IN 46203  
 DATE: 8-24-05 COMPANY: Major Tool  
 LOAD #: 05-1580 MATERIAL: 316SS  
 QTY: 1 P/N: SE 122-049-1A  
1 SE 122-049-1B  
65678-14517 & 65678-12617  
 FURNACE: V-4 ATMOS.: VAC  
 REF. SPEC.: AMS 2759/Y B  
 RECORDER: V-4 C TIME START: 10:34 AM

MC111762.TIF2



CAL 100%

CAL 0%



MC111762.TIF4



FURNACE														
CH15	0.010	UQC	CH16	9.074	UQC	CH03	1996	"F	CH04	1976	"F	CH10	2002	"F
CH01	1982	"F	CH02	1976	"F									
13:01	24AUG05		<i>START SOAK</i>											
CH15	0.010	UQC	CH16	9.323	UQC	CH03	1986	"F	CH04	1958	"F	CH10	2002	"F
CH01	1967	"F	CH02	1958	"F									
12:56	24AUG05		<i>4 LOAD T/C</i>											
CH15	0.010	UQC	CH16	9.610	UQC	CH03	1967	"F	CH04	1933	"F	CH10	2005	"F
CH01	1940	"F	CH02	1929	"F									
12:51	24AUG05		<i>5 LOAD T/C</i>											
CH15	0.010	UQC	CH16	9.852	UQC	CH03	1938	"F	CH04	1904	"F	CH10	2003	"F
CH01	1899	"F	CH02	1875	"F									
12:46	24AUG05		<i>2 LOAD T/C</i>											
12:45:00	24 AUG 05	GROUP A				9.00inch/h								#01
CH15	0.010	UQC	CH16	10.21	UQC	CH03	1901	"F	CH04	1852	"F	CH10	2004	"F
CH01	1829	"F	CH02	1765	"F									
12:41	24AUG05		<i>4 LOAD T/C</i>											
12:35:21	24 AUG 05		9.00inch/h											#01
<i>NEW CHART ROLL INSTALLED</i>														
* 12:36:43	24 AUG 05		9.00inch/h											#01
													CAL 100%	
													CAL 100%	

CH15 CH01 13:43	0.010 2003 24AUG05	VDC °F	CH16 CH02 0.493 2003	VDC °F	CH03 2004	°F	CH04 2007	°F	CH10 2000	°F	
CH15 CH01 13:38	0.010 2004 24AUG05	VDC °F	CH16 CH02 0.493 2004	VDC °F	CH03 2004	°F	CH04 2008	°F	CH10 2000	°F	2 LOAD T/C
CH15 CH01 13:33	0.010 2006 24AUG05	VDC °F	CH16 CH02 0.518 2005	VDC °F	CH03 2006	°F	CH04 2010	°F	CH10 2000	°F	1 LOAD T/C
-	13:30:00	24 AUG 05	GROUP A				9.00inch/h				#01
*	13:28:02	24 AUG 05					9.00inch/h				#01
CAL 0%											
GAL 100%											
CH15 CH01 13:21	0.010 2007 24AUG05	VDC °F	CH16 CH02 0.626 2005	VDC °F	CH03 2010	°F	CH04 2010	°F	CH10 2000	°F	1 LOAD T/C
CH15 CH01 13:16	0.010 2005 24AUG05	VDC °F	CH16 CH02 0.753 2003	VDC °F	CH03 2003	°F	CH04 2007	°F	CH10 2000	°F	15 TORR
15 MICRONS CH15 CH01 13:11	0.010 2001 24AUG05	VDC °F	CH16 CH02 0.806 1999	VDC °F	CH03 2007	°F	CH04 2002	°F	CH10 2000	°F	
CH15 CH01 13:06	0.011 1994 24AUG05	VDC °F	CH16 CH02 0.901 1991	VDC °F	CH03 2004	°F	CH04 1992	°F	CH10 2000	°F	0 SUBNECE

CH15	0.010	VDC	CH16	8.278	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2001	*F	CH02	2001	*F	CH03	2003	*F	CH04	2005	*F	CH10	2000	*F							
14:34	24AUG05																				
CH15	0.010	VDC	CH16	8.277	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2001	*F	CH02	2001	*F	CH03	2003	*F	CH04	2005	*F	CH10	2000	*F							
14:33	24AUG05																				
CH15	0.010	VDC	CH16	8.283	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2001	*F	CH02	2001	*F	CH03	2003	*F	CH04	2005	*F	CH10	2000	*F							
14:28	24AUG05																				
CH15	0.010	VDC	CH16	8.281	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2002	*F	CH02	2001	*F	CH03	2003	*F	CH04	2005	*F	CH10	2000	*F							
14:23	24AUG05																				
CH15	0.010	VDC	CH16	8.354	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2002	*F	CH02	2002	*F	CH03	2003	*F	CH04	2006	*F	CH10	2001	*F							
14:13	24AUG05																				
CH15	0.010	VDC	CH16	8.354	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2002	*F	CH02	2002	*F	CH03	2003	*F	CH04	2006	*F	CH10	2001	*F							
14:08	24AUG05																				
CH15	0.010	VDC	CH16	8.286	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2002	*F	CH02	2002	*F	CH03	2003	*F	CH04	2006	*F	CH10	2001	*F							
14:03	24AUG05																				
CH15	0.011	VDC	CH16	8.303	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2002	*F	CH02	2002	*F	CH03	2003	*F	CH04	2006	*F	CH10	2001	*F							
13:58	24AUG05																				
CH15	0.010	VDC	CH16	8.413	VDC					0	250	500	750	1000	1250	1500	1750	2000	2250	2500	
CH01	2002	*F	CH02	2002	*F	CH03	2003	*F	CH04	2006	*F	CH10	2000	*F							
13:48	24AUG05																				

MC111762.TIF







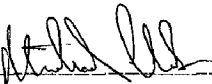
104 ENTERPRISE DRIVE  
P.O. BOX 419  
READING, MICHIGAN 49274  
(517) 283-3811  
FAX (517) 283-3696

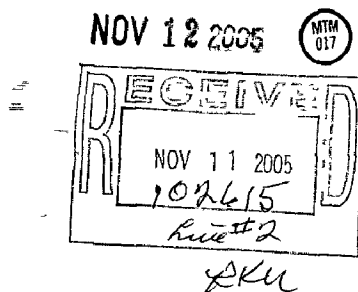
### CERTIFICATE OF CONFORMANCE

DATE: November 11, 2005  
TO: Major Tool & Machine, Inc.  
ATTN: Dave Wilkinson

Part Number: SE1220-049-1B  
Purchase Order #: P05-06194  
Part Name: Port 4B Flange  
Work Order #: RL 10101  
Quantity: One (1)

This is to certify that the above order was processed in accordance with accepted industry standards; polished bottom and sides of groove to a 16 micro-inch surface finish.

Signature:  Title: President Date: 11-11-05



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-049-1B - Item: 334

Workorder: 65678/7-0 Sub:9 Op:118

Part: SE122-049-1B - PORT 4B SUB-ASSEMBLY - PORT 4B SUB-ASSEMBLY (PERSONNEL ACCESS PORT)

Drawing ID: SE122-018 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	D3	0.94 +/- 0.010"	CALIPER	QA		J-96	940-.943	854-R.U 11-11-05			A
1* (20)	D3	R.005 MIN. (2X)	RADIUS GAGE	QA		R-21	GREATER THAN .005	854-R.U 11-11-05			A
1* (30)	D2	.149 + .000/- .008"	CALIPER	QA		J-96	.143-.146	854-R.U 11-11-05			A
1* (40)	D3	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	8-10	854-R.U 11-11-05			A
1* (50)	D3	63 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	10-20	854-R.U 11-11-05			A
1* (60)		32 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	28-30	854-R.U 11-11-05			A

Quality Assurance Documentation for Part ID: SE122-049-1B - Item: 335

Workorder: 65678/7-0 Sub:145 Op:20

Part: SE122-049-1B - NCSX VVSA PORT 4B FLANGE -

Drawing ID: SE122-049 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		R4.33 +/- 0.010" (4x)	CMM	MFG QA		00064	4.327	184-T.HI 08-15-05	212-J.LE 08-15-05	A
1* (20)		23.66 +/- 0.010"	CALIPER	MFG QA		J-483	23.664	184-T.HI 08-15-05	212-J.LE 08-15-05	A
1* (30)		34.66 +/-0.010"	CALIPER	MFG QA		J-483	34.662	184-T.HI 08-15-05	212-J.LE 08-15-05	A
1* (40)		40.00 +/- 0.010"	CALIPER	MFG QA		J-483	39.996	184-T.HI 08-15-05	212-J.LE 08-15-05	A
1* (50)		29.00 +/- 0.010"	CALIPER	MFG QA		J-483	28.997	184-T.HI 08-15-05	212-J.LE 08-15-05	A
1* (60)		R7.00 +/- 0.010" (4x)	CMM	MFG QA		00064	6.997	184-T.HI 08-15-05	212-J.LE 08-15-05	A



Quality Assurance Documentation for Part ID: SE122-057-1A - Item: 338

Workorder: 65678/7-0 Sub:131 Op:20

Part: SE122-057-1A - PORT 4A SEAL RETAINER - SE122-057-1A PORT 4A SEAL RETAINER

Drawing ID: SE122-019 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	F3	0.149 + 0 / - 0.008"	OD MICROMETER	MFG QA		P-89	.148-.150 (ACCEPT PER NC 18322 AFTER REWORK)	854-R.U 05-03-06	591-C.P 10-03-05	A
1* (20)	G4	0.54 +/- 0.010" (CONSTANT)	CALIPER	MFG QA		P-1237	.539-.541	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (30)	G3	75.0 deg. +/- 0 deg. 15' (2X)		MFG QA		PROTRACTOR	75 DEG.	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (40)	F4	63 MICRO-INCH SURFACE FINISH (2X)		MFG QA			40	591-C.P 10-03-05	591-C.P 10-03-05	A
1* (50)	D6	DIA. 0.187 (+/- 0.005") (8X)	CALIPER	MFG QA		P-1237	.186	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (60)	D6	0.094 +/- 0.005 (8X)	DEPTH MICROMET	MFG QA		P-76	.095	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (70)	D6	DIA. 0.343 +/- 0.005" (8X)	CALIPER	MFG QA		P-1237	.342	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (80)	D6	⊕ ∅0.012 A B C - D (8X)	INDICATOR	MFG QA		P-237	.005	688-S.A 09-29-05	591-C.P 09-29-05	A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-057-1A - Item: 339

Workorder: 65678/7-0 Sub:131 Op:30

Part: SE122-057-1A - PORT 4A SEAL RETAINER - SE122-057-1A PORT 4A SEAL RETAINER

Drawing ID: SE122-019 Rev: 1		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U		
(10)		Magnetic Permeability 1.02 Max						11-14-05		

A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-057-1A - Item: 340

Workorder: 65678/7-0 Sub:296 Op:10

Part: SE122-057-1A - REWORK / REPAIR PER N/C - N/C # \_\_\_\_\_

Drawing ID: SE122-057 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	F3	0.149 +0/-0.008"	OD MICROMETER	MFG QA		P-4957	.144-.146	274-M. 10-25-05	591-C.P 10-25-05	

A

Quality Assurance Documentation for Part ID: SE122-057-1B - Item: 341

Workorder: 65678/7-0 Sub:150 Op:20

Part: SE122-057-1B - PORT 4B SEAL RETAINER -

Drawing ID: SE122-019 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	F3	0.149 + 0 / - 0.008"	OD MICROMETER	MFG QA		P-89	.1485 -.1505 (ACCEPT PER NC 13825 AFTER REWORK)	854-R.U 05-03-06	591-C.P 09-29-05	A
1* (20)	G4	0.54 +/- 0.010" (CONSTANT)	CALIPER	MFG QA		P-1237	.539-.541	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (30)	G3	75.0 deg. +/- 0 deg. 15' (2X)		MFG QA		PROTRACTOR	75 DEG.	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (40)	F4	63 MICRO-INCH SURFACE FINISH (2X)		MFG QA		VISUAL	40	445-J.PU 10-03-05	591-C.P 10-03-05	A
1* (50)	D6	DIA. 0.187 (+/- 0.005") (8X)	CALIPER	MFG QA		P-1237	.186	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (60)	D6	0.094 +/- 0.005 (8X)	DEPTH MICROMET	MFG QA		P-76	.095	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (70)	D6	DIA. 0.343 +/- 0.005" (8X)	CALIPER	MFG QA		P-1237	.342	688-S.A 09-29-05	591-C.P 09-29-05	A
1* (80)	D6	⊕ ∅0.012 A B C - D (8X)	INDICATOR	MFG QA		P-237	.005	688-S.A 09-29-05	591-C.P 09-29-05	A

Quality Assurance Documentation for Part ID: SE122-057-1B - Item: 342

Workorder: 65678/7-0 Sub:150 Op:30

Part: SE122-057-1B - PORT 4B SEAL RETAINER -

Drawing ID: SE122-019 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			MASTER GAGE	QA		J-1270	LESS THAN 1.02	503-B.H		
(10)		Magnetic Permeability 1.02 Max						11-15-05		

A

Quality Assurance Documentation for Part ID: SE122-057-1B - Item: 343

Workorder: 65678/7-0 Sub:297 Op:10

Part: SE122-057-1B - REWORK / REPAIR PER N/C - N/C # \_\_\_\_\_

Drawing ID: SE122-057 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	F3	0.149 +0/- .008"	DEPTH MICROMET	MFG QA		P-4759	.144-.146	274-M. 10-25-05	591-C.P 10-25-05	

A

Quality Assurance Documentation for Part ID: SE122-072-1 - Item: 344

Workorder: 65678/7-0 Sub:82 Op:20

Part: SE122-072-1 - PORT NB FLANGE - SE120-004-8 / SE122-072-1 PORT NB FLANGE

Drawing ID: SE122-072 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	G8	R3.53 +/- 0.01"	CMM	MFG QA		00064	3.535	212-J.LE 08-22-05	212-J.LE 08-22-05	A
1* (20)	G7	R3.53 +/- 0.01"	CMM	MFG QA		00064	3.534	212-J.LE 08-22-05	212-J.LE 08-22-05	A
1* (30)	G7	2.75 +/- 0.01" CONSTANT	CALIPER	MFG QA		P-1237	2.746-2.751	688-S.A 08-19-05	212-J.LE 08-22-05	A
1* (40)	F7	R5.53 +/- 0.01"	CMM	MFG QA		00064	5.532	212-J.LE 08-22-05	212-J.LE 08-22-05	A
1* (60)	E8	R3.53 +/- 0.01"	CMM	MFG QA		00064	3.532	212-J.LE 08-22-05	212-J.LE 08-22-05	A
1* (70)	E7	R3.53 +/- 0.01"	CMM	MFG QA		00064	3.528	212-J.LE 08-22-05	212-J.LE 08-22-05	A
1* (80)		125 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	MFG QA		J-775	24-33	688-S.A 08-19-05	212-J.LE 08-22-05	A
1* (90)	F8	R5.53 +/- 0.01"	CMM	MFG QA		00064	5.531	212-J.LE 08-22-05	212-J.LE 08-22-05	A

JS0296A-1200



Jessop Speciality Products  
500 Green Street  
Washington, PA 15301

CERTIFIED MATERIAL  
TEST REPORT

OUR ORDER NO.  
YOUR ORDER NO. 0P5081340  
MEMO NO. T51457  
DATE 274320-01 LCS  
SALESMAN NO. 05/20/2005  
584

*P. M. Claditis*  
P. M. Claditis - Product Quality Engineer

Ship ROLLED ALLOYS  
To 125 W STERNS RD  
TEMPERANCE MI

ROLLED ALLOYS INC  
125 W STERNS RD  
P O BOX 310

48182 TEMPERANCE MI 48182



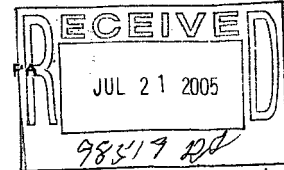
TRACER# 119068

JESSOP UNS N06625 ALLOY HRAP  
ASTM B443-00 GRADE 1 ASME SB-443-04 GRADE 1 AMS 5599F  
S400E S1000E

Heat	Slip	Lot No	Size	Pcs	Weight										
512120L04	19006 A	154296	1.5000 x 72.0000 x 160.0000	1	5414										
Heat	C	MN	P	S	SI	NI	CR	MO	CD	CU	TI	CB	N	AL	FE
512120L04	.073	.080	.009	.0003	.17	60.80	22.08	8.56	.07	.090	.16	3.41	.014	.05	4.39
Heat	TA														
512120L04	.003														
Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size						
154296	1.5000	65.5 KSI	124.0 KSI	40.0	37.0	BHN207			7						

MATERIAL IS OF USA MELT AND MANUFACTURE  
MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY  
MATERIAL WAS NOT WELD REPAIRED  
MATERIAL WAS ANNEALED ABOVE 1600F AND AIR COOLED  
NADCAP CERT #106684 ALLEGHENY LUDLUM BRACKENRIDGE, PA EXPIRES 4/30 YEARLY  
NADCAP: CHEMICAL LAB-TECHNICAL CENTER, NATRONA HEIGHTS, PA; MECHANICAL LAB-LEECHBURG,  
DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE

JUL 22 2005



ROLLED ALLOYS

Certification of Conformance: We certify that the above material meets all requirements of the purchase order and applicable specifications.

Customer: MAJOR TOOLING MACHINE  
P.O. # P85-03834 TN  
1-1/2" PLATE 625  
Tracer No. [119068]

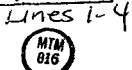
Shpr-W41125  
58 X 71"  
Heat No. [512120L04]

Date 07/19/2005  
1 PC

ROLLED ALLOYS QUALITY ASSURANCE

APPROVED *[Signature]*

DATE 6-8-05



PAGE 1 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

MC110077.TIF



3 0516-1 196



**Allegheny Ludlum** Jessop Plate Products Division  
An Allegheny Technologies Company

500 Green Street  
Washington, Pennsylvania 15301

CERTIFIED MATERIAL TEST REPORT

Page

Bill to:  
PLATE PROD DIV / A-L  
1201 VALLEY ROAD  
COATESVILLE PA

Ship to:  
PLATE PROD DIV / A-L  
1201 VALLEY ROAD  
COATESVILLE PA

19320

19320

PHIL CLADITIS  
Quality Assurance Representa

Memo No: 260311-00

Our Order no: RW4910400  
Your Order No: M E M O  
Date: 09/03/2004  
DUAL CERT

ALC 316/316L STAINLESS HRAP  
ASTM A240-04a ASME SA-240-01 ASTM A480-02 ASME SA-480-01  
AMS 5507F (316L) AMS 5524K (316) ASTM A666-03 COND A CHEM/PHYS TO  
ASTM A312-02 ASME SA-312-01 ASTM A479-02 ASME SA-479-01 ASTM A262-02  
PRACTICE E SCREEN PRAC A

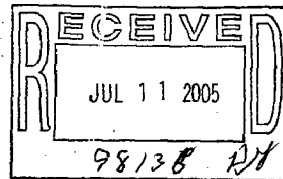
Heat	Slip	Lot No	Size	Pcs	Weight
818102	34967 A	143182	1.5000 x 83.0000 x 260.0000	1	9488 GV-STOCK

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
818102	.018	1.57	.027	.0004	.31	10.14	16.38	2.10	.25	.37	.069

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Siz
143182	1.5000	33.9 KSI	81.5 KSI	61.0	81.0	BHN146	OK	OK	OK

MATERIAL WAS NOT WELD REPAIRED  
MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY  
MATERIAL WAS SOLUTION ANNEALED (HEAT TREATED) ABOVE 1900F AND WATER QUENCHED  
DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE  
MATERIAL IS OF USA MELT AND MANUFACTURE

JUL 11 2005



TRACER# 109293

*lines* ~~13-18~~  
13-18

98,42  
*lines* 25.30

ROLLED AND QUALITY ASSURANCE  
APPROVED *M. Bair*  
DATE 9/23/04

PAGE 1 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS. THE ABOVE INFORMATION HAS BEEN REPRODUCED FROM THE ORIGINAL CERTIFIED MATERIAL TEST REPORT.

ORIGINAL

0518-1198



**Allegheny Ludlum** Jessop Plate Products Division  
An Allegheny Technologies Company

1201 Valley Road  
Cootesville, Pennsylvania 19320

CERTIFICATE OF CONFORMANCE

Page 1

Our Order no: GV-098284  
Your Order No: J06587  
Memo No: 4261130-00  
Date: 09/15/2004  
516

Bill to:  
ROLLED ALLOYS INC  
125 W STERNS RD  
P O BOX 310  
TEMPERANCE MI

48182

Shipto:  
ROLLED ALLOYS INC  
9818 EAST HARDY ROAD  
HOUSTON TX

77093

*Robert Campagna*  
Quality Assurance Representat:

ALC T-316/316L DUAL CERT HRAP STAINLESS  
ASTM A240-02 ASME SA240-01  
79" WIDE ROUGHING MILL EDGE PLATE

Item	Grade	Heat No	Slip	Size	Weight	Mill Cert	Ord
001	316L			1.5000 79.0000	WID 235.0000 LEN	1	LBS
				PN: 530034299001			
		818102	34967	A	1.5000 79.0000	235.0000	1
						8166 260311-00	Shi
						8166	
					ITEM TOTAL:	1	
					TOTAL ORDER:	1	8166



JUL 11 2005



TRACER# 109293

CMTR (MANUFACTURER)  
 ULTRASONIC REPORT  
 OTHER

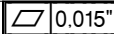
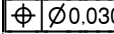
THE MATERIAL LISTED ABOVE IS SUPPLIED IN ACCORDANCE WITH THE ABOVE LISTED SPECIFICATIONS BASED ON THE REVIEW OF THE MATERIAL MANUFACTURER'S CERTIFIED MATERIAL TEST REPORT (ELECTRONICALLY EXCERPTED COPY ATTACHED) AND THE REQUIREMENTS OF THE PURCHASE ORDER.

ORIGINAL

Quality Assurance Documentation for Part ID: SE122-104-1A - Item: 347

Workorder: 65678/7-0 Sub:106 Op:20

Part: SE122-104-1A - NCSX VVSA PORT 12A COVER ASSEMBLY - SE120-004-4 / SE122-104-1A NCSX VVSA PORT 12A COVER ASSEMBLY

Drawing ID: SE122-104 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	C8	 0.015" DATUM -A- FLATNESS	CMM	MFG QA		194	0.0015	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (20)	G5	 0.030 A B C-D 0.531 +/-0.005" THRU (32X)	CMM	MFG QA		194	0.0137 MAX POSITION ; 0.531-0.532 DIA.	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (30)	G7	9.80 +/- 0.01" (2X)	CMM	MFG QA		194	9.790-9.798	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (40)	F8	R 4.69 +/- 0.01"	CMM	MFG QA		194	4.6859	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (50)	F5	20 DEG. +/- 0 DEG. 15 MIN.	CMM	MFG QA		194	19 DEG. 59'49.92"	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (60)	F5	R 7.38 +/- 0.01"	CMM	MFG QA		194	7.3739	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (80)	G4	1.25 +/- 0.01"	CALIPER	MFG QA		J-707	1.256	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (90)	G3	0.63 +/- 0.01" (2X)	INDICATOR	MFG QA		P-3749	.630	274-M. 12-15-05	591-C.P 12-15-05	A
1* (100)	G3	DIA. 0.25 +/- 0.01" X 1.50 +/- 0.01" (2X)	PIN GAGE	MFG QA		J-667	GOOD	274-M. 12-15-05	591-C.P 12-15-05	A
1* (110)	F3	1.34 +/- 0.01" (2X)	CMM	MFG QA		194	1.3392-1.3413	295-C.W 09-10-05	295-C.W 09-10-05	A
1* (120)	G4	1/8" NPT	THREAD PLUG GA	MFG QA		A-220	GOOD	274-M. 12-15-05	591-C.P 12-15-05	A
1* (130)	F3	DIA. 0.125 +/- 0.01" THRU TO 0.25 DIA (2X)	CMM	MFG QA		194	0.1250-0.1261	295-C.W 09-10-05	295-C.W 09-10-05	A

Quality Assurance Documentation for Part ID: SE122-104-1A - Item: 348

Workorder: 65678/7-0 Sub:106 Op:30

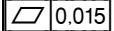
**Part: SE122-104-1A - NCSX VVSA PORT 12A COVER ASSEMBLY - SE120-004-4 / SE122-104-1A NCSX VVSA PORT 12A COVER ASSEMBLY**

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		VISUAL	ACCEPT	854-R.U			A
(20)		VWI - INTERIOR FILLET 12AC						05-03-06			
*				QA		VISUAL	ACCEPT	854-R.U			A
(30)		VWI - EXTERIOR FILLET WELDS 12AC						05-03-06			

Quality Assurance Documentation for Part ID: SE122-104-1A - Item: 349

Workorder: 65678/7-0 Sub:106 Op:50

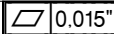
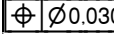
Part: SE122-104-1A - NCSX VVSA PORT 12A COVER ASSEMBLY - SE120-004-4 / SE122-104-1A NCSX VVSA PORT 12A COVER ASSEMBLY

Drawing ID: SE122-172 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	C7	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-1152	4-9	503-B.H 12-30-05			A
Drawing ID: SE122-104 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		Magnetic Permeability 1.02 MAX	50	QA			LESS THAN 1.2 SEE N C 17664	503-B.H 12-30-05			A
* (30)		 0.015 Datum -A- Flatness	INDICATOR	QA		J-622	.008	503-B.H 12-30-05			A

Quality Assurance Documentation for Part ID: SE122-104-1B - Item: 350

Workorder: 65678/7-0 Sub:117 Op:20

Part: SE122-104-1B - NCSX VVSA PORT 12B COVER ASSEMBLY - SE120-004-4 / SE122-104-1B NCSX VVSA PORT 12B COVER ASSEMBLY

Drawing ID: SE122-104 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	C8	 0.015" DATUM -A- FLATNESS	INDICATOR	MFG QA		P-3873	WITH IN .005	688-S.A 09-08-05	212-J.LE 09-09-05	A
1* (20)	G5	 0.030 A B C-D 0.531 +/-0.005" THRU (32X)	CALIPER	MFG QA		P-1237	.532 ,0.013 TP	212-J.LE 09-09-05	212-J.LE 09-09-05	A
1* (30)	G7	9.80 +/- 0.01" (2X)	INDICATOR	MFG QA		P-4964	9.800	274-M. 12-15-05	591-C.P 12-15-05	A
1* (40)	F8	R 4.69 +/- 0.01"	CMM	MFG QA		00064	4.6874	212-J.LE 09-09-05	212-J.LE 09-09-05	A
1* (50)	F5	20 DEG. +/- 0 DEG. 15 MIN.	CMM	MFG QA		00064	20.020	212-J.LE 09-09-05	212-J.LE 09-09-05	A
1* (60)	F5	R 7.38 +/- 0.01"	CMM	MFG QA		00064	7.374	212-J.LE 09-09-05	212-J.LE 09-09-05	A
1* (80)	G4	1.25 +/- 0.01"	CALIPER	MFG QA		P-1237	1.252-1.255	688-S.A 09-08-05	212-J.LE 09-09-05	A
1* (90)	G3	0.63 +/- 0.01" (2X)	INDICATOR	MFG QA		P-3749	.630	274-M. 12-15-05	591-C.P 12-15-05	A
1* (100)	G3	DIA. 0.25 +/- 0.01" X 1.50 +/- 0.01" (2X)	PIN GAGE	MFG QA		J-667	GOOD	274-M. 12-15-05	591-C.P 12-15-05	A
1* (110)	F3	1.34 +/- 0.01" (2X)	CALIPER	MFG QA		P-1237	1.334	688-S.A 09-08-05	212-J.LE 09-09-05	A
1* (120)	G4	1/8" NPT	THREAD PLUG GA	MFG QA		A-220	GOOD	274-M. 12-15-05	591-C.P 12-15-05	A
1* (130)	F3	DIA. 0.125 +/- 0.01" THRU TO 0.25 DIA (2X)	CALIPER	MFG QA		P-1237	.126-.130	688-S.A 09-08-05	212-J.LE 09-09-05	A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-104-1B - Item: 351

Workorder: 65678/7-0 Sub:117 Op:30

**Part: SE122-104-1B - NCSX VVSA PORT 12B COVER ASSEMBLY - SE120-004-4 / SE122-104-1B NCSX VVSA PORT 12B COVER ASSEMBLY**

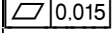
Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		VISUAL	ACCEPT	854-R.U			A
(20)		VWI - INTERIOR FILLET 12BC						05-03-06			
*				QA		VISUAL	ACCEPT	854-R.U			A
(30)		VWI - EXTERIOR FILLET WELDS 12BC						05-03-06			

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-104-1B - Item: 352

Workorder: 65678/7-0 Sub:117 Op:50

Part: SE122-104-1B - NCSX VVSA PORT 12B COVER ASSEMBLY - SE120-004-4 / SE122-104-1B NCSX VVSA PORT 12B COVER ASSEMBLY

Drawing ID: SE122-172 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	C7	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-1152	4-8	503-B.H 12-30-05			A
Drawing ID: SE122-104 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		Magnetic Permeability 1.02 MAX	50	QA			LESS THAN 1.2 SEE N C17664	503-B.H 12-30-05			A
* (30)		 0.015 Datum -A- Flatness	INDICATOR	QA		J-622	.008	503-B.H 12-30-05			A



**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-112-1 - Item: 353

Workorder: 65678/7-0 Sub:232 Op:10

Part: SE122-112-1 - 12" OD CF COVER - SE120-004-12 12" OD CF COVER

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		VISUAL	ACCEPT	854-R.U			A
(20)		VWI - INTERIOR FILLET 10BC						05-03-06			
*				QA		VISUAL	ACCEPT	854-R.U			A
(30)		VWI - EXTERIOR FILLET WELDS 10BC						05-03-06			



**METALLURGICAL TEST REPORT**

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Certificate: 266390 01    Mail To:    HOLLIDAY ALLOYS    Ship To:    HOLLIDAY ALLOYS    Date: 5/05/2005    Page: 1  
Customer: 2830 004    9818 EAST HARDY ROAD    HOUSTON, TX 77093    9818 EAST HARDY ROAD    HOUSTON, TX 77093    Steel: 316/316L  
Finish: 2BAP

Your Order: JO7342    NAS Order: AN 0316945 01    Corrosion: ASTM A262/02a; 180Bend-Cx

**PRODUCT DESCRIPTION:**

STAINLESS STEEL PLATE, HOT ROLLED, ANNEALED AND PICKLED.  
ASTM A240/04a, 480/04a, 666/03, A368SA240/04, SA480/04, SA666/04  
(X GRAIN), Q08766D-A X MG PERM, AMS5507E/AMS5524J X MRK  
UNS S31600 / UNS S31603

**REMARKS:**

Material free from mercury contamination. No weld repairs.  
EN 10204 3.1.B Q08763F Cond A  
\* Melted & Manufactured in the USA  
Minimum anneal temperature 1950 F  
EN 10204 3.1.B/DIN 50049

Product ID #	Coil #	Thickness	Width	Weight	-----Length-----	Mark	Pieces
0565X9 BB	* 0565X9 BB	1.5000	60.0000	6,260 PLATE	240.00	1	1

**CHEMICAL ANALYSIS**

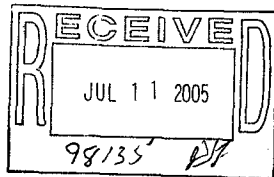
Heat	C	CO	CR	CU	MB	MO	N	NI	P	S	SI
65X9	.018	.211	16.770	.458	1.623	2.114	.048	10.233	.032	.002	.290

**MECHANICAL PROPERTIES**

Product ID #	Coil #	1 d o i c r	UTS KSI	.2% YS RSI	ELONG %-2"	Hard RB	TRACER# 118248
0565X9 BB	0565X9		77.15	40.05	66.00	81.00	

ROLLED ALLOYS QUALITY ASSURANCE  
APPROVED *M. Hess*  
DATE 5/18/05

QC ENGINEER *E. Hess* 5/05/2005  
ERIC HESS



*Lewis 19-24*

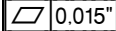


JUL 11 2005

Quality Assurance Documentation for Part ID: SE122-149-1A - Item: 355

Workorder: 65678/7-0 Sub:128 Op:20

Part: SE122-149-1A - PORT 4A COVER PLATE ASSEMBLY - SE120-004-7 / SE122-149-1A PORT 4A COVER PLATE ASSEMBLY

Drawing ID: SE122-149 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	D5	 0.015" DATUM -A- FLATNESS	INDICATOR	MFG QA		P-4760	.007	315-C.L 11-30-05	576-J.G 11-30-05	A
1* (50)	E8	40.00 +/- 0.01"		MFG QA		EDGE FINDER MACHINE 570	40.0002	315-C.L 11-30-05	576-J.G 11-30-05	A
1* (60)	C7	29.00 +/- 0.01"		MFG QA		EDGE FINDER MACHINE 570	29.002	315-C.L 11-30-05	576-J.G 11-30-05	A
1* (80)	F5	1.25 +/- 0.01"	DEPTH MICROMET	MFG QA		P-4481	1.245-1.255	315-C.L 11-30-05	576-J.G 11-30-05	A

**INSPECTION DATA CHECKLIST**

Quality Assurance Documentation for Part ID: SE122-149-1A - Item: 356

Workorder: 65678/7-0 Sub:128 Op:30

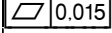
Part: SE122-149-1A - PORT 4A COVER PLATE ASSEMBLY - SE120-004-7 / SE122-149-1A PORT 4A COVER PLATE ASSEMBLY

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		VISUAL	ACCEPT	854-R.U			A
(20)		VWI - INTERIOR FILLET 4AC						05-03-06			
*				QA		VISUAL	ACCEPT	854-R.U			A
(30)		VWI - EXTERIOR FILLET WELDS 4AC						05-03-06			

Quality Assurance Documentation for Part ID: SE122-149-1A - Item: 357

Workorder: 65678/7-0 Sub:128 Op:50

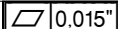
**Part: SE122-149-1A - PORT 4A COVER PLATE ASSEMBLY - SE120-004-7 / SE122-149-1A PORT 4A COVER PLATE ASSEMBLY**

Drawing ID: SE122-172 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	C7	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	12	854-R.U 05-03-06			A
Drawing ID: SE122-104 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		Magnetic Permeability 1.02 MAX	MASTER GAGE	QA		J-1165	<1.02	854-R.U 05-03-06			A
* (30)		 0.015 Datum -A- Flatness	INDICATOR HEIGHT GAGE	QA		J-1166 J-11	.012	854-R.U 05-03-06			A

Quality Assurance Documentation for Part ID: SE122-149-1B - Item: 359

Workorder: 65678/7-0 Sub:147 Op:20

Part: SE122-149-1B - PORT 4B COVER PLATE ASSEMBLY -

Drawing ID: SE122-149 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	D5	 0.015" DATUM -A- FLATNESS	OD MICROMETER	MFG QA		P-4958	WITHIN .010	274-M. 12-19-05	591-C.P 12-19-05	A
1* (50)	E8	40.00 +/- 0.01"	CALIPER	MFG QA		J-1297	39.998	274-M. 12-19-05	591-C.P 12-19-05	A
1* (60)	C7	29.00 +/- 0.01"	CALIPER	MFG QA		J-1297	29.003	274-M. 12-19-05	591-C.P 12-19-05	A
1* (80)	F5	1.25 +/- 0.01"	OD MICROMETER	MFG QA		P-4958	1.243/1.250	274-M. 12-19-05	591-C.P 12-19-05	A

Quality Assurance Documentation for Part ID: SE122-149-1B - Item: 360

Workorder: 65678/7-0 Sub:147 Op:30

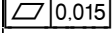
Part: SE122-149-1B - PORT 4B COVER PLATE ASSEMBLY -

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				QA		VISUAL	ACCEPT	854-R.U			A
(20)		VWI - INTERIOR FILLET 4BC						05-03-06			
*				QA		VISUAL	ACCEPT	854-R.U			A
(30)		VWI - EXTERIOR FILLET WELDS 4BC						05-03-06			

Quality Assurance Documentation for Part ID: SE122-149-1B - Item: 361

Workorder: 65678/7-0 Sub:147 Op:50

Part: SE122-149-1B - PORT 4B COVER PLATE ASSEMBLY -

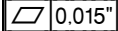




Drawing ID: SE122-172 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	C7	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-825	10	854-R.U 12-21-05			A
Drawing ID: SE122-104 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		Magnetic Permeability 1.02 MAX	MASTER GAGE	QA		J-1165	>1.03 AND < 1.04	854-R.U 12-21-05			A
* (30)		 0.015 Datum -A- Flatness	HEIGHT GAGE ELEC. PROBE	QA		J-55 J-1057	.012	854-R.U 12-21-05			A



Quality Assurance Documentation for Part ID: SE122-172-1 - Item: 363

Workorder: 65678/7-0 Sub:84 Op:20

Part: SE122-172-1 - PORT NB COVER - SE120-004-10 / SE122-172-1 PORT NB COVER

Drawing ID: SE122-172 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	G8	 0.015" DATUM -D- FLATNESS	INDICATOR	MFG QA		P-237	.0025	688-S.A 08-27-05	591-C.P 12-09-05	A
1* (20)	G3	 $\varnothing$ 0.015"  D B A 0.50-20 UNF X 0.75 MIN DEPTH (34X)	THREAD PLUG GA	MFG QA		A-27	ACC. PER GAGE	688-S.A 08-29-05	591-C.P 12-09-05	A
1* (30)	G2	 $\varnothing$ 0.012"  D B A #8-32 UNC-2B X 0.25" MIN THREAD DEP (8X)	THREAD PLUG GA	MFG QA		A-75	ACC. PER GAGE	688-S.A 08-29-05	591-C.P 12-09-05	A



104 ENTERPRISE DRIVE  
 P.O. BOX 419  
 READING, MICHIGAN 49274  
 (517) 283-3811  
 FAX (517) 283-3898

**CERTIFICATE OF CONFORMANCE**

DATE: December 29, 2005  
 TO: Major Tool & Machine, Inc.  
 ATTN: Dave Wilkinson

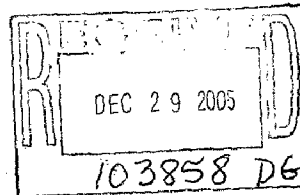
Part Number: SE122-172-1  
 Purchase Order #: P05-00549  
 Part Name: Part NB Cover  
 Work Order #: RL 10101  
 Quantity: One (1)

This is to certify that the above order was processed in accordance with accepted industry standards; polished bottom and sides of groove to a 16 micro-inch surface finish.

Signature: *[Handwritten Signature]* Title: President Date: 12-30-05



DEC 30 2005



line 3

Quality Assurance Documentation for Part ID: SE122-172-1 - Item: 365

Workorder: 65678/7-0 Sub:84 Op:50

Part: SE122-172-1 - PORT NB COVER - SE120-004-10 / SE122-172-1 PORT NB COVER

Drawing ID: SE122-172 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	C7	0.941 +/- 0.010"	CALIPER	QA		P-2056	.940	503-B.H 12-30-05		A
1* (20)	C7	R.005 MIN. (2X)	RADIUS GAGE	QA		R-25	.005	503-B.H 12-30-05		A
1* (30)	C7	0.25 +/- 0.010"	CALIPER	QA		P-2056	.250/.256	503-B.H 12-30-05		A
1* (40)	C7	.153 + 0 / - 0.003"	DEPTH MICROMET	QA		P-5018	.1525	503-B.H 12-30-05		A
1* (50)	C7	R 0.030" (2X)	RADIUS GAGE	QA		R-25	.030	503-B.H 12-30-05		A
1* (60)	C7	16 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-1152	13	503-B.H 12-30-05		A
1* (70)	C7	63 MICRO-INCH RA SURFACE FINISH	PROFILOMETER	QA		J-1152	20	503-B.H 12-30-05		A

Quality Assurance Documentation for Part ID: SE122-173-1 - Item: 366

Workorder: 65678/7-0 Sub:98 Op:20

Part: SE122-173-1 - PORT NB SEAL RETAINER - SE120-004-9 / SE122-173-1 PORT NB SEAL RETAINER (INCONEL 625 MATERIAL)

Drawing ID: SE122-173 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)	C6	0.149 + 0 / - 0.008"	OD MICROMETER	MFG QA		P-5034	.1445-.1485	601-K.R 10-28-05	591-C.P 10-31-05	A
1* (20)	D6	0.541 +/- 0.010" (CONSTANT)	CALIPER	MFG QA		P-5041	.539-.546	601-K.R 10-28-05	591-C.P 10-31-05	A
1* (30)		75.0 deg. +/- 0 deg. 15' (2X)	PROTRACTOR	MFG QA		P-5043	75.	601-K.R 10-28-05	591-C.P 10-31-05	A
1* (40)	C7	63 MICRO-INCH SURFACE FINISH	PROFILOMETER	MFG QA		J-1181	14.6 - 16.2	445-J.PU 10-31-05	591-C.P 10-31-05	A
1* (50)	C6	63 MICRO-INCH SURFACE FINISH	PROFILOMETER	MFG QA		J-1181	14.6 - 16.2	445-J.PU 10-31-05	591-C.P 10-31-05	A
1* (60)	G5	$\varnothing$ .012 D A B DIA. 0.187 +/- 0.005" THRU (8X) DIA .343 +/- .005" .094 DP OTHER SIDE	PIN GAGE  PIN GAGE	MFG  QA		J-667  J-668	ACCEPT / ACCEPT / W /IN.010	601-K.R  10-28-05	212-J.LE  10-28-05	A

REV. 004

NOTE: THE RECORDING OF FALSE FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.  
EASTERN U.S.

FORM E D

**HUNTINGTON ALLOYS**  
A Special Metals Company  
HUNTINGTON, WEST VIRGINIA 25720



**CERTIFIED MATERIAL TEST REPORT** No. 97210

ROLLED ALLOYS INC  
125 W STERNS RD  
TEMPERANCE MI 48182-0310

HA ORDER NO./ITEM: 100023551 2  
DATE: 02/10/05  
PAGE OF: 1 2

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. I HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

*[Signature]*  
QUALITY CERTIFICATION REPRESENTATIVE

ROLLED ALLOYS INC  
125 W STERNS RD  
TEMPERANCE MI 48182-0310

QUANTITY: 3204 LBS  
INSPECTED BY: HA/SMC  
CHARGE ORDER NO.: T50706  
MARK ORDER NO.: 138032599001-01

DESCRIPTION OF MATERIAL SHIPPED: INCONEL ALLOY 625 HR PLATE DESCALED ANN  
.1875 IN 36.0000 IN 240.000 IN SHR

\*\*\*\*\*THIS REPORT RELATES ONLY TO THE ITEM(S) TESTED AND MAY NOT BE REPRODUCED EXCEPT IN FULL.\*\*\*\*\*

SPECIFICATIONS: SAE AMS 5599F \ ASTM B 443-00 GRADE 1 \ UNS: N06625  
ASME SB-443 2004 EDITION NO ADDENDA GRADE 1 \  
GE S 400E \ GE S-1000E \  
ROLLS-ROYCE RR9000: SABRE ISSUE 006 PER ROLLS-ROYCE APPROVAL NO. 82960 DTD 30 OCT 1996. \  
QUALITY SYSTEM CERTIFICATION: ISO 9001:2000 (ABS-QE CERT. 30125);  
EN 10 204/DIN 50049 (CERT.3.1.B)

CHEMICAL ANALYSIS (WT. %)

HEAT#	C	MN	FE	S	SI	NI	CR	AL	TI
	CO	MO	NB	TA	P	NB+TA			
NX4533AG	0.02	0.10	3.67	<0.001	0.15	61.43	21.54	0.14	0.23
	0.08	9.17	3.46	<0.01	0.007	3.46			

MELT METHOD: AIR + ESR

MECHANICAL PROPERTIES

HEAT/LOT	QUANTITY	HARDNESS	GRAIN SIZE	YIELD STRENGTH	TENSILE STRENGTH	ELONGATION	R/A	DEG
				2XPSI	PSI	2"	X	F
NX4533AG 13	6 PCS							
ROOM TEMP-HRB	-AS SHIPPED	98.5		0840	1351	41.6		
P75260 (2)	P75270 (2)	P75280 (2)						
GRAIN SIZE-AS SHIPPED	AGS ASTM NO.		7.5					
NORMAL	- TRAN							

FIBER# 114185

JUL 22 2005

RECEIVED

JUL 21 2005

98503

MTM 816

YIELD STRENGTH WAS DETERMINED USING A STRESS STRAIN CURVE

COUNTRY OF ORIGIN AND MELT: UNITED STATES OF AMERICA

VISUAL AND DIMENSIONAL EXAMINATION SATISFACTORY.

*Line 1.3*

MC110068.TIF

REV. 004

NOTE: THE RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHABLE AS A FELONY UNDER FEDERAL STATUTE.

### HUNTINGTON ALLOYS A Special Metals Company

HUNTINGTON, WEST VIRGINIA 25720



EASTERN U.S.

FORM D

## CERTIFIED MATERIAL TEST REPORT No. 92210

THIS IS TO CERTIFY THAT ALL REQUIRED SAMPLING INSPECTIONS AND TESTS HAVE BEEN PERFORMED IN ACCORDANCE WITH THE ORDER AND SPECIFICATION REQUIREMENTS. THE TEST REPORT REPRESENTS THE ACTUAL ATTRIBUTES OF THE MATERIAL FURNISHED AND THE VALUES SHOWN ARE CORRECT AND TRUE. THE MATERIAL DESCRIBED BY THIS CERTIFICATE IS IN FULL COMPLIANCE WITH ALL ORDER AND INSPECTION REQUIREMENTS. WE HEREBY CERTIFY THAT THE BELOW FIGURES ARE IN ACCORDANCE WITH THE SPECIFIED CONTRACT REQUIREMENTS.

ROLLED ALLOYS INC  
125 W STERNS RD  
TEMPERANCE MI 48182-0310

HA ORDER NO/ITEM: 100023551 2 DATE: 02/10/05 PAGE OF: 2 2

QUANTITY: 3204 LBS INSPECTED BY: HA/SMC

ROLLED ALLOYS INC  
125 W STERNS RD  
TEMPERANCE MI 48182-0310

CHARGE ORDER NO.: T50706 MARK ORDER NO.: 138032599001-01

DESCRIPTION OF MATERIAL SHIPPED: INCONEL ALLOY 625 HR PLATE DESCALED ANN

.1875 IN 36.0000 IN 240.000 IN SHR

*W. Bolen*  
QUALITY CERTIFICATION REPRESENTATIVE

MATERIAL, WHEN SHIPPED, IS FREE FROM CONTAMINATION BY MERCURY, RADIUM, ALPHA SOURCE, & LOW MELTING ELEMENTS.

"CHEMICAL ANALYSIS AS REQUIRED FOR CARBON, SULFUR, NITROGEN OR OXYGEN IS PERFORMED BY COMBUSTION TECHNIQUES. ALL OTHER REPORTED ELEMENTS ARE ANALYZED BY X-RAY AND/OR EMISSION SPECTROSCOPY."

AUTHORIZED QUALITY CERTIFICATION REPRESENTATIVES :  
W. E. BOLEN, P. D. CUSTER, M. A. MORRISON, D. L. SMITH, P. P. WAUGH

CERTIFIED TESTING LABORATORY DATA SOURCE IAI  
AEBG VENDOR NO. 47150  
M. R. B. CASE RECORD NO.: NONE  
AUTHORIZED VENDOR SIGNATURE: *W. Bolen*  
DATE: 02/10/05



Certification of Conformance: We certify that the above material meets all requirements of the purchase order and material specifications.  
TEMPERANCE, MI 48182

Customer: MAJOR TOOL & MACHINE Date: 07/20/2005  
P.O. # P05-03069 TN Shpr-W40459  
.149" GROUND SHEET 625 26- 7/16 X 32-33/64 3 PC  
Tracer No. [114185] Heat No. [HX4533A6]

ROLLED ALLOYS QUALITY ASSURANCE  
APPROVED: *Dan Reed*  
DATE: 2-11-05

MC110068.TIF2

Quality Assurance Documentation for Part ID: SE122-174-2 - Item: 368

**Workorder: 65678/7-0 Sub:290 Op:10**

Part: SE122-174-2 - -

Drawing ID: SE122-174 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
1* (10)		Dia. 0.189 +/-0.005	CALIPER	QA		J-707	.190"	840-G.M 12-30-05		

A

Employees: 085-D.Gregory / 093-M.Stewart / 131-W.Allen / 182-J.Lewis / 184-T.Hicks / 197-T.Fischer / 212-J.Lehr / 219-T.Laird / 274-M.Moorman / 280-K.St. Henry / 295-C.Weaver / 315-C.Land / 358-D.Mcnew / 445-J.Purkhiser / 503-B.Houk / 506-R.Liston / 522-R.Durham / 535-S.Lentz / 576-J.Geisinger / 581-D.Edwards / 591-C.Pritchett / 601-K.Rowe / 667-J.Bannister / 683-K.Mcnew / 688-S.Atchison / 709-K.Appleby / 712-W.Miller / 733-J.Stone li / 771-B.Schultz / 791-D.Weidner / 837-J.Deverter / 840-G.Masood / 854-R.Upchurch / 933-D.Leapley

**INCO ALLOYS  
INTERNATIONAL**  
Welding Products Company  
1401 Burris Road  
Newton, NC 28658  
704-465-0352

# Certified Material Test Report

No: 74817



Date : 15-Dec-98

Purchase Order No: P9806221

Mark Order No:

Product Number: N625-035-30SS02

Description of Material: INCONEL Filler Metal 625 .035 x 30SpI

### QUALITY SYSTEMS

Certificate 3.1.B as in EN 10 204

Material Manufactured in accordance with a quality management system certified to ISO 9002 by ABS-QE (Certificate No. 30125)

### Chemical Analysis (Wt. %)

Heat/Lot: VX3417AK		Unit
Ni	64.66	%
Cr	21.67	%
Mo	8.94	%
NbTa	3.55	%
Fe	.58	%
Others	< .50	%
Al	.27	%
Ti	.21	%
Si	.05	%
Co	.04	%
C	.01	%
Mn	< .01	%
Cu	.01	%
P	.003	%
S	.001	%
Nb	.00	%

Order Wt.

UNS #: N06625

Specifications:

ANSI AWS A 5.14M-97 Class ERNiCrMo-3  
ASME SFA 5.14 1995 Edition 96 Addenda Class ERNiCrMo-3

DEC 18  
28042

Visual and dimensional examination:  
Satisfactory  
Material, when shipped is free from contamination by mercury, radium, alpha source, and low melting point elements.

This is to certify that all required samplings, inspections and tests have been performed in accordance with the specification requirements. The test report represents the actual attributes of the material furnished and the values shown are correct and true. The material described by this certificate is in full compliance with all order and inspection requirements. We hereby certify that the above data are in accordance with the specification requirements.

*BJ Taylor*

Authorized quality assurance representative: BJ Taylor

Quality Certification Representative

--The trademark and trade name 'INCO' or 'Inco' is owned by Inco Limited and is used by permission.  
The Inco Alloys International group of Companies and Inco Limited are unaffiliated and independent Companies--



ARCOS INDUSTRIES, LLC  
 ONE ARCOS DRIVE  
 Mt. Carmel, PA 17851



DATE 06/16/05

**ACTUAL  
 CERTIFICATION OF TESTS**

GRADE 625  
 LOT/ALLOY NO. XB8273  
 HEAT NO. 112155  
 SIZE .035"  
 CLASS ERNiCrMo-3  
 SPECIFICATION AWS A5.14/A5.14M-97  
ASME SFA 5.14, Section II, Part C

**CHEMICAL ANALYSIS: ACTUAL WIRE**

C	Mn	Si	S	P	Cr	Ni	Mo	Ta	Cb+Ta
0.03	0.05	0.06	0.001	0.01	22.3	64.2	9.1	0.01	3.56
	Ti	Al	Co	Cu	Fe		Total Others		
	0.21	0.14	0.05	0.00	0.3		<.50		

OK

Ferrite: N/A

UNS NO. N06625

Lot Classification - S1

Intensity of Testing - Schedule F

MATERIAL MADE IN THE USA.

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

06.20.05  
 97307 wx  
 in 1



GIB GRATTI, QUALITY ASSURANCE MANAGER  
 QUALITY ASSURANCE DEPARTMENT

ARCOS INDUSTRIES, LLC  
 ONE ARCOS DRIVE  
 Mt. Carmel, PA 17851



DATE 01/08/04

**CERTIFICATION OF TESTS**

SOLD TO: MAJOR TOOL & MACHINE, INC.  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, IN 46218

SHIP TO: SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED						
79533	P03-05170	N/A	1/8/04						
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY					
1	3/32 X 36"	ARCOS 625	CB7996	20#					
<b>SPECIFICATION:</b> AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION, AND ALL PARAS AND ADDENDA THRU 2003.									
<b>CHEMICAL ANALYSIS: WIRE</b>									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.04	0.03	0.08	0.004	0.01	21.9	64.9	8.7		3.64
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.21	0.16	0.02	0.12	0.2		<.50		

ADDITIONAL TEST RESULTS		TENSILE As Welded		Heat Treated	
Ferrite - NB2433.1-1:	_____	Yield	_____	_____	_____
Magna Gage:	_____	Tensile	_____	_____	_____
X-Ray:	_____	Elongation	_____	_____	_____
Bends:	_____	Red. of Area	_____	_____	_____
Hardness:	_____				

**OTHER INFORMATION:**

LOT CLASSIFICATION - S1  
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

1-23-04

JAN 14 2004

82255  
 line 2

*Eileen Zerby*  
 Q.A. CLERK  
 QUALITY ASSURANCE DEPARTMENT

**ARCOS INDUSTRIES, LLC**  
**ONE ARCOS DRIVE**  
**Mt. Carmel, PA 17851**

MC094945



DATE 11/26/03

**CERTIFICATION OF TESTS**

SOLD TO: MAJOR TOOL & MACHINE, INC.  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, IN 46218

SHIP TO: SAME

ARCOS S.O.		CUSTOMER ORDER NO.		CONSIGNEE ORDER NO.		DATE SHIPPED	
79388		P03-04749		N/A		11/26/03	
ITEM	SIZE	GRADE		LOT NO./ALLOY NO.		QUANTITY	
2	3/32 X 36"	ALLOY 625		CV8061		30#	

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3  
 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION,  
 AND ALL PARAS AND ADDENDA THRU 2002.

CHEMICAL ANALYSIS: WIRE

C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.03	0.02	0.13	0.004	0.00	21.5	64.6	9.0		3.75
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.29	0.24	0.02	0.11	0.2		<.50		

**ADDITIONAL TEST RESULTS**

Ferrite - NB2433.1-1: \_\_\_\_\_  
 Magna Gage: \_\_\_\_\_  
 X-Ray: \_\_\_\_\_  
 Bends: \_\_\_\_\_  
 Hardness: \_\_\_\_\_

TENSILE	As Welded	Heat Treated
Yield	_____	_____
Tensile	_____	_____
Elongation	_____	_____
Red. of Area	_____	_____

OTHER INFORMATION:  
 LOT CLASSIFICATION - S1  
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

**ARCOS**



12/5/03

*Eileen Zerby*  
 Q.A. CLERK

QUALITY ASSURANCE DEPARTMENT

81506  
 Line 2 R.I.

BRANFORD WIRE & MFG  
 P O BOX 677  
 MOUNTAIN HOME, NC  
 PHONE 828-692-3791  
 FAX# 828-697-9818

NO 188 P 3

CERTIFICATE OF COMPLIANCE / TEST REPORT

4/06/05

BUYER HAYNES INTERNATIONAL  
 P O BOX 9013  
 1020 WEST PARK AVE  
 WOKOMO, IN  
 46904-9013

CUSTOMER P O NBR 1429  
 ORD/LN NBR: 028988/02  
 CUSTOMER PART NBR 326504200240000

27133

PROD DESC WELDING / METALLIZING WIRE  
 SIZE 093X36"

TYPE INC625  
 QTY LBS 772

SPECIFICATION  
 AWS A5.14-97/ERNICRMO-3

CHEMICAL ANALYSIS

HEAT NBR	C	MN	P	S	SI	NI	CR	MO	CU
K48859	10 019	0 030	< 005	0006	< 0 051	0 0120	22.10	3.6	0 020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
10 020	0 019	0 03	43	0 220	10 130	0 1	91			

MECHANICAL PROPERTIES


TENSILE (LBS/SQ INCH)	YIELD (LBS/SQ INCH)	ELONGATION (%)	HARDNESS	BREAKING (%)
	HARD			

WRAP TEST	UNIFORM TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

OTHER TEST(S) AND/OR REQUIREMENTS

(MATERIAL IS FREE OF MERCURY CONTAMINATION)  
 THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P 8

COUNTRY OF ORIGIN	REPRESENTATIVE	DATE SIGNED
GERMANY	<i>[Signature]</i>	4/06/05

4/8/05  
 95358 Line 2 WA 

IF INITIALED AND DATED HERE THIS IS AN AMENDED CERTIFICATION

**ARCOS ALLOYS**  
 A Division of Hoskins Mfg.  
 Mt. Carmel, PA 17851



DATE 01/10/00

**CERTIFICATION OF TESTS**

SOLD TO: MAJOR TOOL & MACHINE  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, IN 46216

SHIP TO: SAME

ARCOS S.O.		CUSTOMER ORDER NO.		CONSIGNEE ORDER NO.		DATE SHIPPED			
69824		P0000110		N/A		1/10/00			
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.		QUANTITY				
1	3/32 X 36"	ARCOS 625	CT7519		20#				
<b>SPECIFICATION:</b> AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3 ASME SFA 5.14 ASME SECTION II, PART C, 1998 EDITION, AND ALL PARAS AND ADDENDA THRU 1999.									
<b>CHEMICAL ANALYSIS:</b> WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8.8		3.68
Ta	Ti	Al	Co	Cu	Fa	V	Total Others		
	0.35	0.28	0.04	0.05	0.4		<.50		

ADDITIONAL TEST RESULTS	TENSILE	
	As Welded	Heat Treated
Ferrite - NB2433.1-1: _____	Yield _____	_____
Magna Gage: _____	Tensile _____	_____
X-Ray: _____	Elongation _____	_____
Bends: _____	Red.of Area _____	_____
Hardness: _____		

**OTHER INFORMATION:**

LOT CLASSIFICATION - S1  
 INTENSITY OF TESTING - Schedule F

JAN 14 2000  
 39771  
 1-18-00  
 BF

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos Alloys or its subcontractors are in compliance with the applicable material/customer specification.

**ARCOS**

*Eileen Zerby* Q.A. CLERK  
 QUALITY ASSURANCE DEPARTMENT

BRANFORD WIRE & MFG.  
 P.O. BOX 677  
 MOUNTAIN HOME, NC  
 PHONE: 828-692-5791  
 FAX#: 828-697-9818

CERTIFICATE OF COMPLIANCE / TEST REPORT

3/21/05

BUYER: HAYNES INTERNATIONAL  
 P.O. BOX 9013  
 1020 WEST PARK AVE.  
 KOKOMO, IN  
 46904-9013

CUSTOMER P.O. NBR: 1423  
 ORD/LN NBR: 025982/02  
 CUSTOMER PART NBR: 326506200240000

27038

PROD. DESC: WELDING / METALLIZING WIRE  
 SIZE: .093X36"

TYPE: INC625  
 QTY LBS: 550

SPECIFICATION  
 AWSA5.14-97/ERNICRMO-3

CHEMICAL ANALYSIS

HEAT NBR.	C	MN	P	S	SI	NI	CR	MO	CU
K48859	0.019	0.030	<.005	0.0006	<.05	165.00	20.82	108.36	0.020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
0.020	0.019	0.43	0.220		10.130	01.91				

MECHANICAL PROPERTIES

TENSILE LBS/SQ. INCH	YIELD LBS/SQ INCH	ELONGATION %	HARDNESS	BREAK %	ROA %
1/4HRD					

WRAP TEST	UNIFORM. TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

MAY 24 2005  
 96405 Line 3 BJ

OTHER TEST(S) AND/OR REQUIREMENTS:

(MATERIAL IS FREE OF MERCURY CONTAMINATION)  
 THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P.O.

COUNTRY OF ORIGIN  
 GERMANY

Q. REPRESENTATIVE  
*Dayle Crang*

*S. Miller*

DATE SIGNED  
 3/21/05



IF INITIALED AND DATED HERE

**ARCOS INDUSTRIES, LLC**  
**ONE ARCOS DRIVE**  
**Mt. Carmel, PA 17851**

mc094944.pdf



DATE 11/26/03

## CERTIFICATION OF TESTS

SOLD TO: MAJOR TOOL & MACHINE, INC.  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, IN 46218

SHIP TO: SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79388	P03-04749	N/A	11/26/03
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.
1	1/16 X 36"	ARCOS 625	AB8051
QUANTITY			
30#			

**SPECIFICATION:** AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3  
 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION.  
 AND ALL PARAS AND ADDENDA THRU 2002.

CHEMICAL ANALYSIS: WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.02	0.01	0.06	0.001	0.01	22.2	64.3	9.1		3.56
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.22	0.12	0.03	0.01	0.4		<.50		

**ADDITIONAL TEST RESULTS**

Ferrite - NB2433.1-1: \_\_\_\_\_

Magna Gage: \_\_\_\_\_

X-Ray: \_\_\_\_\_

Bends: \_\_\_\_\_

Hardness: \_\_\_\_\_

TENSILE	As Welded	Heat Treated
Yield	_____	_____
Tensile	_____	_____
Elongation	_____	_____
Red. of Area	_____	_____

**OTHER INFORMATION:**

LOT CLASSIFICATION - S1  
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

**ARCOS**

*Eileen Zerby* Q.A. CLERK  
 QUALITY ASSURANCE DEPARTMENT

81505  
 Line 1  
 R. 7

12/5/03

ARCOS INDUSTRIES, LLC  
 ONE ARCOS DRIVE  
 Mt. Carmel, PA 17851

mc095279



DATE 12/19/03

## CERTIFICATION OF TESTS

SOLD TO:  
 MAJOR TOOL & MACHINE, INC.  
 1458 EAST 19TH STREET  
 INDIANAPOLIS, IN 46218

SHIP TO:  
 MAJOR TOOL & MACHINE  
 1452 EAST 19th Street  
 Indianapolis, IN 46218

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79533	P03-05170	N/A	12/19/03
ITEM	SIZE	GRADE	LOT NO./ALLOY NO.
1	1/16 X 36"	ARCOS 625	AV8128
QUANTITY			
30#			

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3  
 ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION.  
 AND ALL PARAS AND ADDENDA THRU 2003.

CHEMICAL ANALYSIS: WIRE									
C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.03	0.05	0.08	0.004	0.00	21.8	64.6	9.1		3.77
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.24	0.26	0.01	0.02	0.1		<.50		

**ADDITIONAL TEST RESULTS**

Ferrite - NB2433.1-1: \_\_\_\_\_  
 Magna Gage: \_\_\_\_\_  
 X-Ray: \_\_\_\_\_  
 Bends: \_\_\_\_\_  
 Hardness: \_\_\_\_\_

<b>TENSILE</b>	As Welded	Heat Treated
Yield	_____	_____
Tensile	_____	_____
Elongation	_____	_____
Red. of Area	_____	_____

**OTHER INFORMATION:**

LOT CLASSIFICATION - S1  
 INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

**ARCOS**

12/23/03

81947  
 line 1

Q.A. MANAGER  
 QUALITY ASSURANCE DEPARTMENT



JUL 29 2005 10:12AM BRIGHTON TRU EDGE 513 771 2404 No.4876 P. 1/3

BRIGHTON TRU-EDGE HEADS  
 DIV OF ENERFAB  
 11861 MOSTELLER RD \* CINCINNATI OH 45241 \* (513)-771-2300  
 MTR COVER LETTER

MAJOR TOOL AND MACHINE  
 1458 E 19TH ST  
 INDIANAPOLIS IN 46218

ATTN : DOUG MCCORKLE  
 REFERENCE : CUSTOMER P/O P05-01008  
 BRIGHTON S/O 256223

TO WHOM IT MAY CONCERN:

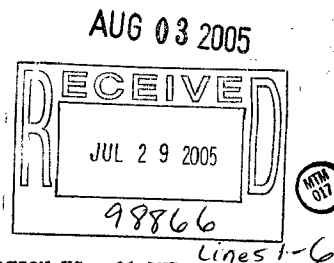
ATTACHED ARE COPIES OF MILL TEST REPORTS FOR THE FOLLOWING MATERIALS PROVIDED ON YOUR REFERENCED PURCHASE ORDER.

FORM ONLY

6-SB443-625 Style:2:1 Ellip Head Diam:18" OD 2:1 Ellip Head Diam:18" OD  
 18" OD .3750"-NOM WITH 2" OAH:6.19" SP.

Qty	Heat Number
6	2650-4-6771

CERTIFICATE OF COMPLIANCE



ALL HEADS WERE COLD FORMED AND ARE IN COMPLIANCE WITH REGULATION UG - 81 AND UG - 79 AS STATED IN SECTION VIII DIVISION I OF THE ASME BOILER AND PRESSURE VESSEL CODE. HEADS WERE FORMED WITHOUT COMING IN CONTACT WITH MERCURY OR ANY OF ITS COMPOUNDS.

IF YOU HAVE ANY FURTHER QUESTIONS CONCERNING MILL TEST REPORTS ONLY, PLEASE CONTACT ME IN CINCINNATI, OHIO AT 1-800-543-1644.

VERY TRULY YOURS,

*Rick Seiter*

BRIGHTON TRU-EDGE HEADS  
 DIV. OF ENERFAB

No. 4876 P. 2/3

BRIGHTON TRU EDGE 513 771 2404

Jul. 29. 2005 10:13AM

(4.846)  
4.8.5488

6.19

18-20. 4/2nd 30 inside

NO.	CIRCUMFERENCE	O.A.H.	SF THK.	ICR THK.	ICR	SF			TEMP	OUT OF ROUND	LAND	BEVEL	FLANGER STAMP	REMARKS
						TOE	STRT	TOTAL						
1		6 1/8					2"				20°	S		
2	4' 8 1/2	6 7/8	9/8	9/8				1"	18" 00	1/16	30° FN	OK		
3														
4														
5														
6	4' 8 1/2	6 1/4	9/8	9/8			2"	1"	18" 00	1/16	30° FN	OK		
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														

DATE \_\_\_\_\_

RELEASED FOR SHIPMENT BY \_\_\_\_\_

INSPECTED BY \_\_\_\_\_

DATE \_\_\_\_\_

FILE COPY 2

**HAYNES**  
**International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS																				
Invoice No No. De Facture Rechnungs Nr 435724001-0	Date Entered Date De Commande Bestelldatum 03/09/05	Customer Reference Reference Client Kundenbestelldaten P05-01004	Report No. Rapport No Zeugnis Nr 20050527112	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4																
Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>			Ship To • Destinaire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>			Product Description • Description Produit • Material Beschreibung <b>0.375 x 25 x 25 .SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>														
Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellmenge 6 PC			Quantity Shipped Quantite Expediee Liefermenge 6 PC											
Heat Number Numero De Coudre Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																			
	Al	B	C	Ch+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W			
2650 4 6771	0.213		0.021	3.4	0.2638	21.67	0.0581	4.8419	0.2641	8.53	59.82	0.0072	0.003	0.137	0.3317				BUTT END *02	
	CHNB	Ta	Zr	Bi	Se	La	C-Nb	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo				
2650 4 6771	3.3944	<0.05																	BUTT END *02	

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician

5/27/2005

*Amanda Aguirre*

MTM 016 JUN 09 2005

JUN 9 2005  
96892  
*Leis 1-6*

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS AS REQUIRED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE REVISION OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR CLAIMS ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUESTING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TIF1

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

FILE COPY 2

Invoice No No. De Facture Rechnungs Nr 435724001-0	Date Entered Date De Commande Bestelldatum 03/09/05	Customer Reference Reference Client Kundenbestelldaten P05-01004	Report No. Rapport No Zeugnis Nr 20050527112	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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**HAYNES  
International**

Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestelleranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestelldenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.375 x 25 x 25 SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
---	---	---

Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestelldmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
---	---	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bel Raum Temp.					Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch					Stress Rupture Temperature • Essai A Charge De Rupture Zelstandversuch					
Ultimate Lim. Elast. A 1% Zugfestigkeit	1% Yield Lim. Elast. A 0.2% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EM % Dehnung	%RA	Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Streckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Streckgrenze	% Elong In % Allong EM % Dehnung	%RA	Test Essai Versuch	Stress Constitute Spannung	Hours Heures Stunden	% Elong In % Allong EM % Dehnung	% RA
125000 PSI		60500 PSI	54 %	(1)(A)											

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician  
5/27/2005 (1) 2742656901

*Amanda Aguirre*

MTM 016 JUN 09 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, PROVIDED BY ANY EXCEPTION OR PURCHASE ORDER REQUIREMENTS. THE RECORDING OF FALSE, INACCURATE OR FRAUDULENT STATEMENTS ON THIS DOCUMENT MAY BE PENALIZED AS A VIOLATION UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, ACCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TTF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 435724001-0	Date Entered Date De Commande Bestelldatum 03/09/05	Customer Reference Reference Client Kundenbestelldaten P05-01004	Report No. Rapport No Zeugnis Nr 20050527112	Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4
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**HAYNES**  
**International**

FILE COPY 2  
Haynes International  
1020 West Park Avenue  
PO Box 9013  
Kokomo, Indiana, 46902

Sold To • Client • Bestellaranschrift <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Ship To • Destinataire • Bestellmenge <b>MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA</b>	Product Description • Description Produit • Material Beschreibung <b>0.375 x 25 x 25 .SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100</b>
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Specification • Specification • Spezifikation ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC
---	--	---

Annealed Hardness Durete Recuit Gealtert Haerte		Agee Hardness Durete Vieilli Gealtert Haerte		Grain Size Grosueur De Grain Korngrösse				IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture				
Grain Size	Preheated Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion	Test Method			Toughness Avg	Toughness I	Toughness II	Toughness 3	Test Eval Versuch Temp	Stress Constrainte Spannung	Hours Heures	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
96 HRB	(J)(A)	5.5								MPY											

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
Certification Technician  
5/27/2005 (1) 2742656901

*Amanda Aguirre*

MM 016 JUN 09 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS ON THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, UNLESS INDICATED OTHERWISE BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS. THE REISSUING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A VIOLATION UNDER FEDERAL LAWS GOVERNING FEDERAL LAW, TITLE 18, CHAPTER 49. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REGARDING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TIF3

**CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS**

<b>Invoice No</b> No. De Facture Rechnungs Nr 435724001-0	<b>Date Entered</b> Date De Commande Bestelldatum 03/09/05	<b>Customer Reference</b> Reference Client Kundenbestelldaten P05-01004	<b>Report No.</b> Rapport No Zeugnis Nr 20050527112	<b>Pages of Pages</b> Page de Pages Anzahl der Seiten 4 Of 4
<b>Sold To • Client • Bestellaranschrift</b> MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		<b>Ship To • Destinaire • Bestelmenge</b> MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		<b>Product Description • Description Produit • Material Beschreibung</b> 0.375 x 25 x 25 .SE120-004-20A REV:1 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
<b>Specification • Specification • Spezifikation</b> ASTM-B-443 Chemistry Only, 00e1, UNS# N06625, Gr. 1; PS-489, E			<b>Quantity Ordered</b> Quantite Commandee Bestelmenge 6 PC	<b>Quantity Shipped</b> Quantite Expediee Lieferung 6 PC

**HAYNES**  
**International**

FILE COPY 2  
 Haynes International  
 1020 West Park Avenue  
 PO Box 9013  
 Kokomo, Indiana, 46902

All tests and inspections have been performed and results meet specification requirements.  
 THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.  
 Material conforms to PS-483 Revision H as applicable.  
 Mill Orders Used: 2742656901 (6 PC)  
 (A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre  
 Certification Technician 5/27/2005

*Amanda Aguirre*



JUN 09 2005

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THIS MATERIAL MEETS THE REQUIREMENTS OF THE LISTED SPECIFICATIONS, UNLESS BY ANY EXCEPTION OR PURCHASE ORDER REQUIREMENTS. THE RISK OF LOSS OF FIDELITY UNDER FEDERAL STATUTES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47. THIS DOCUMENT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC108864.TIF4

**Magnetic Permeability Test Witness**

Haynes observed Mr. Edwards of Major Tool test the orders listed below for Magnetic Permeability on April 19, 2005, using a Severn Engineering Permeability Indicator #6763, identified as gauge J-1165 in Major Tool's calibration system. The gauge was in calibration and was due for recalibration on December 27, 2005. All items tested below were <1.01 magnetic permeability.

**Heats Tested**

2650-4-6771  
2650-5-6797  
2650-5-6804

**Purchase Order Numbers**

P05-00965 – Panel 1  
P05-00966 – Panel 10  
P05-00967 – Panel 2  
P05-00994 – Panel 3  
P05-00996 – Panel 4  
P05-00997 – Panel 5  
P05-00999 – Panel 6  
P05-01001 – Panel 7  
P05-01002 – Panel 8  
P05-01003 – Panel 9  
P05-01004 – 25" dia discs



JUN 09 2005

Best Regards,

A handwritten signature in black ink, appearing to read "Marlin C. Losch III".

Marlin C. Losch III

65678



**METALLURGICAL TEST REPORT**

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Certificate: 269530 07  
Customer: 2830 004

Mail To:  
ROLLED ALLOYS  
9818 EAST HARRY ROAD  
HOUSTON, TX 77033

Ship To:  
ROLLED ALLOYS  
9818 EAST HARRY ROAD  
HOUSTON, TX 77033

Date: 6/01/2005 Page: 1

Steel: 316/316L

Finish: BAAP

Your Order: JQ7509

NAS Order: AN 0318825 01

Corrosion: ASTM A262/02a; 180Bend-OK

**PRODUCT DESCRIPTION:**

STAINLESS STEEL PLATE, HOT ROLLED, ANNEALED AND PICKLED.  
ASTMA240/04a, 480/04a, 666/03, ASMEGA240/04, SA480/04, SA666/04  
(X GRAIN), Q08766D-A X NO PERM, AM85507E/AM85524J X MRK  
UNS S31600 / UNS S31603

**REMARKS:**

Material free from mercury contamination. No weld repairs.  
EN 10204 3.1.B Q08763F Cond A  
\* Melted & Manufactured in the USA  
Minimum anneal temperature 1950 F  
EN 10204 3.1.B/DIN 50049

Product ID #	Coil #	Thickness	Width	Weight	Length	Mark	Pieces
0565H7 CB	* 0565H7 CB	1.5000	48.0000	5,155 PLATE	240.00	1	1

**CHEMICAL ANALYSIS**

Heat	C	CO	CR	CU	MN	MO	N	NZ	P	S	SI
65H7	.022	.205	16.953	.417	1.633	2.109	.050	10.110	.034	< .001	.500

**MECHANICAL PROPERTIES**

Product ID #	Coil #	Id	UTS	.2% YS	ELONG	Hard
		o i	KSI	KSI	%-2"	RB
		c r				
0565H7 CB	0565H7	F T	80.35	42.09	57.50	80.00



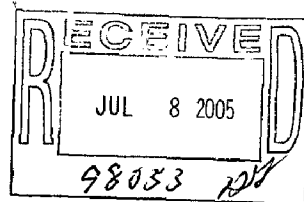
TRACER# 119132

ROLLED ALLOYS QUALITY ASSURANCE  
APPROVED *M. Hess*  
DATE 6/1/05

QC ENGINEER

*Eric Hess*  
ERIC HESS

6/01/2005



*lines 1-12*

JUL 15 2005



Outokumpu Stainless Plate, Inc.



Certificate of Analysis and Tests

OUR ORDER 0244161 - 01

HEAT & PIECE 604254-2B 03/28/05

SOLD TO: ROLLED ALLOYS  
P O BOX 310  
TEMPERANCE

MI 48182

SHIP TO: ROLLED ALLOYS  
125 WEST STERNS ROAD  
734-847-0561  
TEMPERANCE

MI 48182

----- YOUR ORDER & DATE -----  
T51463 2/03/05 TAG# 3003-2599-00-1

----- ITEM DESCRIPTION -----  
HEAT & PIECE 604254 - 2B  
WEIGHT 1516  
FINISH 1  
GRADE 316L / 316  
DIMENSIONS .187 X 96.000 X 265.000 EXACT  
UNS-S31603 / UNS-S31600

----- SPECIFICATIONS -----  
\*\*\* MFG IN NEW CASTLE, IN, USA FROM SLABS IMPORTED FROM SWEDEN  
AMS 5507F EXCEPT LINE MARK AMS 5524R EXCEPT LINE MARK  
ASTMA240-04A ASMESA240 04 ED ASTM A480-04 ASME SA480 04ED  
ROLLED ALLOYS SPECS 316L/316 NAFTA CTRY ORIGIN = SLB CTRY  
NO GRIPPER MARKS NO WELD REPAIRS  
ASTM A262-02A PRACTICE A ASTM A262-02A PRACTICE E

PLATES & TEST PCS SOLUTION ANNEALED @ 1950 DEGREES FAHRENHEIT MINIMUM.  
THEN WATER COOLED OR RAPIDLY COOLED BY AIR  
FREE FROM MERCURY CONTAMINATION AT CURRENT DETECTION LIMITS  
HOT ROLLED, ANNEALED & PICKLED (HRAP)

----- MECHANICAL & OTHER TESTS -----  
HARDNESS RB 76  
GRAIN SIZE 5  
YIELD STRENGTH (PSI) 37198  
TENSILE STRENGTH (PSI) 83880  
BEND OK  
INTERGRANULAR CORROSION OK  
ELONGATION % IN 2" 50.1  
REDUCTION OF AREA % 64.7  
ISO 9001-2000  
DIN Cert#  
003887  
TRACER# 116158

----- CHEMICAL COMPOSITION -----  
CARBON (C) .016  
MANGANESE (MN) 1.72  
PHOSPHORUS (P) .032  
SULFUR (S) .001  
SILICON (SI) .35  
CHROMIUM (CR) 16.44  
NICKEL (NI) 10.16  
COBALT (CO) .19  
COPPER (CU) .47  
MOLY (MO) 2.04  
NITROGEN (N) .04  
COLUMBIUM (CB) .013  
TITANIUM (TI) .004  
ALUMINIUM (AL) .007  
TIN (SN) .008  
AUG 03 2005  
RECEIVED  
JUL 29 2005  
98873  
Lissa 1-12  
NTRM 017  
ROLLED ALLOYS QUALITY ASSURANCE  
APPROVED James Douberman  
DATE 3-29-05

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATION(S) AND THAT THE RESULTS OF ALL TESTS ARE ACCEPTABLE.

JAMES DOUBERMAN, QUALITY ASSURANCE MANAGER

CERTIFICATE IN CONFORMANCE WITH DIN50049 3.1.B/EN10204 3.1.B

*James Douberman*

Outokumpu Stainless Plate, Inc.  
P.O. Box 370  
New Castle, Indiana 47362

3 0516-1 196



**Allegheny Ludlum** Jessop Plate Products Division  
An Allegheny Technologies Company

500 Green Street  
Washington, Pennsylvania 15301

CERTIFIED MATERIAL TEST REPORT

Page

Bill to:  
PLATE PROD DIV / A-L  
1201 VALLEY ROAD  
COATESVILLE PA

Shipto:  
PLATE PROD DIV / A-L  
1201 VALLEY ROAD  
COATESVILLE PA

19320

19320

PHIL CLADITIS  
Quality Assurance Representa

Memo No: 260311-00

Our Order no: RW4910400  
Your Order No: M E M O  
Date: 09/03/2004  
DUAL CERT

ALC 316/316L STAINLESS HRAP  
ASTM A240-04a ASME SA-240-01 ASTM A480-02 ASME SA-480-01  
AMS 5507F (316L) AMS 5524K (316) ASTM A666-03 COND A CHEM/PHYS TO  
ASTM A312-02 ASME SA-312-01 ASTM A479-02 ASME SA-479-01 ASTM A262-02  
PRACTICE E SCREEN PRAC A

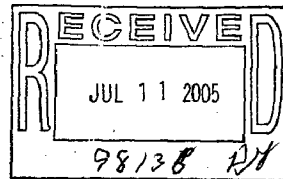
Heat Slip Lot No Size Pcs Weight  
818102 34967 A 143182 1.5000 x 83.0000 x 260.0000 1 9488 GV-STOCK

Heat C MN P S SI NI CR MO CO CU N  
818102 .018 1.57 .027 .0004 .31 10.14 16.38 2.10 .25 .37 .069

Lot No Gauge Yield Tensile Red. of Grain  
Strength Strength Elong Area Hardness Bend Corrosion Siz  
143182 1.5000 33.9 KSI 81.5 KSI 61.0 81.0 BHN146 OK

MATERIAL WAS NOT WELD REPAIRED  
MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY  
MATERIAL WAS SOLUTION ANNEALED (HEAT TREATED) ABOVE 1900F AND WATER QUENCHED  
DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE  
MATERIAL IS OF USA MELT AND MANUFACTURE

JUL 11 2005



*lines* ~~13-18~~  
13-18

*98142*  
*lines 25, 30*



TRACER# 109293

ROLLED AN ISO'S QUALITY ASSURANCE  
APPROVED *M. Bair*  
DATE 9/23/04

PAGE 1 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS. THE ABOVE INFORMATION HAS BEEN REPRODUCED FROM THE ORIGINAL CERTIFIED MATERIAL TEST REPORT.

ORIGINAL

0518-1198



**Allegheny Ludlum** Jessop Plate Products Division  
An Allegheny Technologies Company

1201 Valley Road  
Cootesville, Pennsylvania 19320

CERTIFICATE OF CONFORMANCE

Page 1

Our Order no: GV-098284  
Your Order No: J06587  
Memo No: 4261130-00  
Date: 09/15/2004  
516

Bill to:  
ROLLED ALLOYS INC  
125 W STERNS RD  
P O BOX 310  
TEMPERANCE MI

48182

Shipto:  
ROLLED ALLOYS INC  
9818 EAST HARDY ROAD  
HOUSTON TX

77093

*Robert Campagna*  
Quality Assurance Representat:

ALC T-316/316L DUAL CERT HRAP STAINLESS  
ASTM A240-02 ASME SA240-01  
79" WIDE ROUGHING MILL EDGE PLATE

Item	Grade	Heat No	Slip	Size	Weight	Mill Cert	Ord
001	316L			1.5000 79.0000	WID 235.0000	LEN	1
				PN:530034299001			
		818102	34967	A	1.5000 79.0000	235.0000	1
						8166 260311-00	Shi
						8166	
					ITEM TOTAL:		1
					TOTAL ORDER:		1
						8166	



JUL 11 2005



TRACER# 109293

CMTR (MANUFACTURER)  
 ULTRASONIC REPORT  
 OTHER

THE MATERIAL LISTED ABOVE IS SUPPLIED IN ACCORDANCE WITH THE ABOVE LISTED SPECIFICATIONS BASED ON THE REVIEW OF THE MATERIAL MANUFACTURER'S CERTIFIED MATERIAL TEST REPORT (ELECTRONICALLY EXCERPTED COPY ATTACHED) AND THE REQUIREMENTS OF THE PURCHASE ORDER.

ORIGINAL

Princeton University    Plasma Physics Laboratory  
James Forrestal Campus  
P.O. Box CN17  
Princeton, N.J. 08543

26 August 2005

Ms. Teresa L. Hubbard  
Major Tool & Machine, Inc.  
1458 E. 19<sup>th</sup> Street  
Indianapolis, IN 46218

SUBJECT: Subcontract S005243-F  
Approved Disposition of Major Tool, Inc. Non-Conformance Reports  
17157, 17167, 17233, 17237, 17240, 17286, 17287, 17288, 17314,  
and 17342

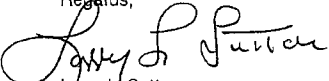
Dear Ms. Hubbard:

Attached are ten Major Tool & Machine, Inc. submitted Non-Conformance Reports (NCRs) and their disposition approved by the National Compact Stellarator Experiment (NCSX) Procurement Technical Representative and the Responsible Line Manager for the Vacuum Vessel Sub-Assembly.

Please note the one signed Project Disposition form applies to all ten of the NCRs.

If there are any questions pertaining to this matter I may be contacted at (609) 243-2441 and by e-mail [lsutton@pppl.gov](mailto:lsutton@pppl.gov).

Regards,

  
Larry L. Sutton  
Senior Subcontract Administrator

Attachments: As stated

cc: M. Viola

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 17287

Page: 1  
Date: 05/12/05  
User ID: MCCORKLE

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: [mviola@pppl.gov](mailto:mviola@pppl.gov)

Telephone: 609-243-3655  
Fax: 609-243-3248

Part: 130093 / CONFLAT FLANGE, 12.0 OD TAPPED  
Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F  
Serial No./Qty: 14 Pieces.

Reported By: DOUG MCCORKLE  
E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: 1.02 max on magnetic permeability part checks greater than 1.02  
The i.d. checks greater than 1.04. and less than 1.1.

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED. Propose – use as is.

---

Number of additional pages: \_\_\_\_\_

---

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 17167

Page: 1  
Date: 05/12/05  
User ID: MCCORKLE

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: [mviola@pppl.gov](mailto:mviola@pppl.gov)

Telephone: 609-243-3655  
Fax: 609-243-3248

Part: 130026 / CONFLAT FLANGE, 6.0 OD TAPPED  
Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F  
Serial No./Qty: 33 Pieces

Reported By: DOUG MCCORKLE  
E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: 1.02 MAX MAGNETIC PERMEABILITY  
PARTS CHECK GREATER THAN 1.05 AND LESS THAN 1.4.  
I.D. OF PARTS IN AREAS CHECK 1.2

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED. Propose - Use as is.

---

Number of additional pages: \_\_\_\_\_

---

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 17233

Page: 1  
Date: 05/12/05  
User ID: MCCORKLE

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: S-04286-F

Telephone: 609-243-3655  
Fax: 609-243-3248

**Part: 130033 / CONFLAT FLANGE, 10.0 OD TAPPED**  
Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F  
Serial No./Qty: 6 Pieces

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: 1.02 MAX MAGNETIC PERMEABILITY  
PARTS CHECK GREATER THAN 1.05. ON TOP FACE AT THE SEAL GROOVE PARTS CHECK 1.2 ALSO  
AT BOTTOM BY TAPPED HOLES AND THE INSIDE DIA. PARTS ARE LESS THAN 1.4

---

**Proposed Disposition:**  
CUSTOMER DISPOSITION REQUIRED

---

Number of additional pages: \_\_\_\_\_

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 17237

Page: 1  
Date: 05/12/05  
User ID: MCCORKLE

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: [mviola@pppl.gov](mailto:mviola@pppl.gov)

Telephone: 609-243-3655  
Fax: 609-243-3248

Part: 110058 / CONFLAT BLANK FLANGE, 12.0 DIA  
Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F  
Serial No./Qty: 9 Pieces

Reported By: DOUG MCCORKLE  
E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: 1.02 MAX MAGNETIC PERMEABILITY  
PARTS CHECK GREATER THAN 1.05 AND LESS THAN 1.1

---

**Proposed Disposition:**  
CUSTOMER DISPOSITION REQUIRED

---

Number of additional pages: \_\_\_\_\_

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_





Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 17286

Page: 1  
Date: 05/12/05  
User ID: MCCORKLE

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655  
Fax: 609-243-3248

**Part: 110030 / CONFLAT BLANK FLANGE, 8.0 DIA.**  
Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F  
Serial No./Qty: 12 Pieces

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: 1.02 MAX ON MAGNETIC PERMEABILITY CHECKS GREATER THAN 1.2 AND LESS THAN 1.4.

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED. Propose – Use as is.

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Number of additional pages: \_\_\_\_\_

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**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola

E-Mail: [mviola@pppl.gov](mailto:mviola@pppl.gov)

Telephone: 609-243-3655

Fax: 609-243-3248

Part: 401021 SPECIAL / DEL-SEAL CF HALF NIPPLE (SPECI  
Drawing ID: Revision:

Customer P.O.: S005243-F

-Serial No./Qty: 30 Pieces

Reported By: DOUG MCCORKLE

E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433

Fax: 317-634-9420

Problem: MAGNETIC PERMEABILITY TO BE 1.02 MAX  
PARTS CHECK GREATER THAN 1.02  
PARTS CHECK UP TO 1.05

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED. Propose – use as is.

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Number of additional pages: \_\_\_\_\_

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18590

Page: 1  
Date: 11/28/05  
User ID:  
**MCCORKLE**

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: S-04286-F

Telephone: 609-243-2441  
Fax: 609-243-2021

**Part: /**  
Drawing ID: SE120-004                      Revisio 2

Customer S005243-F/Ln:7  
Serial No.: 8/7

Reported By: DOUG MCCORKLE                      n:  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: MAGNETIC PERMEABILITY TO BE 1.02 MAX.

AT FLANGE--OUT SIDE OF SEAL RING GROOVE CHECKS GREATER THAN 1.02 BUT  
~~LESS THAN 1.1~~  
SEAL RING: BOTTOM AND SIDES--PERMEABILITY CHECKS GREATER THAN 1.1  
BUT LESS THAN

---

**Proposed  
Disposition:**

Customer disposition required

~~Number of additional pages: 0~~

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap      
Replace

Technical Contact \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

By:

**Nonconformance Report: Major Tool NC18590.**

This is for SE120-004

Please review and provided disposition. This NCR is for a Lot 7 Port 4 Flange that checked o.k. prior to machining and was not included with the previous submittal.

Problem:

MAGNETIC PERMEABILITY TO BE 1.02 MAX.

AT FLANGE--OUT SIDE OF SEAL RING GROOVE CHECKS GREATER THAN 1.02 BUT LESS THAN 1.1.

IN SEAL RING-BOTTOM AND SIDES--PERMEABILITY CHECKS GREATER THAN 1.1 BUT LESS THAN 1.15

**Project Disposition:**

Use as is

**Approvals:**

**Mike Viola**

Digitally signed by Mike Viola  
DN: CN = Mike Viola, C = US  
Reason: I am approving this  
document  
Date: 2005.12.01 15:45:00 -05'00'

---

Procurement Technical Representative

**Brad Nelson**

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2005.12.02 01:02:39 -05'00'

---

Responsible Line Manager:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18609

Page: 1  
Date: 11/28/05  
User ID:  
**MCCORKLE**

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: S-04286-F

Telephone: 609-243-2441  
Fax: 609-243-2021

**Part: /**  
Drawing ID: SE122-018                      Revisio 1

Customer S005243-F/Ln:7  
Serial No.: 9/7

Reported By: DOUG MCCORKLE                      n:  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: MAGNETIC PERMEABILITY TO BE LESS THAN 1.02

FLANGE OUTSIDE OF GROOVE CHECKS GREATER THAN 1.05 BUT LESS THAN 1.1

IN GROOVE MAGNETIC PERMEABILITY CHECKS GREATER THAN 1.1 BUT LESS  
THAN 1.15

**Proposed**

**Disposition:** Customer disposition required. Condition is slightly worse than previously reported.

Number of additional pages:0

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap   

Replace

Technical Contact \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Major Tool Implemented \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

By:

**Nonconformance Report: Major Tool NC18609.**

This is for SE122-018

Please review and provided disposition. This NCR is for a Lot 7 Port 4 Flange that checked o.k. prior to machining and was not included with the previous submittal. I already submitted NCR 18452 but the condition appears to be slightly worse for this inspection so we'll need you to take a second look at this part.

**Problem:**

MAGNETIC PERMEABILITY TO BE LESS THAN 1.02

FLANGE OUTSIDE OF GROOVE CHECKS GREATER THAN 1.05 BUT LESS THAN 1.1

IN GROOVE MAGNETIC PERMEABILITY CHECKS GREATER THAN 1.1 BUT LESS THAN 1.15

**Project Disposition:**

Use as is

**Approvals:**

**Mike Viola**

Digitally signed by Mike Viola  
DN: CN = Mike Viola, C = US  
Reason: I am approving this  
document  
Date: 2005.12.01 15:47:47 -05'00'

---

Procurement Technical Representative

**Brad  
Nelson**

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2005.12.02 01:03:14 -05'00'

---

Responsible Line Manager:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 19060

Page: 1  
Date: 01/31/06  
User ID: MCCORKLE

Customer: PRINCETON PLASMA PHYSICS LAB  
Contact: LARRY SUTTON  
E-Mail: S-04286-F

Telephone: 609-243-2441  
Fax: 609-243-2021

Part: / SE122-049-1 PORT 4B FLANGE  
Drawing ID: SE122-049 Revision: 1

Customer P.O.: S005243-F/Ln:7  
Serial No: 7/9

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: PER B.P. MAG. PERM. TO BE LESS THAN 1.02  
MATERIAL CHECKS GREATER THAN 1.05 BUT LESS THAN 1.1

Proposed Disposition:  
CUSTOMER DISPOSITION REQUIRED

Number of additional pages: 0

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_



Nonconformance Report: Major Tool NC19060

This is for SE122-049-1 PORT 4B FLANGE

Problem:

PER B.P. MAG. PERM. TO BE LESS THAN 1.02

MATERIAL CHECKS GREATER THAN 1.05 BUT LESS THAN 1.1

**Project Disposition:**

Accept as is

**Approvals:**

**Mike Viola**

Digitally signed by Mike Viola  
DN: cn=Mike Viola, c=US  
Reason: I am approving this document  
Date: 2006.02.13 13:56:18 -05'00'

---

Procurement Technical Representative

**Art Brooks**

Digitally signed by Art Brooks  
DN: cn=Art Brooks, c=US, o=PPPL,  
ou=NCSX, email=abrooks@pppl.gov  
Reason: I am approving this document  
Date: 2006.02.13 15:45:57 -05'00'

---

Art Brooks, Technical Assurance

**Brad Nelson**

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2006.02.13 16:36:10 -05'00'

---

Responsible Line Manager:

**F.  
Malinowski**

Digitally signed by F. Malinowski  
DN: CN = F. Malinowski, C =  
US, O = PPPL, OU = QA  
Date: 2006.02.14 11:16:41 -  
05'00'

---

Project Quality Assurance:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 19116

Page: 1  
Date: 02/27/06  
User ID: MCCORKLE

---

**Customer:** PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola  
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655  
Fax: 609-243-3248

**Part:** /

Drawing ID: SE120-004

Revision: 2

Customer P.O.: S005243-F/Ln:7  
Qty: (all std. CF blanks)

Reported By: DOUG MCCORKLE

E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: IT WAS REQUIRED TO OVERSIZE HOLE PATTERN ON MAJORITY OF ALL ROUND BLANK COVERS .015 DIAMETER FROM ORIGINAL HOLE SIZE TO ALLOW FOR PROPER BOLT CLEARANCE. ONLY PARTIAL QTY ON LOT 7 OR 1 HAS BEEN OVERSIZED AT THIS POINT.

---

**Proposed Disposition:**

In order to provide adequate clearance for assembling the MDC covers (original specification) to the Trinos flanges (replacements for the original specified MDC flanges), it was necessary to machine the bolt holes of the flanges oversize by approximately 0.010-0.020". Also, the O.D. of the standard copper seals obtained from MDC had to be turned smaller by approximately 0.03-0.04" (on diameter). Propose "use as is" disposition.

NC Type: Notification Only.

---

Number of additional pages: \_\_\_\_\_

---

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

See attached

**Technical Contact Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Nonconformance Report: Major Tool NC19116**

This is for SE120-004

**Problem:**

IT WAS REQUIRED TO OVERSIZE HOLE PATTERN ON MAJORITY OF ALL ROUND BLANK COVERS .015 DIAMETER FROM ORIGINAL HOLE SIZE TO ALLOW FOR PROPER BOLT CLEARANCE. ONLY PARTIAL QTY ON LOT 7 OR 1 HAS BEEN OVERSIZED AT THIS POINT.

In order to provide adequate clearance for assembling the MDC covers (original specification) to the Trinos flanges (Replacements for the original specified MDC flanges), it was necessary to machine the bolt holes of the flanges oversize by approximately 0.010-0.020". Also, the O.D. of the standard copper seals obtained from MDC had to be turned smaller by approximately 0.03-0.04" (on diameter). Propose "use as is" disposition.

**Project Disposition:**

Use as is.

**Additional remarks:**

Does this Change Impact Material Already Procured or Parts/Assemblies Already Assembled/Manufactured using this Material:  Yes  No

If "Yes", what is the recommended disposition of this material/part/assembly?

Return rejected MDC flanges to PPPL with the first VVSA

**Approvals:**

Mike Viola

Digitally signed by Mike Viola  
DN: cn=Mike Viola, c=US  
Reason: I have reviewed this document  
Date: 2006.03.21 16:39:50 -05'00'

---

Procurement Technical Representative

Brad Nelson

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2006.03.21 19:29:08 -05'00'

---

Responsible Line Manager:

---

Project Quality Assurance:



Nonconformance Report: Major Tool NC19286

This is for SE120-004-47 / SEAL RETAINER SCREW

Problem:

seal retainer screw locked into nb cover after thermal cycling and vacuum testing. screw had no lubricant nor was it silver plated.

fab was able to weld onto head and freely remove all 8 screws without damage to threads.

The screws were destroyed during removal but the threaded holes are o.k.

The same screws located in the port 12 and 4 flanges were removed without incident (they were not subjected to high temp).

Doug McCorkle

Project Disposition:

Accept as is. PPPL will procure silver plated screws for future assemblies.

Approvals:

Mike Viola

Digitally signed by Mike Viola  
DN: cn=Mike Viola, c=US  
Reason: I am approving this document  
Date: 2006.02.23 11:43:39 -05'00'

---

Procurement Technical Representative

Brad  
Nelson

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2006.02.23 12:26:31 -05'00'

---

Responsible Line Manager:

F. Malinowski

Digitally signed by F. Malinowski  
DN: CN = F. Malinowski, C = US, O =  
PPPL, OU = QA  
Reason: I have reviewed this document  
Date: 2006.02.24 10:05:51 -05'00'

---

Project Quality Assurance:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 19288

Page: 1  
Date: 02/20/06  
User ID: MCCORKLE

---

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655  
Fax: 609-243-3248

**Part: SE120-004-42 / O-RING, VITON**

Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F/Ln:1  
Qty: 12

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: viton o-rings are damaged upon removal from port flanges after vacuum testing. o-rings recieved numerous cuts from the edges of retainer strips during the installation and torque of retaining strips and flanges. their are currently no extra in system,drawing shows this as a shippable item.

---

**Proposed Disposition:**

CUSTOMER DISPOSITION REQUIRED (applies to Ports 4 and 12)

---

Number of additional pages: 0

---

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Nonconformance Report: Major Tool NC19288

This is for SE120-004-42 / O-RING, VITON

Problem:

viton o-rings are damaged upon removal from port flanges after vacuum testing. O-rings received numerous cuts from the edges of retainer strips during the installation and torque of retaining strips and flanges. Their are currently no extra in system, drawing shows this as a shippable item.

Doug McCorkle

Project Disposition:

Scrap and Do not replace.

Approvals:

Mike Viola

Digitally signed by Mike Viola  
DN: cn=Mike Viola, c=US  
Reason: I am approving this document  
Date: 2006.02.24 11:26:21 -05'00'

---

Procurement Technical Representative

Brad  
Nelson

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2006.02.24 11:53:08 -05'00'

---

Responsible Line Manager:

F.  
Malinowski

Digitally signed by F. Malinowski  
DN: CN = F. Malinowski, C = US, O  
= PPPL, OU = QA  
Reason: I have reviewed this document  
Date: 2006.02.24 11:57:42 -05'00'

---

Project Quality Assurance:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 17314

Page: 1  
Date: 05/12/05  
User ID: MCCORKLE

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**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655  
Fax: 609-243-3248

Part: FA06000133 / CF REDUCING NIPPLE, 6.00 TO 1.  
Drawing ID: SE120-004                      Revision: 1

Customer P.O.: S005243-F  
Serial No./Qty: 33 Pieces

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: IDC REQUIRES A MAX OF 1.02 PERMEABILITY.  
THE PART WAS MEASURING OVER 1.2, BUT LESS THAN 1.4  
THE BOTTOM OF THE FLANGE CHECKS 1.2  
THE TOP OF THE REDUCING NIPPLE PART CHECKS 1.05  
THE TOP OF FLANGE AND SIDES PART CHECKS UP TO 1.1

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**Proposed Disposition:**  
CUSTOMER DISPOSITION REQUIRED

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Number of additional pages: \_\_\_\_\_

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**Customer Disposition:**     Use As Is     Rework     Repair     Scrap     Replace

**Technical Contact Approval:** \_\_\_\_\_ **Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Buyer Approval:** \_\_\_\_\_ **Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Major Tool Implemented By:** \_\_\_\_\_ **Title:** \_\_\_\_\_ **Date:** \_\_\_\_\_



Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18144

Page: 1  
Date: 10/13/05  
User ID: MCCORKLE

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: [fmalinowski@pppl.gov](mailto:fmalinowski@pppl.gov)  
E-Mail: S-04286-F

Telephone: 609-243-2441  
Fax: 609-243-2021

Part: / SE122-104  
Drawing ID: SE122-104

Revision: 1

Customer P.O.: S005243-F/Ln:7  
Serial No: 106/7

Reported By: DOUG MCCORKLE  
E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: Magnetic Permeability requirement of 1.02 max checks 1.05-1.10

**Proposed Disposition:**

Customer Disposition required.

Number of additional pages: 0

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

The 5 MTM NCRs are acceptable. They flanges and covers are located far enough from the plasma and in a region of low field that their effect on error fields is estimated to be minimal (<0.1G at plasma).

PPPL Technical Approval: Mike Viola

Digitally signed by Mike Viola  
DN: cn=Mike Viola, o=PPPL  
Reason: I am approving this document  
Date: 2005.10.13 16:19:13 -0400

Title: \_\_\_\_\_

Date: \_\_\_\_\_

PPPL RLM Approval: Brad Nelson

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, o=PPPL  
ou=FED, email=bradns@pppl.gov  
Date: 2005.10.19 15:27:57 -0400

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18175

Page: 1  
Date: 10/13/05  
User ID: MCCORKLE

Customer: PRINCETON PLASMA PHYSICS LAB  
Contact: [fmalinowski@pppl.gov](mailto:fmalinowski@pppl.gov)  
E-Mail: S-04286-F

Telephone: 609-243-2441  
Fax: 609-243-2021

Part: /SE122-018  
Drawing ID: SE122-018 Revision: 1

Customer P.O.: S005243-F/Ln:7  
Serial No.: 292/7, 282/8, 283/8, 282/9, 283/9

Reported By: DOUG MCCORKLE  
E-Mail: [dMcCorkle@MajorTool.com](mailto:dMcCorkle@MajorTool.com)

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: MAGNETIC PERMEABILITY LESS THAN 1.02  
FACE CHECKS LESS THAN 1.02  
SIDES CHECK BETWEEN 1.05 AND 1.1

Proposed Disposition:  
Customer Disposition required.

Number of additional pages: \_\_\_\_\_

Customer Disposition:  Use As Is  Rework  Repair  Scrap  Replace

The 5 MTM NCRs are acceptable. They flanges and covers are located far enough from the plasma and in a region of low field that their effect on error fields is estimated to be minimal (<0.1G at plasma).

PPPL Technical Approval: Mike Viola  
Digitally signed by Mike Viola  
DN: cn = Mike Viola, c = US  
Reason: I am approving this document.  
Date: 2005.10.19 15:02:45 -0400

Title: \_\_\_\_\_ Date: \_\_\_\_\_

PPPL RLM Approval: Brad Nelson  
Digitally signed by Brad Nelson  
DN: cn = Brad Nelson, o = US, or = ORNL,  
ou = ECR, email = brad@ornl.gov  
Date: 2005.10.19 16:21:07 -0400

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18402

Page: 1  
Date: 10/25/05  
User ID: MCCORKLE

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: S-04286-F

Telephone: (609) 243-3655  
Fax: (609) 243-3248

Part: /  
Drawing ID: SE120-004

Revision: 2

Customer P.O.: S005243-F/Ln:7  
Serial No.: 2/7

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: Profile requirement of 0.188 (+ Unilateral) checks -0.110 / +0.258.

**Proposed Disposition:** This measurement represents the in-process check of Port 12B profile after welding and machining the flange (the sub-assy is structurally complete). The part is currently out of tolerance on the plus side as much as 0.087" along the straight sides. Both ends (radii) are within tolerance. This condition will likely remain to some extent after the port is installed and final inspected (without reworking the port sub-assy prior to installation).

Request "use as is" disposition if the condition will not create interference with mating components.

Number of additional pages: \_\_\_\_\_

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

**Nonconformance Report: Major Tool NC18402.**

This is for the port 12B out of tolerance condition on the first VVSA (MTM lot 7)

**Project Disposition:**

Use as is:

The data was taken on two fully welded port assemblies (port 12A and port 12B) that had not yet been welded to the vacuum vessel shell. Although there are a few points that are out of tolerance, recommendation is to accept the parts as is. The vast majority of out of tolerance points are away from the modular coil which should not impose significant problems. The VV heating/cooling mounting flange (se123-167) that will be welded to the vertical ports at final assembly at PPPL will need to have its inner flange surface trimmed to match the surface of the port.

**Approvals:**

**Mike Viola**

Digitally signed by Mike Viola  
DN: CN = Mike Viola, C = US  
Reason: I am approving this  
document  
Date: 2005.11.10 15:39:46 -05'00'

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Procurement Technical Representative

**Brad  
Nelson**

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2005.11.10 17:09:20 -05'00'

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Responsible Line Manager:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18459

Page: 1  
Date: 10/25/05  
User ID: MCCORKLE

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola  
E-Mail: S-04286-F

Telephone: (609) 243-3655  
Fax: (609) 243-3248

Part: /  
Drawing ID: SE120-004

Revision: 2

Customer P.O.: S005243-F/Ln:7  
Serial No.: 3/7

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: Profile requirement of 0.188 (+ Unilateral) checks +0.275 / -0.101

**Proposed Disposition:** This measurement represents the in-process check of Port 12A profile after welding and machining the flange (the sub-assy is structurally complete). The part is currently out of tolerance on the plus side as much as 0.087" along the straight sides. Both ends (radii) are within tolerance. This condition will likely remain to some extent after the port is installed and final inspected (without reworking the port sub-assy prior to installation).

Request "use as is" disposition if the condition will not create interference with mating components.

Number of additional pages: \_\_\_\_\_

Customer Disposition:     Use As Is     Rework     Repair     Scrap     Replace

Technical Contact Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

**Nonconformance Report: Major Tool NC18459.**

This is for the port 12A out of tolerance condition on the first VVSA (MTM lot 7)

**Project Disposition:**

Use as is:

The data was taken on two fully welded port assemblies (port 12A and port 12B) that had not yet been welded to the vacuum vessel shell. Although there are a few points that are out of tolerance, recommendation is to accept the parts as is. The vast majority of out of tolerance points are away from the modular coil which should not impose significant problems. The VV heating/cooling mounting flange (se123-167) that will be welded to the vertical ports at final assembly at PPPL will need to have its inner flange surface trimmed to match the surface of the port.

**Approvals:**

**Mike Viola**

Digitally signed by Mike Viola  
DN: CN = Mike Viola, C = US  
Reason: I am approving this document  
Date: 2005.11.10 15:42:09 -05'00'

---

Procurement Technical Representative

**Brad  
Nelson**

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2005.11.10 17:09:36 -05'00'

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Responsible Line Manager:

Major Tool & Machine, Inc.  
1458 East 19th Street  
Indianapolis, IN 46218-4289

MTM N/C: 18542

Page: 1  
Date: 11/28/05  
User ID:  
**MCCORKLE**

**Customer: PRINCETON PLASMA PHYSICS LAB**

Contact: Mike Viola  
E-Mail: S-04286-F

Telephone: 609-243-2441  
Fax: 609-243-2021

**Part: /**  
Drawing ID: SE122-049                      Revisio 1  
Links: I-Type:W: 65678/7.0 Sub: 9 Opn90

Customer S005243-F/Ln:7  
Serial No.: 9/7

Reported By: DOUG MCCORKLE  
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433  
Fax: 317-634-9420

Problem: MAGNETIC PERMEABILITY TO BE LESS THAN 1.02  
FLANGE CHECKS GREATER THAN 1.05 AND LESS THAN 1.10 (after machining)

**Proposed  
Disposition:**

Customer disposition required

Number of additional pages: 0

**Customer Disposition:**     Use As Is     Rework     Repair     Scrap      
Replace

Technical Contact \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Approval: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Major Tool Implemented \_\_\_\_\_  
By: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

**Nonconformance Report: Major Tool NC18542.**

This is for SE122-049

This NCR is for a Lot 7 Port 4 Flange that checked o.k. prior to machining and was not included with the previous submittal.

**Problem:**

MAGNETIC PERMEABILITY TO BE LESS THAN 1.02

FLANGE CHECKS GREATER THAN 1.05 AND LESS THAN 1.10 (after machining)

**Project Disposition:**

Use as is

**Approvals:**

**Mike Viola**

Digitally signed by Mike Viola  
DN: CN = Mike Viola, C = US  
Reason: I am approving this  
document  
Date: 2005.12.01 15:42:59 -05'00'

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Procurement Technical Representative

**Brad Nelson**

Digitally signed by Brad Nelson  
DN: cn=Brad Nelson, c=US,  
o=ORNL, ou=FED,  
email=nelsonbe@ornl.gov  
Date: 2005.12.02 01:02:08 -05'00'

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Responsible Line Manager: