



PRINCETON PLASMA PHYSICS LAB

Purchase Order Number:

S005243-F

Part Number:

SE120-002

Part Name:

VVSA 120 DEGREE VESSEL PERIOD

MTM Work Order Number:

65678/3.0



Major

Tool & Machine, Inc.

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

Item#	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
1	CERTIFICATE OF CONFORMANCE

480FAN250-G-E - CF FLANGE 12"

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
2	231	10	10	Certificate of Conformance: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED [mc117908.tif] (920437)
3	231	10	10	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED [See Item #2] (920437)

PORT 10A REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
4	240	10	30	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED [mc119287.tif] (920014)

PORT 11A REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
5	240	10	50	Material Certification: / 480FBL080-E - BLANK FLANGE, 4.625CF, FIXED [mc119290.tif] (920014)

PORT 11B REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
6	240	10	80	Material Certification: / 480FBL080-E - BLANK FLANGE, 4.625CF, FIXED [See Item #5] (920014)

PORT 2B REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
7	240	10	40	Material Certification: / 480FAN100-G-E - BORED FLANGE, 6CF, FIXED, TAPPED [mc119289.tif] (920135)

PORT 5A REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
8	240	10	10	Material Certification: / 480FAN160-G-E - WELD FLANGE, 8CF, FIXED, TAPPED [mc119286.tif] (920135)

PORT 6B REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
9	240	10	70	Material Certification: / 480FAN250-G-E - WELD FLANGE, 12CF, FIXED, TAPPED [See Item #4] (920014)

PORT 7A REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
10	240	10	20	Material Certification: / 480FAN200-G-E - WELD FLANGE, 10CF, FIXED, TAPPED [mc119288.tif] (920014)

PORT 9B REPLACEMENT FLANGE

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
11	240	10	60	Material Certification: / 480FAN160-G-E - WELD FLANGE, 8CF, FIXED, TAPPED [See Item #8] (920135)

REPLACEMENT TRINOS FLANGES

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
12	240	30		Inspection Data Checklist: 16 steps

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

REWORK - REWORK / REPAIR PER N/C

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
13	238	10	10	Material Certification: / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 [mc118674.tif] (2650 5 6834)

SE120-002 - PPPL NCSX VVSA

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
14				Segmentation Scheme: [numbered panels (original).tif]
15	0	10	30	Material Certification: Trace ID: 108783 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA [mc103412.tif] (34932 / 63706 / AB8051 / AV812)
16	0	10	30	Material Certification: Trace ID: 119198 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA [mc107550.tif] (34932 / 63706 / AB8051 / AV812)
17	0	10	30	Material Certification: Trace ID: 94238 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA [mc094944.pdf] (34932 / 63706 / AB8051 / AV812)
18	0	10	30	Material Certification: Trace ID: 117412 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA [mc106873.tif] (34932 / 63706 / AB8051 / AV812)
19	0	10	30	Material Certification: Trace ID: 94881 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA [mc095279.pdf] (34932 / 63706 / AB8051 / AV812)
20	0	10	40	Material Certification: Trace ID: 117490 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA [mc106871.tif] (CV8061 / K48859)
21	0	10	40	Material Certification: Trace ID: 94241 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA [mc094945.pdf] (CV8061 / K48859)
22	0	10	40	Material Certification: Trace ID: 121411 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA [mc108429.tif] (CV8061 / K48859)
23	0	10	40	Material Certification: Trace ID: 119251 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA [mc107551.tif] (CV8061 / K48859)
24	0	10	50	Material Certification: Trace ID: 80887 / ER316L_062_GTAW - WELD WIRE, GTAW .062" DIA [mc089458.tif] (95316)
25	0	10	70	Material Certification: Trace ID: 140093 / ER70S-2_093_GTAW - WELD WIRE,GTAW .093 DIA [mc116752.tif] (013267)
26	0	10	80	Material Certification: Trace ID: 123163 / INCONEL625_035_GMAW - WELD WIRE/GMAW, .035 DIA [mc109152.tif] (XB8273)
27	1	10		Inspection Data Checklist: 4 steps
28	2	10		Inspection Data Checklist: 1 steps
29	5	195		Certification: X-RAY CERT [mc116527.tif]
30	5	195		Map(s): X-RAY MAP [See Item #29]
31	5	247		Map(s): X-RAY MAP [mc120801.tif]
32	5	247		Certification: X-RAY CERT [See Item #31]

SE120-002-NB - PORT EXT. SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
33	119	20		Inspection Data Checklist: 2 steps

SE120-003 10-6 SUB-SET - PANEL 10-6 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
34	98	30		Inspection Data Checklist: 1 steps
35	98	130		Inspection Data Checklist: 1 steps
36	98	150		Inspection Data Checklist: 1 steps
37	111	30		Inspection Data Checklist: 1 steps
38	111	130		Inspection Data Checklist: 1 steps

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

39 111 150 Inspection Data Checklist: 1 steps

SE120-003 10-6-7 SUB-SET - PANEL 10-6-7 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
40	96	30		Inspection Data Checklist: 1 steps
41	96	150		Inspection Data Checklist: 1 steps
42	110	30		Inspection Data Checklist: 1 steps
43	110	130		Inspection Data Checklist: 1 steps
44	110	150		Inspection Data Checklist: 1 steps

SE120-003 120 - 120 DEG VESSEL

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
45	5	60		Inspection Data Checklist: 1 steps
46	5	160		Inspection Data Checklist: 1 steps
47	5	180		Inspection Data Checklist: 1 steps
48	5	243		Inspection Data Checklist: 6 steps

SE120-003 30L SUB-ASSY - LOWER 30 DEG SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
49	6	70		Inspection Data Checklist: 2 steps
50	6	170		Inspection Data Checklist: 2 steps
51	6	190		Inspection Data Checklist: 2 steps
52	6	400		Map(s): X-RAY MAP [mc116881.tif]
53	94	70		Inspection Data Checklist: 2 steps
54	94	170		Inspection Data Checklist: 2 steps
55	94	190		Inspection Data Checklist: 2 steps
56	94	400		Map(s): X-RAY MAP [mc116882.tif]
57	94	400		Certification: X-RAY CERT [See Item #56]

SE120-003 30U SUB-ASSY - UPPER 30 DEG SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
58	95	60		Inspection Data Checklist: 2 steps
59	95	160		Inspection Data Checklist: 2 steps
60	95	180		Inspection Data Checklist: 2 steps
61	109	60		Inspection Data Checklist: 2 steps
62	109	160		Inspection Data Checklist: 2 steps
63	109	180		Inspection Data Checklist: 2 steps

SE120-003 3-4 SUB-SET - PANEL 3-4 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
64	11	30		Inspection Data Checklist: 1 steps
65	11	130		Inspection Data Checklist: 1 steps

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

66	11	150	Inspection Data Checklist: 1 steps
67	106	30	Inspection Data Checklist: 1 steps
68	106	150	Inspection Data Checklist: 1 steps

SE120-003 5-1 SUB-SET - PANEL 5-1 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
69	8	30		Inspection Data Checklist: 1 steps
70	8	130		Inspection Data Checklist: 1 steps
71	8	150		Inspection Data Checklist: 1 steps
72	103	30		Inspection Data Checklist: 1 steps
73	103	130		Inspection Data Checklist: 1 steps
74	103	150		Inspection Data Checklist: 1 steps

SE120-003 5-1-2 SUB-SET - PANEL 5-1-2 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
75	7	30		Inspection Data Checklist: 1 steps
76	7	130		Inspection Data Checklist: 1 steps
77	7	150		Inspection Data Checklist: 1 steps
78	102	30		Inspection Data Checklist: 1 steps
79	102	130		Inspection Data Checklist: 1 steps
80	102	150		Inspection Data Checklist: 1 steps

SE120-003 60D SUB-ASSY - 60 DEGREE SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
81	6	250		Inspection Data Checklist: 1 steps
82	6	350		Inspection Data Checklist: 1 steps
83	6	370		Inspection Data Checklist: 1 steps
84	94	250		Inspection Data Checklist: 1 steps
85	94	350		Inspection Data Checklist: 1 steps
86	94	370		Inspection Data Checklist: 1 steps

SE120-003 8-9 SUB-SET - PANEL 8-9 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
87	97	30		Inspection Data Checklist: 1 steps
88	97	130		Inspection Data Checklist: 1 steps
89	97	150		Inspection Data Checklist: 1 steps
90	114	30		Inspection Data Checklist: 1 steps
91	114	130		Inspection Data Checklist: 1 steps
92	114	150		Inspection Data Checklist: 1 steps

SE120-003 - VVSA 120 DEG. VESSEL

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

93	2	20	Furnace charts: THERMOCOUPLE CHART []
94	2	20	Certification: THERMAL CYCLE CERTIFICATE []

SE120-003-11 - PORT # 7 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
95	131	10		Inspection Data Checklist: 2 steps
96	131	20		Inspection Data Checklist: 2 steps
97	131	30		Inspection Data Checklist: 6 steps

SE120-003-12A - PORT EXT. SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
98	120	10		Inspection Data Checklist: 4 steps
99	120	20		Inspection Data Checklist: 4 steps

SE120-003-13 - PORT # 8 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
100	132	10		Inspection Data Checklist: 2 steps
101	132	20		Inspection Data Checklist: 2 steps
102	132	30		Inspection Data Checklist: 6 steps

SE120-003-15 - PORT # 9 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
103	133	10		Inspection Data Checklist: 2 steps
104	133	20		Inspection Data Checklist: 2 steps
105	133	30		Inspection Data Checklist: 6 steps

SE120-003-17 - PORT # 10 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
106	134	10		Inspection Data Checklist: 2 steps
107	134	20		Inspection Data Checklist: 2 steps
108	134	30		Inspection Data Checklist: 6 steps

SE120-003-19 - PORT # 11 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
109	135	10		Inspection Data Checklist: 2 steps
110	135	20		Inspection Data Checklist: 2 steps
111	135	30		Inspection Data Checklist: 6 steps

SE120-003-21 - PORT # 15 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
112	136	10		Inspection Data Checklist: 2 steps
113	136	20		Inspection Data Checklist: 2 steps
114	136	30		Inspection Data Checklist: 6 steps

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

SE120-003-23 - PORT DOME EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
115	137	10		Inspection Data Checklist: 2 steps
116	137	20		Inspection Data Checklist: 2 steps
117	137	30		Inspection Data Checklist: 7 steps
118	137	30		Certificate of Conformance: PORT DOME EXTENSION []

SE120-003-24 - PORT DOME EXTENSION Qty: 2

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
119	137	30		Certificate of Conformance: PORT DOME EXTENSION []

SE120-003-3 - PORT # 2 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
120	127	10		Inspection Data Checklist: 2 steps
121	127	20		Inspection Data Checklist: 2 steps
122	127	30		Inspection Data Checklist: 6 steps

SE120-003-5 - PORT # 4 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
123	128	10		Inspection Data Checklist: 2 steps
124	128	20		Inspection Data Checklist: 2 steps
125	128	30		Inspection Data Checklist: 6 steps

SE120-003-7 - PORT # 5 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
126	129	10		Inspection Data Checklist: 2 steps
127	129	20		Inspection Data Checklist: 2 steps
128	129	30		Inspection Data Checklist: 6 steps

SE120-003-9 - PORT # 6 EXTENSION

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
129	130	10		Inspection Data Checklist: 2 steps
130	130	20		Inspection Data Checklist: 2 steps
131	130	30		Inspection Data Checklist: 6 steps

SE120-003-DOME A - PORT EXT. SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
132	122	10		Inspection Data Checklist: 4 steps
133	122	20		Inspection Data Checklist: 2 steps

SE120-003-NB

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

134 119 10 Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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135 230 10 Inspection Data Checklist: 2 steps

SE120-004 - VVSA 120 DEG. VESSEL

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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136 1 20 Inspection Data Checklist: 19 steps

137 1 30 Inspection Data Checklist: 3 steps

138 2 60 Inspection Data Checklist: 6 steps

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

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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139 125 10 Inspection Data Checklist: 4 steps

140 125 20 Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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141 126 10 Inspection Data Checklist: 4 steps

142 126 20 Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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143 123 10 Inspection Data Checklist: 37 steps

144 123 20 Inspection Data Checklist: 18 steps

SE120-004-4A - PORT EXT. SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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145 121 10 Inspection Data Checklist: 4 steps

146 121 20 Inspection Data Checklist: 2 steps

SE120-005-38 - LEAK CHECK TUBING

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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147 143 10 10 Material Certification: / 316L_271 - TUBE,RND,SST, SEAMLESS, .125" OD X .03"W [mc109194.tif] (2D994)

SE120-005-39 - TUBE CLIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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148 142 10 10 Material Certification: / INCONEL 625_654 - FOIL, NICKEL ALLOY .010" THK [mc109089.tif] (265096802)

SE120-005-40 - PORT 2 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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149 138 10 Inspection Data Checklist: 1 steps

150 138 10 10 Material Certification: / SE120-005-40 - VVSA PORT 2 BACKING STRIP [mc109510.tif] (2650 5 6801)

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
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SE120-005-41 - PORT 5 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
151	145	10		Inspection Data Checklist: 1 steps
152	145	10	10	Material Certification: / SE120-005-41 - VVSA PORT 5 BACKING STRIP [mc109512.tif] (2650 5 6801)

SE120-005-42 - PORT 6 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
153	146	10		Inspection Data Checklist: 1 steps
154	146	10	10	Material Certification: / SE120-005-42 - VVSA PORT 6 BACKING STRIP [mc109509.tif] (2650 5 6801)

SE120-005-43 - PORT 7 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
155	147	10		Inspection Data Checklist: 1 steps
156	147	10	10	Material Certification: / SE120-005-43 - VVSA PORT 7 BACKING STRIP [mc109514.tif] (2650 5 6801)

SE120-005-44 - PORT 8 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
157	148	10		Inspection Data Checklist: 1 steps
158	148	10	10	Material Certification: / SE120-005-44 - VVSA PORT 8 BACKING STRIP [mc109513.tif] (2650 5 6801)

SE120-005-45 - PORT 9 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
159	149	10		Inspection Data Checklist: 1 steps
160	149	10	10	Material Certification: / SE120-005-45 - VVSA PORT 9 BACKING STRIP [mc109562.tif] (2650 5 6801)

SE120-005-46 - PORT 10 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
161	150	10		Inspection Data Checklist: 1 steps
162	150	10	10	Material Certification: / SE120-005-46 - VVSA PORT 10 BACKING STRIP [mc109515.tif] (2650 5 6801)

SE120-005-47 - PORT 11 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
163	151	10		Inspection Data Checklist: 1 steps
164	151	10	20	Material Certification: / INCONEL 625_112 - PIPE, ALLOY 625, 2.5" SCH 10 [mc108425.tif] (26504674)

SE120-005-48 - PORT 15 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
165	152	10		Inspection Data Checklist: 1 steps
166	152	10	10	Material Certification: / SE120-005-48 - VVSA PORT 15 BACKING STRIP [mc109516.tif] (2650 5 6801)

SE120-006-6 - PORT 4 BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
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Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
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167	144	10		Inspection Data Checklist: 1 steps
168	144	10	10	Material Certification: / SE120-006-6 - VVSA PORT 4 BACKING STRIP [mc109561.tif] (2650 5 6801)

SE120-007-3 - PORT DOME BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
169	153	10	10	Material Certification: / SE120-007-3 - VVSA PORT DOME BACKING STRIP [mc109677.tif] (2650 5 6801)

SE120-013-1BLANK - VVSA FLANGE BLANK

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
170	154	10	10	Material Certification: / INCONEL 625_9 - PLATE,NICKEL ALLOY 1.75" THK [mc110168.tif] (51185/L04)
171	156	10	10	Material Certification: / INCONEL 625_9 - PLATE,NICKEL ALLOY 1.75" THK [See Item #170] (51185/L04)

SE120-014-FJS - PORT EXT. SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
172	193	60		Inspection Data Checklist: 5 steps

SE121-014 PORT - SPACER PORT SUB-ASSY

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
173	193	15		Inspection Data Checklist: 2 steps

SE121-014 S10-S6 SUB-SET - PANEL S10-S6 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
174	206	30		Inspection Data Checklist: 1 steps
175	206	130		Inspection Data Checklist: 1 steps
176	206	150		Inspection Data Checklist: 1 steps

SE121-014 S10-S6-S7 SUB-SET - PANEL S10-S6-S7 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
177	205	30		Inspection Data Checklist: 1 steps
178	205	150		Inspection Data Checklist: 1 steps
179	205	130		Inspection Data Checklist: 1 steps

SE121-014 S8-S9 SUB-SET - PANEL S8-S9 SUB-SET

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
180	209	30		Inspection Data Checklist: 1 steps
181	209	130		Inspection Data Checklist: 1 steps
182	209	150		Inspection Data Checklist: 1 steps

SE121-014 - VESSEL SPACER

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
183	193	12		Inspection Data Checklist: 4 steps
184	193	14		Inspection Data Checklist: 4 steps
185	193	25		Certification: X-RAY CERT [mc120811.tif]

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

186	193	25	Map(s): X-RAY MAP [See Item #185]
187	199	10	Inspection Data Checklist: 3 steps
188	199	30	Inspection Data Checklist: 1 steps

SE121-014-1 - SPACER WELDMENT

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
189	194	60		Inspection Data Checklist: 2 steps
190	194	160		Inspection Data Checklist: 2 steps

SE121-014-3BLANK - VVSA SPACER BLANK

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
191	195	10	10	Material Certification: / INCONEL 625_7 - PLATE,NICKEL ALLOY 1.5" THK [mc112435.tif] (2650-5-6861)
192	203	10	10	Material Certification: / INCONEL 625_7 - PLATE,NICKEL ALLOY 1.5" THK [See Item #191] (2650-5-6861)
193	236	10	10	Material Certification: / SE121-014-3BLANK - SPACER FLANGE BLANK [mc118811.tif] (512537L03)

SE121-091 - END COVER - 316L

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
194	217	30		Inspection Data Checklist: 1 steps
195	218	30		Inspection Data Checklist: 1 steps

SE121-091-1BLANK - VVSA END COVER BLANK

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
196	217	10	10	Material Certification: / SE121-091-1BLANK - VVSA END COVER BLANK [mc109666.tif] (818102)
197	218	10	10	Material Certification: / SE121-091-1BLANK - VVSA END COVER BLANK [See Item #196] (818102)

SE121-095 - VESSEL FLANGE SEAL

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
198	219	40		Inspection Data Checklist: 2 steps
199	233	40		Inspection Data Checklist: 2 steps
200	238	40		Inspection Data Checklist: 2 steps

SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
201	219	10	10	Material Certification: TRACE ID: 135018 / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 [mc114399.tif] (2650 5 6805)
202	219	10	10	Material Certification: / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 [mc114888.tif] (2650 5 6834)
203	223	10	10	Material Certification: / SE121-099-1 - VVSA END COVER SEAL - 316L [mc114628.tif] (819882-117581)
204	233	10	10	Material Certification: TRACE ID: 135016 / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 [mc117251.tif] (2650 5 6834)
205	233	10	10	Material Certification: / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 [See Item #204] (2650 5 6834)

SE121-099-1 - VV END COVER SEAL

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
206	219	10		Inspection Data Checklist: 1 steps
207	223	10		Inspection Data Checklist: 1 steps

Customer: 8780 - PRINCETON PLASMA PHYSICS LAB
Customer P.O.: S005243-F
Customer Part ID: SE120-002 - VVSA 120 DEGREE VESSEL PERIOD

208	224	10		Inspection Data Checklist: 1 steps
209	224	10	10	Material Certification: /SE121-099-1 - VVSA END COVER SEAL - 316L [See Item #203] (819882-117581)
210	233	10		Inspection Data Checklist: 1 steps
211	238	10		Inspection Data Checklist: 1 steps

SE122-007-3 - PORT DOME BACKING STRIP

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
212	153	10		Inspection Data Checklist: 1 steps

SE124-047 - CLEVIS BOSS

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
213	229	10		Inspection Data Checklist: 16 steps
214	229	20		Non-Conformance: 20248 Customer document: submittal [car06118.msg]

Z_NCR

Item#	Sub	Op	Pc	Document Type: Document Description / Material - Material Description [File Name] (Heat Lot)
215				NCR19990: [ncr19990disposition.pdf]
216				NCR19869: [mtm nc19869 disposition.pdf]
217				NCR20384: [s5243 mtm nc20384 dispositioned.pdf]
218				NCR20119: [ncr20119.pdf]
219				NCR20248: [ncr20248.pdf]
220				NCR20282: [mtm nc20282 disposition.pdf]
221				NCR20353: [s5243 mtm nc20353 disposition.pdf]
222				NCR20354: [s5243 mtm nc20354 disposition.pdf]
223				NCR19704: [ncr19704.pdf]

CERTIFICATE OF CONFORMANCE

TO: PRINCETON PLASMA PHYSICS LAB

DATE: 09/14/2006

ATTENTION: Receiving Department

Seller certifies that:

Part Number: SE120-002

Purchase Order: S005243-F

Part Name: VVSA 120 DEGREE VESSEL PERIOD

Workorder: 65678/3.0

Part Serial Number: N/A

Quantity: 1

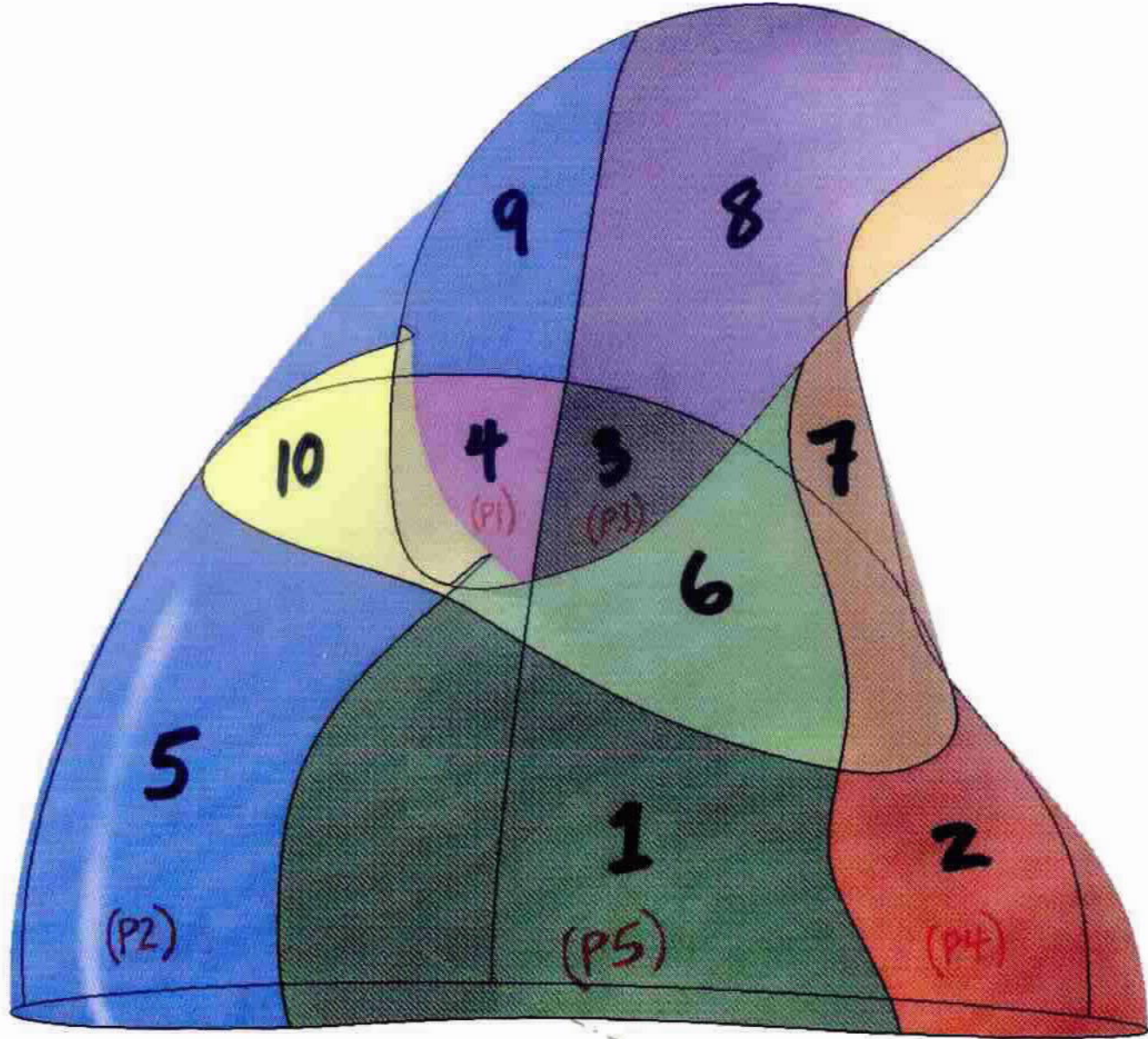
1. These materials and/or parts were produced in conformance with all contractually applicable Government and/or Customer specifications referred in, or furnished with, the above Purchase Order.
2. The materials and/or parts furnished under the above Purchase Order were produced:
 - From materials furnished 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:

MANUFACTURED PER B.P. SE120-002 REV. 1 AND P.O. REQUIREMENTS.
FABRICATION, INSPECTION AND TESTING PERFORMED IN ACCORDANCE WITH
NCSX-CSPEC-121-02 AND STATEMENT OF WORK NCSX-SOW-121-03.
THERMAL CYCLE PER PS486.

Signature: R. K. Upchurch Title: Inspector Date: 9-14-06





no V k vstem G bh A no V enlock R ig44 8 Udf get

Major Tool & Machine Inc
1458 F 19th Street
Indianapolis IN 46218
USA

Certificate/ Werksbescheinigung DIN EN ISO 10204 2 2

Item 3-480FAN2 0 G F Weld Flange DN 750CF
Bezeichnung flanged US tube tipped 316LN FSR

We hereby confirm that the above described item is made from
Hiermit bestätigen wir Ihnen dass das oben genannte Teil gefertigt wurde aus

Order Number P O 00 00908 AB 00 00847 RC 00 01045
Auftrags Nr

Date 1 febr 16 2006 1 febr 16 2006 March 14 2006
Datum

Material 316LN FSR
Werkstoff 1 4479 X2CrNiMoN17 13 3 FSR

Supplier ID
Lieferanten N 8814

Batch ID 9204 7

Characterization

Other Specs Permeability 1 01µm
Andere Kennziffer

Contract March 21 2006



APR 18 2006

Geschäftsführende Gesellschaft	Bankverbindung	Steuer-Nr.
Bezeichnung des Produktes	Kontostelle	Umsatzsteuer-Nr.
Druck- und Verarbeitungsbedingungen	Bank für den Zahlungsverkehr	Arbeitszeugnis-Verfahren
Dresden Bank	BLZ 250 500 00	308
	BLZ 250 800 25	



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

Major Tool & Mashine, Inc.
1458 East 19th Street
46218 Indianapolis, IN
USA

Invoice	
Document number	RG-06-01645
Date	14.03.2006
Customer number	D90170
Reference	P06-00908
User	Venema
Please mention in every inquiry!	

EU-USID:

We would like to invoice you as follows:

Pos	Artikel	Bezeichnung	Menge	ME	Einzelpreis	Gesamtpreis
		per Delivery note LS-06-01796 from 14.03.2006:				
1	3- 480FAN250- G-E	Weld Flange DN 250 CF, fixed, US Tube, tapped 316LN ESR. Delivery time 4 weeks. FOB Germany	1	pc.	925,00	925,00

Delivery date: 16.03.2006

Shipment per DHL/ accountnr. 807373949



APR 18 2006

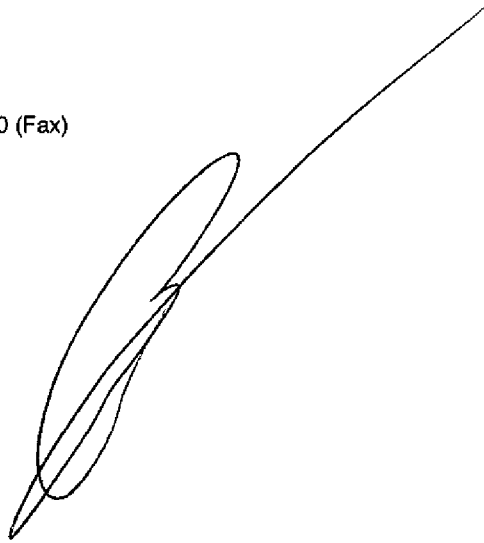
Zwischensumme US\$	925,00
plus VAT 0,00 % aus US\$ 925,00	0,00
Endsumme US\$	925,00

Payment via Invoice
30 Days (until 13.04.2006) without reduction 925,00 US\$

Please do not hesitate to contact us should you have any questions...

Yours sincerely

Fieneke Venema
Venema@trinos.com
+49 551 999 63 -0 (Tel) -10 (Fax)



APR 18 2006



1



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, March 14, 2006

i.o. Fiencke Venema

(place, date, full name and signature, official stamp)



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



APR 18 2006



Geschäftsführende Gesellschafter:

Betriebswirt Peter Spreitz
Dipl.-Phys. Marcus Weinhagen

Bankverbindungen:

Kreis-Sparkasse Northeim
BLZ: 262 500 01
Dresdner Bank
BLZ 260 800 24

Steuer-Nr.: 2022011036

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

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: 3-480FAN250-G-E Weld Flange DN 200CF,
Bezeichnung : fixed US-tube, tapped 316LN ESR

We hereby confirm that the above described item is made from:
Hiermit bestätigen wir Ihnen, dass das oben genannte Teil angefertigt wurde aus:

Order Number: P.O. 06-02297, AB-06-03037, RG-06-03476
Auftrags-Nr.:

Date: May 23, 2006/ May 24, 2006/ June 07, 2006
Datum.

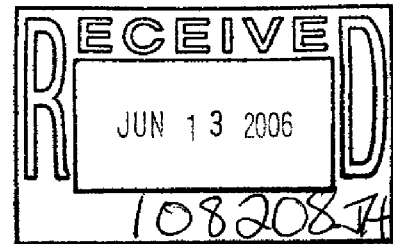
Material: 316 LN 'ESR'
Werkstoff: 1.4429 X2CrNiMoN17-13-3 'ESU'

Supplier ID:
Lieferanten Nr.: 8814

Batch ID: 920014

Chargen nr.:

Other Specs: Permeability: 1.007 G/Oe
Andere Kennziffer:



lines 4-5



JUN 13 2006

Göttingen, June 07, 2006

Geschäftsführende Gesellschafter:	Bankverbindungen:	Steuer Nr.: 2022011036, FA Göttingen
Betriebswirt Peter Spreitz	Kreis-Sparkasse Northeim	BLZ: 262 500 01 Kto-Nr.: 636 36
Dipl.-Phys. Marcus Weinhagen	Sparkasse Göttingen	BLZ: 260 500 01 Kto-Nr.: 670 59 41
	Dresdner Bank	BLZ: 260 800 24 Kto-Nr.: 923 82 32 0
		Ust.-IDNr.: DE 188 544 351
		Amtsgericht Göttingen, HRB Nr.: 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 Maßnachprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection				Ergänzung/Nachbehandlung Melting process/secondary refining Mode d'élaboration/traitement ultérieur ESU				Verwechslungsprüfung (spektrometrisch) Identification test (spectral-analysis) examination d'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		
Schmelze Heat %	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 ²	Rp1,0 N/mm ²	Rm N/mm ²	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		
383C1	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	Siegensden Place and date Lieu et date 20.04.2004					Der Werkstoffverständige 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.					



JUN 13 2006

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: 480FBL080-E Blank Flange DN 4.625 CF,
Bezeichnung: fixed 316LN ESR

We hereby confirm that the above described item is made from:
Hiermit bestätigen wir Ihnen, dass das oben genannte Teil angefertigt wurde aus:

Order Number: P.O. 06-02297, AB-06-03037, RG-06-03476
Auftrags-Nr.:

Date: May 23, 2006/ May 24, 2006/ June 07, 2006
Datum.

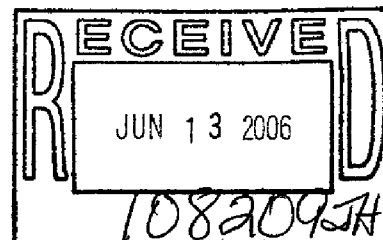
Material: 316 LN 'ESR'
Werkstoff: 1.4429 X2CrNiMoN17-13-3 'ESU'

Supplier ID:
Lieferanten Nr.: 8814

Batch ID: 920014

Chargen nr.:

Other Specs: Permeability: 1.007 G/Oer
Andere Kennziffer:



lines 6-7



JUN 13 2006

Göttingen, June 07, 2006

Geschäftsführende Gesellschafter:	Bankverbindungen:	Steuer Nr.: 2022011036, FA Göttingen
Betriebswirt Peter Spreitz	Kreis-Sparkasse Northeln: BLZ: 262 500 01 Kto-Nr.: 638 36	Ust-IDNr.: DE 188 544 351
Dipl.-Phys. Marcus Weinhausen	Sparkasse Göttingen: BLZ: 260 500 01 Kto-Nr.: 670 59 41	Amtsgericht Göttingen, HRB Nr.: 3008
	Dresdner Bank: BLZ: 260 800 24 Kto-Nr.: 923 82 32 0	

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												
Besichtigung und Maßprüfung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection					Erschmelzung/Nachbehandlung Melting process/secondary refining Mode d'élaboration/traitement ultérieur ESU					Verwechselungsprüfung (spektralanalytisch) Identification test (spectral-analysis) examenation d'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			
Schmelze Heat %	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/mm ²	Rp1,0 N/mm ²	Rm N/mm ²	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			
Korngröße nach ASTM E 112 : 3 Grain size acc. ASTM E 112: 3														
Reinheitsgrad 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					Siegeldat. Place and date Lieu et date 20.04.2004				Der Werkstoffverständige Works-Inspector L'expert de l'usine 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 aussi.														



JUN 13 2006

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: 3-480FAN100-G-E Weld Flange DN 160CF,
Bezeichnung : fixed US-tube, tapped 316LN ESR

We hereby confirm that the above described item is made from:
Hiermit bestätigen wir Ihnen, dass das oben genannte Teil angefertigt wurde aus:

Order Number: P.O. 06-02297, AB-06-03037, RG-06-03476
Auftrags-Nr.:

Date: May 23, 2006/ May 24, 2006/ June 07, 2006
Datum.

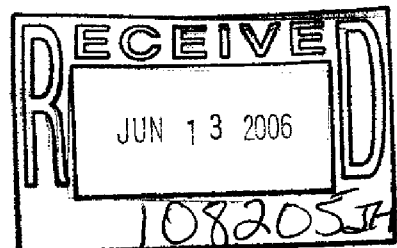
Material: 316 LN 'ESR'
Werkstoff: 1.4429 X2CrNiMoN17-13-3 'ESU'

Supplier ID:
Lieferanten Nr.: 8814

Batch ID: 920135

Chargen nr.:

Other Specs: Permeability: 1.006 G/Ocr
Andere Kennziffer:



line 8



JUN 13 2006

Göttingen, June 07, 2006

Geschäftsführende Gesellschafter:	Bankverbindungen:	Steuer Nr.: 2022011036, FA Göttingen
Betriebswirt Peter Spreitz	Kreis-Sparkasse Northeim	Ust.-IDNr.: DE 188 544 351
Dipl.-Phys. Marcus Weinhagen	Sparkasse Göttingen	Amtsgericht Göttingen, HRB Nr.: 3008
	Dresdner Bank	
	BLZ: 262 500 01	Kto-Nr.: 636 36
	BLZ: 260 500 01	Kto-Nr.: 670 59 41
	BLZ: 280 800 24	Kto-Nr.: 923 82 32 0

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												
Beschichtung und Maßnachprüfung Inspection and dimensional control Inspection et contrôle de dimension					Erschmelzung/Nachbehandlung Melting/process/secondary refining Mode d'élaboration/traitement ultérieur					Verwechslungsprüfung (spektralanalytisch) Identification test (spectral-analysis) examenation d'identification (analyse spectrale)				
ohne Beanstandung without objection					ESU					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			
Schmelz- 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	12,10	0,1510	0,051				
Wärmebehandlungszustand Condition of heat treatment		Lösungsgeglüht solution annealed												
Treatment thermique		1050°C Wasser/water												
Probe-Nr. Test-No.	Lage Loc.	Temp. °C	Rp0,2 N/mm ²	Rp1,0 N/mm ²	Rm N/mm ²	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	298	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>														
Anlagen Site Adresse					Siegensden Place and date Lieu et date 05.11.2004					Der Werkssachverständige Works-Inspector L'expert de l'usine Langer				
Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig.								This certificate was generated by date system if must not be signed for validity as well. Ce certificat a été établi sur système informatique et est valable sans signature aussi.						

JUN 13 2006

Trn Vakuu Sys erne GmbH Anna Vandenhoeck Ring 44 3 08 Göttingen

Major Tool & Machine Inc
 1458 E 19^h Street
 Indianapolis IN 46218
 USA

Certificate/ Werksbescheinigung DIN EN ISO 10204 2 2

Item 3-480FAN160 G E Weld Flange DN 160CF
 Bezeichnung fixed US tube tapped 316LN ESR

We hereby confirm that the above described item is made from
 Hiermit bestätigen wir Ihnen dass das oben genannte Teil angefertigt wurde aus

Order Number P O 06 02297 AB 06 03037 RG 06 03476
 Auftrags Nr

Date May 23 2006 May 24 2006 June 07 2006
 Datum

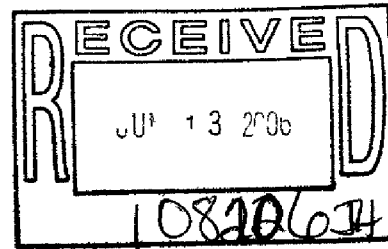
Material 316 LN ESR
 Werkstoff 1 4429 X2CrNiMoN17 13 3 ESU

Supplier ID 8814
 Lieferanten Nr

Batch ID 920135

Chargen nr

Other Specs Permeability 1 006 G/Oer
 Andere Kennziffer



lines 1-2



JUN 13 2006

Göttingen June 07 2006

Ge häftsführende Gesellschafter	Ba k e bündungen	S eue N 20220 036 FA Göttinge
Be ebswrtPe e Sp etz	K es Sparkasse Northe m B Z 262 500 0 K o N 636 36	Us DN DE 88 544 35
D p Ph s Ma us We nhage	Spa kasse Göttingen B Z 260 500 0 K o N 6 0 59 4	Am sgen ht Göttinge HRB N 3006
	Dresdne Bank BLZ 260 800 24 K o N 923 82 32 0	

Erzeugnis: 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												
Beschreibung und Maßnachprüfung inspection and dimension control inspection et contrôle de dimension ohne Beanstandung without objection					Erschmelzung/Nachbehandlung Melting process/secondary refining Mode d'élaboration/traitement ultérieur ESU					Verwechslungsprüfung (spektralanalytisch) Identification test (spectro-analysis) examination d'identification (analyse spectrale) ohne Beanstandung without objection				
Pos. Item	Anzahl Quantity	Abmessung Dimension								Gewicht kg Weight kg	Schnitt-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	12,10	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 ²	Rp1,0 N/mm ²	Rm N/mm ²	AS %	Z n	Kerbschlagarbeit Impact value J		Probenform Shape of test piece Charpy-V		Härte HB Hardness		
5011/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			
<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>														
Anlagen Esc Annexe					Siegensden Place and date Lieu et date 05.11.2004					Der Werkstoffverständige 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.						



JUN 13 2006

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: 3-480FAN200-G-E Weld Flange DN 200CF,
 Bezeichnung: fixed US-tube, tapped 316LN ESR

We hereby confirm that the above described item is made from:
 Hiermit bestätigen wir Ihnen, dass das oben genannte Teil angefertigt wurde aus:

Order Number: P.O. 06-02297, AB-06-03037, RG-06-03476
 Auftrags-Nr.:

Date: May 23, 2006/ May 24, 2006/ June 07, 2006
 Datum.

Material: 316 LN 'ESR'
 Werkstoff: 1.4429 X2CrNiMoN17-13-3 'ESU'

Supplier ID:
 Lieferanten Nr.: 8814

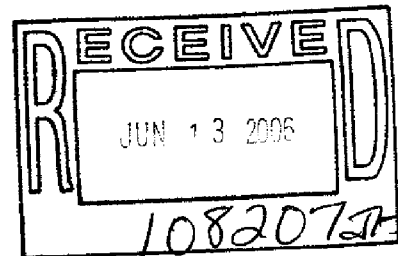
Batch ID: 920014

Chargen nr.:

Other Specs: Permeability: 1.007 G/Oe
 Andere Kennziffer:



JUN 13 2006



Line 3

Göttingen, June 07, 2006

Geschäftsführende Gesellschafter:	Bankverbindungen:	Steuer Nr.: 2022011036, FA Göttingen
Betriebswirt Peter Spreitz	Kreis-Sparkasse Northeim	Ust.-IDNr.: DE 188 544 351
Dipl.-Phys. Marcus Weinhausen	Sparkasse Göttingen	Amtsgericht Göttingen, HRB Nr.: 3008
	Dresdner Bank	
	BLZ: 262 500 01	Kto-Nr.: 636 36
	BLZ: 260 500 01	Kto-Nr.: 670 59 41
	BLZ: 260 800 24	Kto-Nr.: 923 82 32 0

Erzeugnisform Product		Stab, rund, geschmiedet, gedreht Round bars, forged, turned												
Werkstoff / Material Requirements		1.4429 X2CrNiMoN17-13-3 ESU												
Anforderungen Requirements		Kundenbestellung / customer order 1.4429 X2CrNiMoN17-13-3 ESU, DIN 17440 - 09/96												
Beschreibung und Maßbestimmung Inspection and dimensional control Inspection et contrôle de dimension ohne Beanstandung without objection					Erschmelzung/Nachbehandlung Melting process/secondary refining Mode d'élaboration/traitement ultérieur ESU					Verwechslungsprüfung (spektralanalytisch) Identification test (spectral analysis) examenation d'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			
Schmelze Heat %	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 ²	Rp1,0 N/mm ²	Rm N/mm ²	A5 %	Z %	Kerbschlagarbeit Impact value J	Probenform Shape of last piece Charpy-V	Härte HB Hardness				
Q	Q	+20	>=295	>=330	>=530	>=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 : K1 = 1,13 Degree of purity acc. DIN 50602: K1 = 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>														
Anlagen Encl. Annex					Siegeln, den Place and date Lieu et date 20.04.2004			Der Werksachverständige 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.				



JUN 13 2006

Quality Assurance Documentation for Part ID: REPLACMENT TRINOS FLANGES - Item: 12

Workorder: 65678/3-0 Sub:240 Op:30

Part: REPLACMENT TRINOS FLANGES - REWORK / REPAIR PER N/C - N/C # _____

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	728-R.D	053-M.D	
(30)		VWI - P5AF INTERIOR COVER PASS / FI		CWI				06-15-06	06-15-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(40)		VWI - P5AF EXTERIOR FILLETS		CWI				06-15-06	06-15-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(70)		VWI - P7AF INTERIOR COVER PASS / FI		CWI				06-16-06	06-16-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(80)		VWI - P7AF EXTERIOR FILLETS		CWI				06-16-06	06-16-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(110)		VWI - P10AF INTERIOR COVER PASS / F		CWI				06-19-06	06-19-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(120)		VWI - P10AF EXTERIOR FILLETS		CWI				06-19-06	06-19-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(150)		VWI - P9BF INTERIOR COVER PASS / FI		CWI				06-14-06	06-15-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(160)		VWI - P9BF EXTERIOR FILLETS		CWI				06-14-06	06-15-06	A
*				MFG		VISUAL	GOOD	197-T.FI	053-M.D	
(190)		VWI - P6BF INTERIOR COVER PASS / FI		CWI				06-19-06	06-19-06	A
*				MFG		VISUAL	GOOD	197-T.FI	053-M.D	
(200)		VWI - P6BF EXTERIOR FILLETS		CWI				06-19-06	06-19-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(230)		VWI - P11AF INTERIOR COVER PASS / F		CWI				06-16-06	06-16-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(240)		VWI - P11AF EXTERIOR FILLETS		CWI				06-16-06	06-16-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(270)		VWI - P11BF INTERIOR COVER PASS / FI		CWI				06-15-06	06-16-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(280)		VWI - P11BF EXTERIOR FILLETS		CWI				06-15-06	06-16-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(310)		VWI - P2BF INTERIOR COVER PASS / FI		CWI				06-14-06	06-15-06	A



Major

Tool & Machine, Inc.

INSPECTION DATA CHECKLIST

*(320)		VWI - P2BF EXTERIOR FILLETS		MFG CWI		VISUAL ACCEPTABLE	299-M.G 06-14-06	053-M.D 06-15-06		A
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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 468166001-0	Date Entered Date De Commande Bestelldatum 05/16/06	Customer Reference Reference Client Kundenbestelldaten P06-02215	Report No. Rapport No Zeugnis Nr 20060517025	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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HAYNES
International

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


Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestimmung MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.1875 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
---	---	---

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1	Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 PC
---	---	---

Heat Number Numero De Coilee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																		
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W		
2650 5 6834	0.18		0.031	3.5	0.2154	22.29		4.2836	0.2766	8.59	59.94	0.007	0.003	0.18	0.285				BUTT END *02
2650 5 6834																			BUTT END *02

Certified By • Certifie Par • Bescheinigt Durch: **Amanda Aguirre**
Certification Technician
5/17/2006

Amanda Aguirre

 **MAY 22 2006**

RECEIVED
MAY 22 2006
107716

THE DATA CONTAINED HEREIN WAS OBTAINED FROM SAMPLES THAT ARE REPRESENTATIVE OF THE PRODUCTS IN THE SUBJECT SHIPMENT. THE 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 PENALIZED AS A FELONY 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.

LINE 1

MC118674.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

CUSTOMER COPY

Sales Order No Reference Commande Bestellungs Nr 468166001-0	Date Entered Date De Commande Bestelldatum 05/16/06	Customer Reference Reference Client Kundenbestelldaten P06-02215	Report No. Rapport No Zeugnis Nr 20060517025	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 • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.1875 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
---	---	---

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1	Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expeditee Liefermenge 1 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 Hic.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	Temp:	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	Temp:	Test Essai Versuch	Stress Constrained Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
131000 PSI		66500 PSI	46 %		(1)(A)												

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

5/17/2006 (1) 2942812701

Amanda Aguirre



MAY 22 2006

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(S), 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 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.

MC118674.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 468166001-0	Date Entered Date De Commande Bestelldatum 05/16/06	Customer Reference Reference Client Kundenbestelldaten P06-02215	Report No. Rapport No Zeugnis Nr 20060517025	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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HAYNES
International

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

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.1875 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1		Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expeditee Liefermenge 1 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.
THIS MATERIAL WAS MELTED AND MANUFACTURED IN THE UNITED STATES.
Mill Orders Used: 2942812701 (1 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: **Amanda Aguirre** 5/17/2006
Certification Technician

Amanda Aguirre

MTM
016
MAY 22 2006

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(S), 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 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.

MC118674.TIF4



...better ways to join metals
www.jwharris.com

J. W. Harris Co., Inc.
4501 Quality Pl., Mason OH 45040
Certificate of Compliance

Attn: SCOTT
Sold to: MITTLER SUPPLY

Date: 11/24/2004
P.O.#:
Fax No: 317-290-0412

Heat #: 63706
Item Number: E70S250

Description: ER70S-2 3/32 X 36 MS

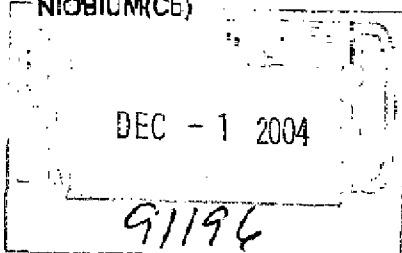
Weight:

Specifications:

AWS 5.18 ER70S-2
ASME SFA 5.18 ER70S-2

CHEMICAL COMPOSITION LIMITS

ARSENIC					
ANTIMONY					
ALUMINUM	0.05-0.15				
BISMUTH					
BERYLLIUM					
BORON					
CARBON	0.00-0.07				
CHROMIUM	0.00-0.15				
COPPER	0.0-0.5				
COBALT					
CADMIUM					
NIObIUM(Cb)					
		HYDROGEN		TANTALUM	
		IRON		TITANIUM	0.05-0.15
		LEAD		TIN	
		LITHIUM		THORIA	
		MAGNESIUM		TUNGSTEN	
		MOLYBDENUM	0.00-0.15	VANADIUM	0.00-0.03
		MANGANESE	0.9-1.4	YTTRIUM	
		SILICON	0.4-0.7	ZINC	
		PHOSPHORUS	0.000-0.025	ZIRCONIUM	0.02-0.12
		SULFUR	0.000-0.035	REMAINDER IRON	
		NICKEL	0.00-0.15	OTHER	.5 TOTAL
		NITROGEN		WRC FN	
		SILVER			
		OXYGEN			



Single values are maximum unless otherwise specified.

SAFETY SILV, STAY SILV, STAY CLEAN, STAY BRITE & BRIDGIT ARE REGISTERED TRADEMARKS OF J.W. HARRIS CO., INC.

We certify that the items and/or materials listed above are in accordance with all applicable purchase specifications having passed our inspections as noted.

Jennifer L. Gray
Certification Clerk

California 800-423-4486 fax 626-912-4272
Massachusetts 800-343-0543 fax 617-268-2742
Michigan 800-826-2484 fax 248-634-1910

Ohio 800-733-4043 fax 800-754-8778
Texas 800-852-8020 fax 713-644-1807



...better ways to join metals

www.jwharris.com

J. W. Harris Co., Inc.

4501 Quality Pl., Mason OH 45040

Certificate of Compliance

Attn: SCOTT
Sold to: MITTLER SUPPLY

Date: 11/24/2004
P.O.#:
Fax No: 317-290-0412

Heat #: 63706
Item Number: E70S250

Description: ER70S-2 3/32 X 36 MS

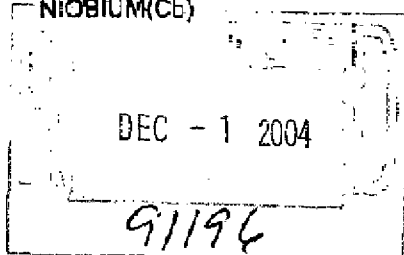
Weight:

Specifications:

AWS 5.18 ER70S-2
ASME SFA 5.18 ER70S-2

CHEMICAL COMPOSITION LIMITS

ARSENIC		HYDROGEN		TANTALUM	
ANTIMONY		IRON		TITANIUM	0.05-0.15
ALUMINUM	0.05-0.15	LEAD		TIN	
BISMUTH		LITHIUM		THORIA	
BERYLLIUM		MAGNESIUM		TUNGSTEN	
BORON		MOLYBDENUM	0.00-0.15	VANADIUM	0.00-0.03
CARBON	0.00-0.07	MANGANESE	0.9-1.4	YTTRIUM	
CHROMIUM	0.00-0.15	SILICON	0.4-0.7	ZINC	
COPPER	0.0-0.5	PHOSPHORUS	0.000-0.025	ZIRCONIUM	0.02-0.12
COBALT		SULFUR	0.000-0.035	REMAINDER IRON	
CADMIUM		NICKEL	0.00-0.15	OTHER	.5 TOTAL
NIObIUM(Cb)		NITROGEN		WRC FN	
		SILVER			
		OXYGEN			



Single values are maximum unless otherwise specified.

SAFETY SILV, STAY SILV, STAY CLEAN, STAY BRITE & BRIDGIT ARE REGISTERED TRADEMARKS OF J.W. HARRIS CO., INC.

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Ohio 800-733-4043 fax 800-754-8778
Texas 800-852-8020 fax 713-644-1807

BRANFORD WIRE & MFG.
 P. O. BOX 677
 MOUNTAIN HOME, NC
 PHONE: 828-692-5791
 FAX#: 828-697-9818

CERTIFICATE OF COMPLIANCE / TEST REPORT

4/04/05

27117

BUYER: HAYNES INTERNATIONAL
 P. O. BOX 9013
 1020 WEST PARK AVE.
 KOKOMO, IN
 46904-9013

CUSTOMER P. O. NBR: 1429
 ORD/LN NBR: 025988/01
 CUSTOMER PART NBR: 326506200170000

PROD. DESC: WELDING / METALLIZING WIRE
 SIZE: .062X36"

TYPE: INC625
 QTY LBS: 652

SPECIFICATION
 AWSA5.14-97/ERNICRMQ-3

CHEMICAL ANALYSIS

HEAT NBR.	C	MN	P	S	SI	NI	CR	MO	CU
34932	10.016	0.030	0.004	0.0035	0.040	63.89	22.35	09.00	0.020

NB 3.45 OTHER ELEMENTS*0.1265


Y	TA	TI	NB	AL	N	CO	FE	W	V	B
103.45	0.230		10.080			10.760				

MECHANICAL PROPERTIES

TENSILE	YIELD	ELONGATION	HARDNESS	BREAK	ROA
LBS/SQ. INCH	LBS/SQ INCH	%			%
	HARD				

WRAP TEST	UNIFORM. TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

OTHER TEST(S) AND/OR REQUIREMENTS:

411865
 95355
 W/A Line 6


(MATERIAL IS FREE OF MERCURY CONTAMINATION)

THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P. O.

COUNTRY OF ORIGIN	I. C. REPRESENTATIVE	DATE SIGNED
USA	<i>Dayle Chang</i>	4/04/05

IF INITIALED AND DATED HERE _____ THIS IS AN AMENDED CERTIFICATION

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	QUANTITY
1	1/16 X 36"	ARCOS 625	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	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

Eileen Zerby Q.A. CLERK
 QUALITY ASSURANCE DEPARTMENT

81505
 Line 1
 R. 7

12/5/03

BRANFORD WIRE & MFG.
 P. O. BOX 677
 MOUNTAIN HOME, NC
 PHONE: 828-692-5791
 FAX#: 828-697-9818

CERTIFICATE OF COMPLIANCE / TEST REPORT

3/23/05

27058

BUYER: HAYNES INTERNATIONAL
 P. O. BOX 9013
 1020 WEST PARK AVE.
 KOKOMO, IN
 46904-9013

CUSTOMER P. O. NBR: 1423
 ORD/LN NBR: 025982/01
 CUSTOMER PART NBR: 326506200170000

PROD. DESC: WELDING / METALLIZING WIRE
 SIZE: .062X36"

TYPE: INC625
 QTY LBS: 400

SPECIFICATION
 AWSA5. 14-97/ERNICRMO-3

CHEMICAL ANALYSIS

HEAT NBR.	C	MN	P	S	SI	NI	CR	MO	CU
34932	10.016	0.030	0.004	0.0035	0.040	63.89	22.35	09.00	0.020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
103.45	10.230	3.45	10.080			10.760				

MECHANICAL PROPERTIES

TENSILE LBS/SQ. INCH	YIELD LBS/SQ INCH	ELONGATION %	HARDNESS	BREAK %	ROA %
	HARD				

WRAP TEST	UNIFORM. TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

OTHER TEST(S) AND/OR REQUIREMENTS:

04.01.2005

94838

~~94838~~ ^{NA}
 line 4 (20-106 ^{TUBES})

(MATERIAL IS FREE OF MERCURY CONTAMINATION)

THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P. O.

COUNTRY OF ORIGIN	I. C. REPRESENTATIVE	DATE SIGNED
USA	<i>Ray de...</i>	3/23/05

MTM 09
 4/4/05

IF INITIALED AND DATED HERE THIS IS AN AMENDED CERTIFICATION

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.		QUANTITY			
1	1/16 X 36"	ARCOS 625		AV8128		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: _____

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

12/23/03

81947
 line 1

Q.A. MANAGER
 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

27038

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

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	.0006	<.05	65.00	20.82	08.36	0.020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
0.020	0.019	0.03	0.43	0.220		0.130	0.91			

MECHANICAL PROPERTIES

TENSILE	YIELD	ELONGATION	HARDNESS	BREAK	ROD
LBS/SQ. INCH	LBS/SQ. INCH	%			%
	1/4HRD				

WRAP TEST	UNIFORM TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

OTHER TEST(S) AND/OR REQUIREMENTS:

04.01.2005
 94843
 Line 1 50 turned

(MATERIAL IS FREE OF MERCURY CONTAMINATION)

THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P. O.

COUNTRY OF ORIGIN	Q. REPRESENTATIVE	DATE SIGNED
GERMANY	<i>Dayle Chang</i>	3/21/05



IF INITIALED AND DATED HERE _____ THIS IS AN AMENDED CERTIFICATION

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	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



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: 828-692-5791
 FAX#: 828-697-9818

CERTIFICATE OF COMPLIANCE / TEST REPORT

3/21/05

27038

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

PROD. DESC: WELDING / METALLIZING WIRE
 SIZE: .093X36"

TYPE: INC625
 QTY LBS: 550

SPECIFICATION
 AWSA5.14-97/ERNICRMQ-3

CHEMICAL ANALYSIS

HEAT NBR.	C	MN	P	S	SI	NI	CR	MO	CU
K48859	10.019	10.030	<.005	.0006	<.05	165.00	20.82	108.36	10.020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
	10.020	10.019	103.43	10.220		10.130	101.91			

MECHANICAL PROPERTIES

TENSILE	YIELD	ELONGATION	HARDNESS	BREAK	ROA
LBS/SQ. INCH	LBS/SQ INCH	%			%
	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. Q. REPRESENTATIVE
Dayle Chang

Stulor


DATE SIGNED
 3/21/05

IF INITIALED AND DATED HERE

BRANFORD WIRE & MFG

NU 188 P 3

P O BOX 677
MOUNTAIN HOME, NC
PHONE 828-692-5791
FAX# 828-697-9818

CERTIFICATE OF COMPLIANCE / TEST REPORT

4/06/05

27133

BUYER HAYNES INTERNATIONAL
P O BOX 9013
1020 WEST PARK AVE
KOKOMO, IN
46904-9013

CUSTOMER P O NBR 1429
ORD/LN NBR 025988/02
CUSTOMER PART NBR 326504200240000

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	0 006	< 0 05	145 00120	52108	36	0 020

Y	TA	TI	NE	AL	N	CO	FE	W	V	B
10 020	10 019	03 43	0 220			10 130	01 91			

MECHANICAL PROPERTIES

TENSILE	YIELD	ELONGATION	HARDNESS	BREAKING
(LBS/SQ INCH)	(LBS/SQ INCH)	%		%

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

4/18/05
95358 Line 2 WA



COUNTRY OF ORIGIN
GERMANY

REPRESENTATIVE
[Signature]

DATE SIGNED
4/06/05

IF INITIALED AND DATED HERE THIS IS AN AMENDED CERTIFICATION



CERTIFICATION ACCORDING TO ASME SECT II PART C

COP ORDER #: 076432

Böhler Thyssen Welding USA Inc
10401 Greenbough Drive

FAX CERTS TO #

Stafford, TX 77477

PRODUCTION DESCRIPTION : ER316LT

DIAMETER : 1/16X36

AWS/ASME SPECIFICATION : A/SFA5.9

WEIGHT : 300 LBS

AWS/ASME CLASSIFICATION: ER316L

HEAT/LOT : 95316

*ACTUAL CHEMICAL ANALYSIS *

C 0.018	Si 0.36	Mn 1.61	P 0.008
S 0.009	Cr 18.35	Mo 2.52	Ni 12.08
Cu 0.10			

** MECHANICAL PROPERTIES

YIELD STRENGTH :
0,2 %
PSI (N/mm²)

ELONGATION : 35

TENSILE STRENGTH : 81,000
PSI (N/mm²)

HARDNESS :

IMPACT-VALUE : 35
(ISO-V) TEST TEMPERATURE : 68 F (20 C)
FT-LBS (J)

REMARKS

FERRITE CONTENT :

ACCORDING TO :

* SFA 5.01 SCHEDULE H
** SFA 5.01 SCHEDULE G

Q & A Department

Jul 30, 2002

Böhler Thyssen Welding USA, Inc.
P.O. Box 721678, Houston, Texas 77272-1678
10401 Greenbough Drive, Stafford, Texas 77477

Tel: (281) 499-1212 • Internet: www.bowusa.com
Fax: (281) 499-4347 • e-mail: cuservc@bowusa.com
(800) 527-0791



...better ways to join metals
www.jwharris.com

J. W. Harris Co., Inc.
4501 Quality Pl., Mason OH 45040
Certificate of Compliance

Attn: SCOTT
Ship to: MITTLER SUPPLY
INDIANAPOLIS, IN

Date: 3/1/2006
P.O.#:
Fax No: 317-290-0412

Heat #: 013267
Item Number: E70S250

Description: ER70S-2 3/32 X 36 MS 10# PKG

Weight:

Specifications:

AWS 5.18 ER70S-2
ASME SFA 5.18 ER70S-2

CHEMICAL COMPOSITION LIMITS

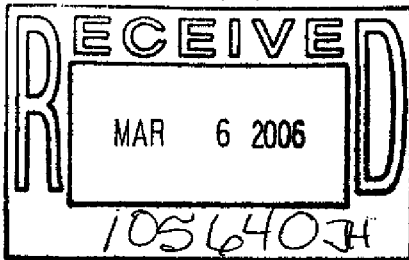
ARSENIC
ANTIMONY
ALUMINUM 0.05-0.15
BISMUTH
BERYLLIUM
BORON
CARBON 0.00-0.07
CHROMIUM 0.00-0.15
COPPER 0.0-0.5
COBALT
CADMIUM
NIOBIUM(Cb)

HYDROGEN
IRON
LEAD
LITHIUM
MAGNESIUM
MOLYBDENUM 0.00-0.15
MANGANESE 0.9-1.4
SILICON 0.4-0.7
PHOSPHORUS 0.000-0.025
SULFUR 0.000-0.035
NICKEL 0.00-0.15
NITROGEN
SILVER
OXYGEN

TANTALUM
TITANIUM 0.05-0.15
TIN
THORIA
TUNGSTEN
VANADIUM 0.00-0.03
YTTRIUM
ZINC
ZIRCONIUM 0.02-0.12
REMAINDER IRON
OTHER .5 TOTAL
WRC FN



MAR 07 2006



Lines 3 & 5

Single values are maximum unless otherwise specified.

SAFETY SILV, STAY SILV, STAY CLEAN, STAY
BRITE & BRIDGIT ARE REGISTERED
TRADEMARKS OF J.W. HARRIS CO., INC.

We certify that the items and/or materials listed above are in accordance with all applicable purchase specifications having passed our inspections as noted.

Karin Nixon
Signature

California 800-423-4486 fax 626-912-4272
Massachusetts 800-343-0543 fax 617-268-2742
Michigan 800-826-2484 fax 248-634-1910

Ohio 800-733-4043 fax 800-754-8778
Texas 800-852-8029 fax 713-644-1807

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
line 1

APR 040
AKH

GIB GRATTI, QUALITY ASSURANCE MANAGER
QUALITY ASSURANCE DEPARTMENT

Quality Assurance Documentation for Part ID: SE120-002 - Item: 27

Workorder: 65678/3-0 Sub:1 Op:10

Part: SE120-002 - -

Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE	358-D.M	933-D.L	
(10)		VWI VESSEL FLANGE A SEAL WELD R		CWI				08-23-06	08-23-06	A
*				MFG		VISUAL	ACCEPTABLE	358-D.M	933-D.L	
(20)		VWI VESSEL FLANGE B SEAL WELD R		CWI				08-23-06	08-23-06	A
*				MFG		VISUAL	ACCEPTABLE	358-D.M	933-D.L	
(30)		VWI VESSEL FLANGE A SEAL WELD C		CWI				08-23-06	08-23-06	A
*				MFG		VISUAL	ACCEPTABLE	358-D.M	933-D.L	
(40)		VWI VESSEL FLANGE B SEAL WELD C		CWI				08-23-06	08-23-06	A

Quality Assurance Documentation for Part ID: SE120-002 - Item: 27

Workorder: 65678/3-0 Sub:2 Op:10

Part: SE120-002 - - VACUUM TESTING / PORT REMOVAL / FINAL INSPECTION ACTIVITIES SE120-003-1 120 DEGREE PRIMARY VESSEL WELDMENT

Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		BASE PRESSURE LESS THAN 1 x 10 ⁽⁻³⁾ (PRIOR TO THERMAL CYCLE)		QA		VISUAL	VISUAL OF GAGES	854-R.U		
(10)								08-19-06		

A

4959

10520 Chester Road
Woodlawn, Ohio 45215



CLIENT Major Tool + Machine		INTERPRETER/LEVEL Robert Weaver/II		RADIOGRAPHER Robert Weaver		JOB NO 13860001	P.O. NO N/A	DATE 2/10/06		
ISOTOPE/X-RAY IR192	DIA. X LENS/V .118" x .065"	CURIES/MA 55	FOCAL SPOT SIZE .137"	SFD 15"	SOD 14.625"	TIME 1:30	FILM PROCESSING Auto	FILM TYPE Kodak AA	FILM TECHNIQUE Double	PB SCREENS .010"
WELD PROCESS GTAW		MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER N/A	MATERIAL THICKNESS .375"	PENETRATOR ASTM 1B	SHIM N/A	ACCEPTANCE STANDARD ASME VIII, Div. 1, UW-51			

DESCRIPTION
65678/3.0/5/195/818
SE120-002
Page 1 of 2

REMARKS
Densitometer - 12105
cal dur - 5/2/06

FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT THROUGH	BURN THROUGH	CRATER/PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
			SIZE	QUALITY LEVEL																								
8	0-14	D.M.	1B	.010"		✓																				✓		
10						✓																				✓		
11						✓																				✓		
12						✓																				✓		
23						✓																				✓		
24						✓																				✓		
25						✓																				✓		
27						✓																				✓		

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrator
S Shim
L Location Marker
() OTHER

Robert Weaver 65514/II

Cooperheat-MQS Signature

[Signature]

Customer Representative Signature

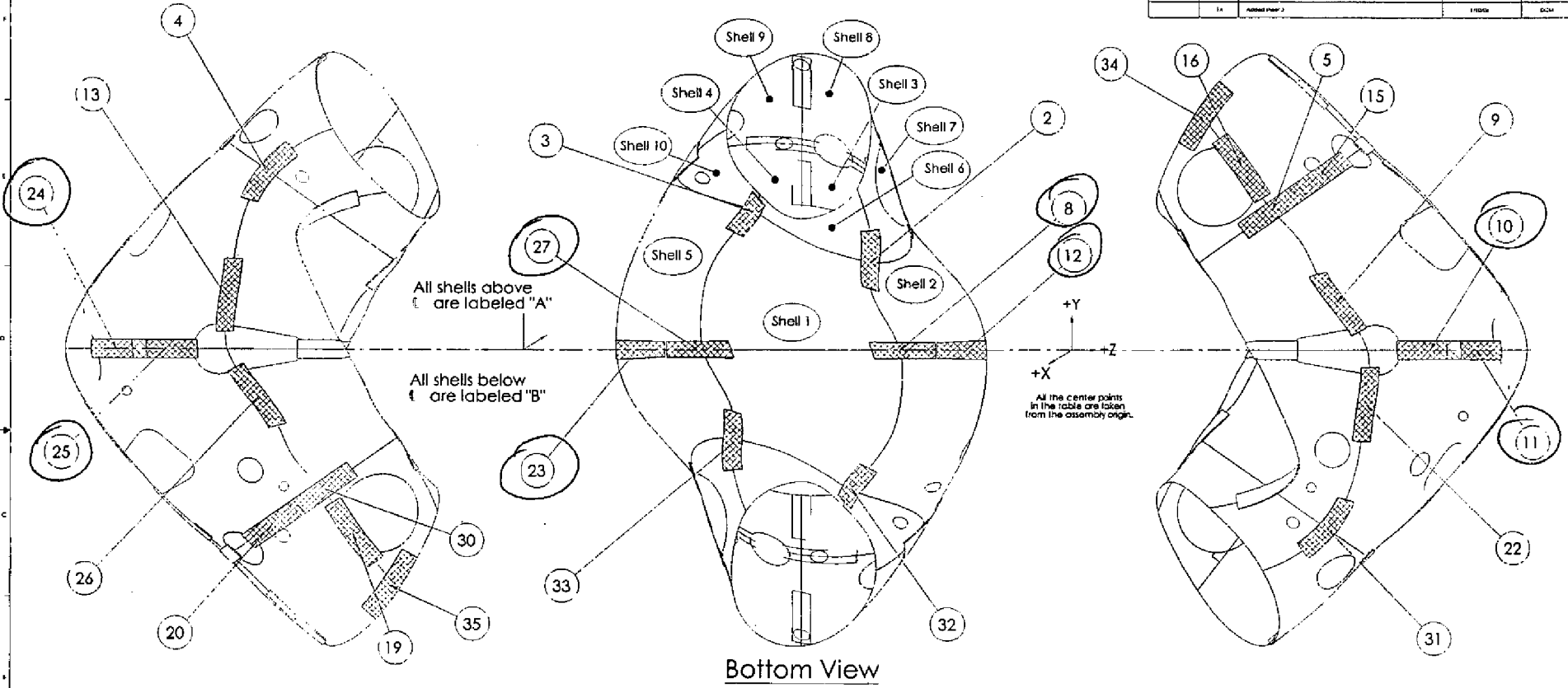
2/10/06

Date

MC116527.TIF1

65678/3.0/5/195/818
 SE120-002
 2/10/06
 page 2 of 2

Date	Rev	Description	Date	Drawn by
	01	FOR PEEK FABRICATION	6/11/2005	STJ
	1*	ADDENDUM PARTS 21 & 22	5/11/2006	SDP
	1*	ADDENDUM PART 3	1/18/06	SCM



Bottom View

CDC/Prnc 120° Segment X-Ray Film Layout	
SHEET NO. D SE120-002-1-02/1M 12A	SCALE: 1:100000 SHEET OF 3

MC116527.TIF2

D:\mch2005\1

TEAM® Industrial Services, Inc.
TCM Division

10540 Chester Road
Cincinnati, Ohio 45215
(513) 771-3292 Phone

RADIOGRAPHY READER SHEET

Form # 20.3A Rev. 3

Densitometer S/N 12105 Cal Date 5/2/06

Client <u>Major Tool & Machine</u>		Interpreter/Level <u>John Bullard II</u>		Radiographer <u>Robert Weaver</u>		Job No. <u>13860001</u>	P.O. No. <u>NA</u>	Date <u>7/25/06</u>		
Isotope/X-Ray <u>IR192</u>	Dia. X Len/KV <u>.118" x .094"</u>	Curies/MA <u>32</u>	Focal Spot Size <u>.151"</u>	SFD <u>15"</u>	SOD <u>14.625"</u>	Time <u>2:10</u>	Film Processing <u>Auto</u>	Film Type / 1 or 2 <u>2</u>	PB Screens <u>.002"</u>	Film Technique <u>Single Wall</u>
Weld Process / Heat Number <u>GTAW</u>		Material Spec. <u>625 Inconel</u>	Material Diameter <u>NA</u>	Material Thickness <u>.375"</u>	Penetrameter <u>ASTM B</u>	Shim <u>NA</u>	Acceptance Standard <u>ASME VIII, UW-51</u>			

Description 65678/30/5/247/88 Density Readings through IQI(s) & Area of Interest 2.0-4.0 Remarks: Refer to Film Identification for Special Requirement for ASME Sec XI Pg 1 of 3
SE-120-002 page 1 of 3

FITTING SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRATOR		SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK 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	0-10	MR	1B	C-10																									
3	C-10																												
36	A-B																												
37	A-B																												
38	C-10						✓																						
39	A-B																												
40	A-B																												
41	A-B																												
42	A-B						✓																						
43-2	C-10						✓																						
44	A-B																												
45	A-B																												
46	C-10																												
47	C-10																												
48	C-10																												

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrameter
S Shim
L Location Marker
| OTHER

John Bullard II
TEAM Technician Signature

Robert Weaver 7/26/06
Customer Representative Signature

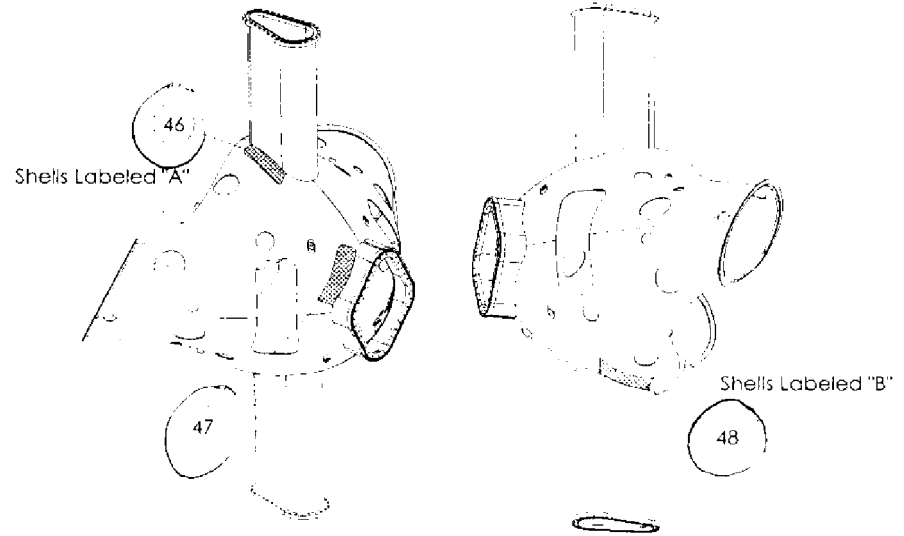
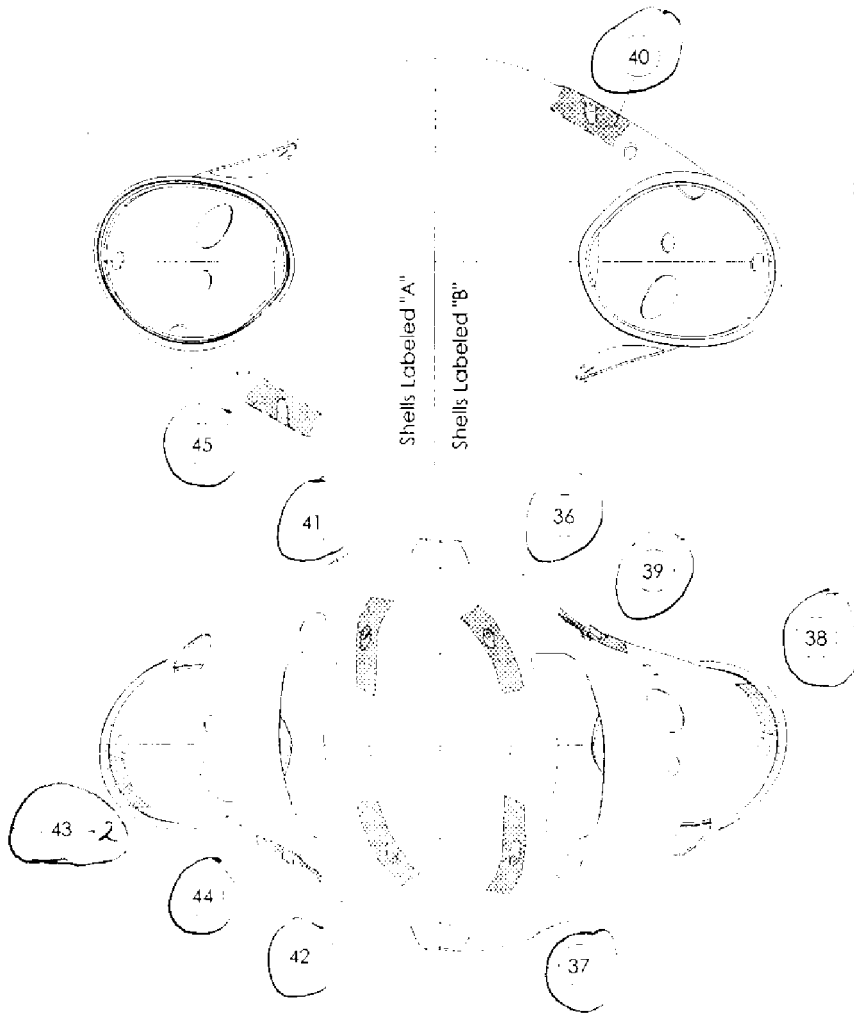
7/25/06
Date

PS 2 of 3

6567E/30/5/247/E18

SE-120-002

7/25/06



Item	Qty	Zone	Film Name	Location	Comments
36	3	C-6			
37	3	A-6			
38	3	C-5			
39	3	C-6			
40	3	F-6			
41	3	C-7			
42	3	A-7			
43	3	B-8			
44	3	A-7			
45	3	D-8			
46	3	F-4			
47	3	D-4			
48	3	D-1			

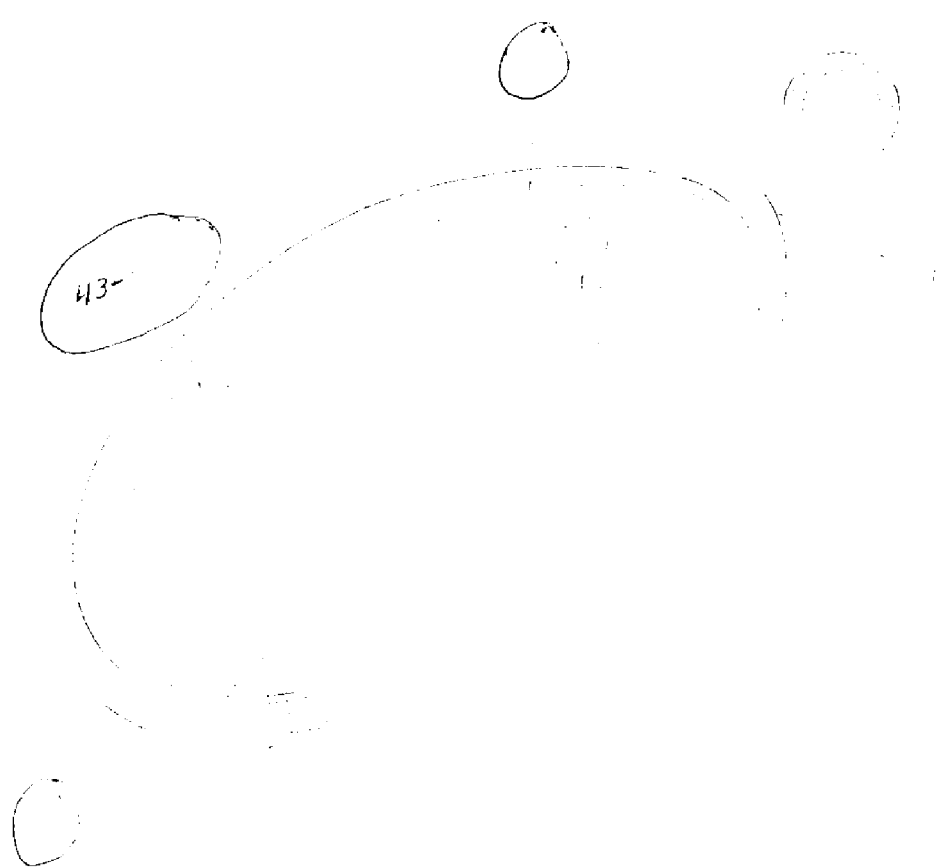
*DCR- 120° Segment
 A-Ray Film Layout
 D-12-002-002-0A

pg 3 of 3

65628/30/5/247/E18

SE-120-002



7/25/06



Quality Assurance Documentation for Part ID: SE120-002-NB - Item: 32

Workorder: 65678/3-0 Sub:119 Op:20

Part: SE120-002-NB - - PORT NB INSTALLATION

Drawing ID: SE120-003 Rev: 1A			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
2* (30)	F2	 .25 A B C PORT NB POSITION	LASER	QA		J-1280	0.095 FACE -0.047 / +0.072	522-R.D 05-06-06			A
2* (40)	G2	 .375 A B C PORT EXT. SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		J-1280	PORT PROFILE -0.080 / +0.122 VESSEL WA LL -0.148 / +0.221 (ACCEPT PER NC 1978 9) [N/C:19789]	854-R.U 08-19-06			A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 33

Workorder: 65678/3-0 Sub:98 Op:30

Part: SE120-003 10-6 SUB-SET - - 10-6 PANEL SUB-SET

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 PER SPEC.	307-D.J	581-D.E	
(10)		VWI ROOT PASS WELD 10-6		CWI				11-14-05	11-14-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 34

Workorder: 65678/3-0 Sub:98 Op:130

Part: SE120-003 10-6 SUB-SET - - 10-6 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 10-6		CWI				11-15-05	11-15-05	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 35

Workorder: 65678/3-0 Sub:98 Op:150

Part: SE120-003 10-6 SUB-SET - - 10-6 PANEL SUB-SET

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 PER SPEC.	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 10-		CWI				11-15-05	11-15-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 36

Workorder: 65678/3-0 Sub:111 Op:30

Part: SE120-003 10-6 SUB-SET - - 10-6 PANEL SUB-SET

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 PER SPEC.	093-M.S	581-D.E	
(10)		VWI ROOT PASS WELD 10-6		CWI				12-28-05	12-28-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 37

Workorder: 65678/3-0 Sub:111 Op:130

Part: SE120-003 10-6 SUB-SET - - 10-6 PANEL SUB-SET

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			VISUALLY INSPECTED	840-G.M	840-G.M	
(20)		VWI INTERIOR COVER PASS WELD 10-6		CWI			ACCEPTED PER CUST. SPEC.	12-30-05	12-30-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 38

Workorder: 65678/3-0 Sub:111 Op:150

Part: SE120-003 10-6 SUB-SET - - 10-6 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (20)		VWI EXTERIOR COVER PASS WELD 10-		MFG CWI		VISUAL	ACCEPTABLE	197-T.FI 01-04-06	933-D.L 01-04-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 39

Workorder: 65678/3-0 Sub:96 Op:30

Part: SE120-003 10-6-7 SUB-SET - - 10-6-7 PANEL SUB-SET

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 PER SPEC.	307-D.J	581-D.E	
(10)		VWI ROOT PASS WELD 6-7		CWI				11-14-05	11-14-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 40

Workorder: 65678/3-0 Sub:96 Op:150

Part: SE120-003 10-6-7 SUB-SET - - 10-6-7 PANEL SUB-SET

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 PER SPEC.	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 6-7		CWI				11-15-05	11-15-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 41

Workorder: 65678/3-0 Sub:110 Op:30

Part: SE120-003 10-6-7 SUB-SET - - 10-6-7 PANEL SUB-SET

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 PER SPEC.	093-M.S	581-D.E	
(10)		VWI ROOT PASS WELD 6-7		CWI				12-28-05	12-28-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 42

Workorder: 65678/3-0 Sub:110 Op:130

Part: SE120-003 10-6-7 SUB-SET - - 10-6-7 PANEL SUB-SET

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			PROFESSIONALY ACC	197-T.FI	581-D.E	
(20)		VWI INTERIOR COVER PASS WELD 6-7		CWI			TTED	12-30-05	12-30-05	

A

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 43

Workorder: 65678/3-0 Sub:110 Op:150

Part: SE120-003 10-6-7 SUB-SET - - 10-6-7 PANEL SUB-SET

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	197-T.FI	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 6-7		CWI				01-04-06	01-04-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 44

Workorder: 65678/3-0 Sub:5 Op:60

Part: SE120-003 120 - - 120 DEGREE PRIMARY VESSEL WELDMENT SE120-003-1

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	GOOD	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD 0		CWI				02-06-06	02-06-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 45

Workorder: 65678/3-0 Sub:5 Op:160

Part: SE120-003 120 - - 120 DEGREE PRIMARY VESSEL WELDMENT SE120-003-1

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 0		CWI				02-08-06	02-08-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 46

Workorder: 65678/3-0 Sub:5 Op:180

Part: SE120-003 120 - - 120 DEGREE PRIMARY VESSEL WELDMENT SE120-003-1

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	GOOD	358-D.M	053-M.D	
(20)		VWI INTERIOR COVER PASS WELD 0		CWI				02-09-06	02-09-06	

A

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 47

Workorder: 65678/3-0 Sub:5 Op:243

Part: SE120-003 120 - - 120 DEGREE PRIMARY VESSEL WELDMENT SE120-003-1

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPT PER CUSTOM	683-K.M	933-D.L	
(10)		VWI ROOT PASS WELD VFA		CWI			REQUIERMENTS	07-21-06	07-21-06	A
*				MFG		VISUAL	OK PER SPEC.	358-D.M	933-D.L	
(20)		VWI ROOT PASS WELD VFB		CWI				07-10-06	07-10-06	A
*				MFG		VISUAL	ACCEPT PER SPEC	837-J.D	053-M.D	
(110)		VWI EXTERIOR COVER PASS WELD VF		CWI				07-22-06	07-24-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(120)		VWI EXTERIOR COVER PASS WELD VF		CWI				07-11-06	07-11-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(130)		VWI INTERIOR COVER PASS WELD VF		CWI				07-21-06	07-21-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(140)		VWI INTERIOR COVER PASS WELD VFB		CWI				07-11-06	07-11-06	A

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 48

Workorder: 65678/3-0 Sub:6 Op:70

Part: SE120-003 30L SUB-ASSY - - SIDE A 60 DEGREE VESSEL SEGMENT

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 2-3		MFG		VISUAL	GOOD	358-D.M	933-D.L		A
(10)				CWI				01-07-06	01-07-06		
*		VWI ROOT PASS WELD 4-5		MFG		VISUAL	GOOD	358-D.M	933-D.L		A
(20)					CWI				01-07-06	01-07-06	

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 49

Workorder: 65678/3-0 Sub:6 Op:170

Part: SE120-003 30L SUB-ASSY - - SIDE A 60 DEGREE VESSEL SEGMENT

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	GOOD	358-D.M	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 2-3		CWI				01-09-06	01-09-06	A
*				MFG		VISUAL	GOOD	358-D.M	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 4-5		CWI				01-09-06	01-09-06	A

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 50

Workorder: 65678/3-0 Sub:6 Op:190

Part: SE120-003 30L SUB-ASSY - - SIDE A 60 DEGREE VESSEL SEGMENT

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 2-3		CWI				01-09-06	01-09-06	A
*				MFG		VISUAL	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 4-5		CWI				01-09-06	01-09-06	A

4959

10520 Chester Road
Woodlawn, Ohio 45215



CLIENT Major Tool & Machine		INTERPRETER/LEVEL Robert Weaver/II		RADIOGRAPHER Robert Weaver		JOB NO 13860001	P.O. NO N/A	DATE 1/31/06		
ISOTOPE/RAY IR 192	DIA. X LEN/V .118" X .079"	CURIES/MA 32	FOCAL SPOT SIZE .140"	SFD 15"	SOD 14.625"	TIME 2:15	FILM PROCESSING Auto	FILM TYPE Kodak AA	FILM TECHNIQUE Double	PB SCREENS .010"
WELD PROCESS GTAW	MATERIAL SPEC. 625 Inconel	MATERIAL DIAMETER N/A	MATERIAL THICKNESS .375"	PENETRIMETER ASTM 1B	SHIM N/A	ACCEPTANCE STANDARD ASME VIII, Div. 1, UW-51				

DESCRIPTION
65678/30/6/400/818
SE120-003 30L
page 1 of 3

REMARKS
Densitometer - 12105
cal due - 2/2/06

FITTING SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRIMETER		SLAG	POROSITY	POROSITY WITH TAIL	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																												
2	0-14	N/A	1B	20"		✓																										
3						✓																										
4						✓																										
5						✓																										
6						✓																										
7						✓																										
9						✓																										
13						✓																										
14						✓																										
15						✓																										
16						✓																										
17	↓	↓	↓	↓		✓																										

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrimeter
S Shim
L Location Marker
() OTHER

Robert Weaver 655514/II
Cooperheat-MQS Signature

Stanz
Customer Representative Signature

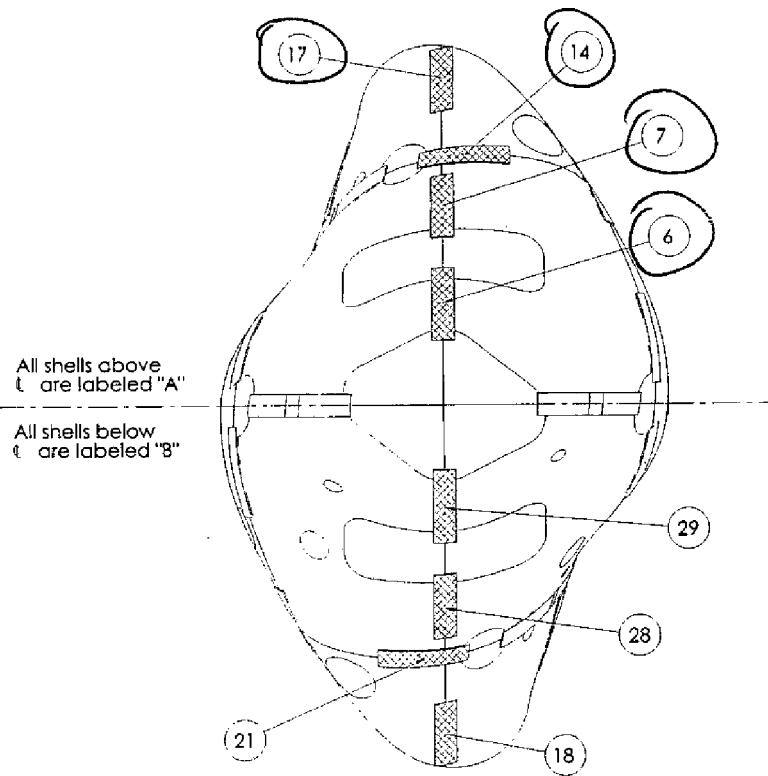
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65678/3.0/6/400/818
 SE120-003 30L

1/31/06
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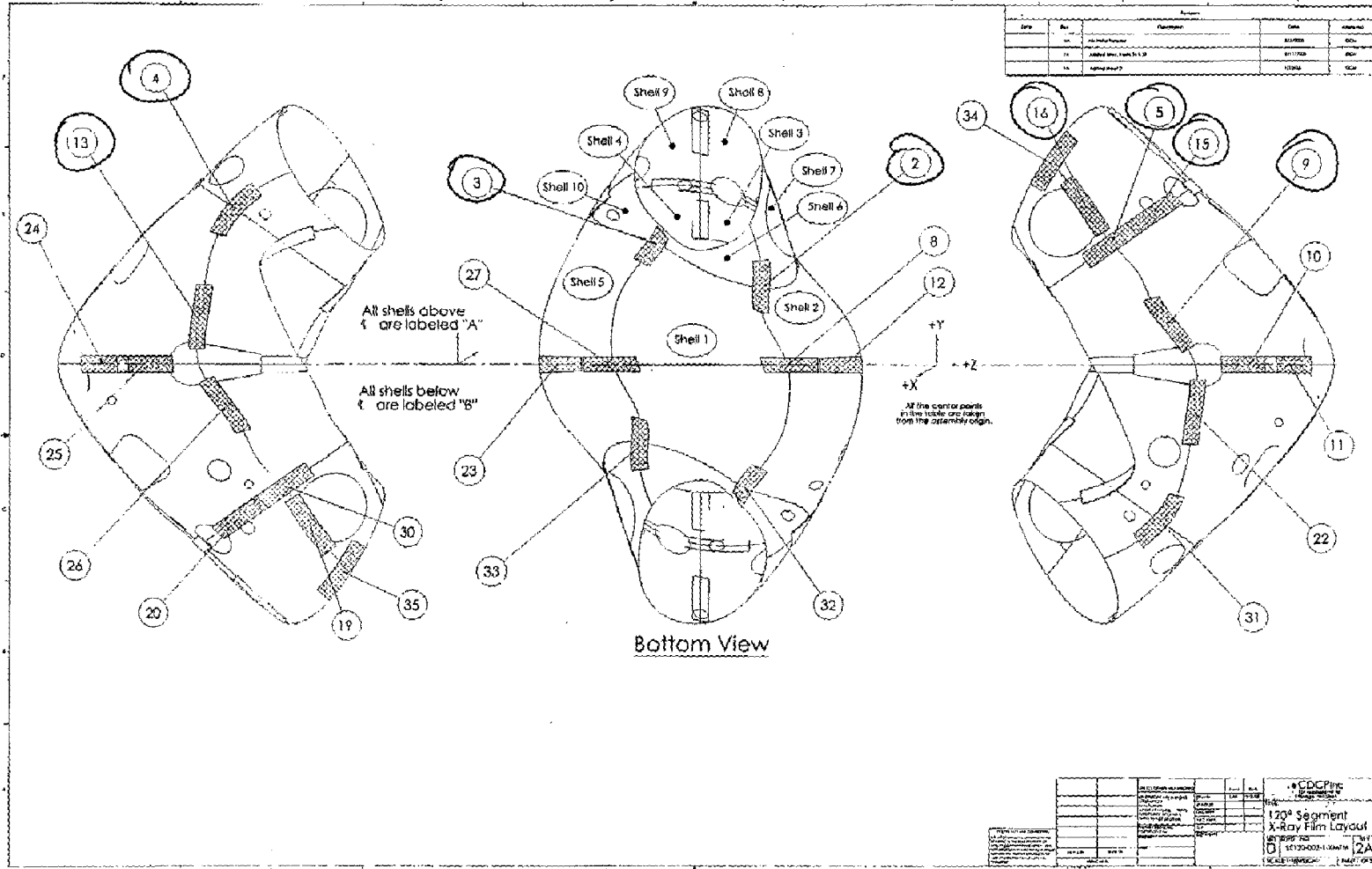
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Item	Sht	Zone	Film Name	Center Point	Location	Comments
2	1	E-4	1A-2A-6A-7A	(26.99,18.90,14.49)		
3	1	E-3	1A-5A-6A-10A	(42.34,29.64,-10.46)		
4	1	E-7	4A-5A-9A-10A	(54.03,37.83,-25.58)		
5	1	E-2	2A-3A-7A-8A	(42.35,29.66,21.15)		
6	2	D-7	3A-4A-2	(87.67,17.72,0.00)		
7	2	E-7	3A-4A-1	(72.08,34.99,0.00)		
8	1	D-4	1A-1B-2A-5B	(40.46,0.00,20.75)		
9	1	D-2	2A-3A	(56.08,10.15,34.41)		
10	1	D-1	3A-4B-1	(75.85,0.00,29.70)		
11	1	D-1	3A-4B-2	(85.55,0.00,22.13)		
12	1	D-4	2A-5B	(40.32,0.00,35.85)		
13	1	D-7	4A-5A	(62.27,11.62,-35.85)		
14	2	E-7	3A-4A-8A-9A	(62.52,43.77,-3.72)		
15	1	E-2	3A-8A	(52.97,37.09,14.93)		
16	1	E-2	7A-8A	(35.91,38.76,18.38)		
17	2	E-7	8A-9A	(47.91,-57.01,0.00)		
18	2	B-7	8B-9B	(47.91,-57.01,0.00)		
19	1	C-7	7B-8B	(35.91,-38.76,-18.38)		
20	1	C-7	3B-8B	(52.97,-37.09,-14.93)		
21	2	B-7	3B-4B-8B-9B	(62.52,-43.77,3.72)		
22	1	C-2	4B-5B	(62.27,-11.62,35.85)		
23	1	D-5	5A-2B	(40.32,0.00,-35.85)		
24	1	D-8	4A-3B-2	(85.55,0.00,-22.13)		
25	1	D-7	4A-3B-1	(75.85,0.00,-29.70)		
26	1	D-7	2B-3B	(56.08,-10.15,-34.41)		
27	1	D-5	1A-1B-5A-2B	(40.46,0.00,-20.75)		
28	2	B-7	3B-4B-1	(72.08,-34.99,0.00)		
29	2	C-7	3B-4B-2	(87.67,-17.72,0.00)		
30	1	C-7	2B-3B-7B-8B	(42.35,-29.66,-21.15)		
31	1	C-2	4B-5B-9B-10B	(54.03,-37.83,25.58)		
32	1	C-4	1B-5B-6B-10B	(42.34,-29.64,10.46)		
33	1	C-5	1B-2B-6B-7B	(26.99,-18.90,-14.49)		
34	1	E-2	7A-8A	(28.10,49.91,14.70)		
35	1	B-7	7B-8B	(28.10,-49.91,-14.70)		

CDCCR
 120° Segment
 X-Ray Film Layout
 SE120-002-1-3MFM 2A
 SCALE: 1:1000000
 SHEET 2 OF 3

65678/3.0/6/400/818
 SE120-003 30L
 1/31/06
 Page 3 of 3



MC116881.TIF3

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 52

Workorder: 65678/3-0 Sub:94 Op:70

Part: SE120-003 30L SUB-ASSY - - SIDE B 60 DEGREE VESSEL SEGMENT

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			GOOD	197-T.FI	581-D.E		A
(10)		VWI ROOT PASS WELD 2-3		CWI				12-30-05	12-30-05		
*				MFG			VERY GOOD (ACCEPT	197-T.FI	581-D.E		A
(20)		VWI ROOT PASS WELD 4-5		CWI			PER CUSTOMER REQ.)	12-30-05	12-30-05		

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 53

Workorder: 65678/3-0 Sub:94 Op:170

Part: SE120-003 30L SUB-ASSY - - SIDE B 60 DEGREE VESSEL SEGMENT

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	837-J.D	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 2-3		CWI				01-07-06	01-07-06	A
*				MFG		VISUAL	ACCEPT	837-J.D	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 4-5		CWI				01-07-06	01-07-06	A

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 54

Workorder: 65678/3-0 Sub:94 Op:190

Part: SE120-003 30L SUB-ASSY - - SIDE B 60 DEGREE VESSEL SEGMENT

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 2-3		CWI				01-07-06	01-07-06	A
*				MFG		VISUAL	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 4-5		CWI				01-07-06	01-07-06	A

4959

10520 Chester Road
Woodlawn, Ohio 45215



CLIENT Major Tool & Machine		INTERPRETER/LEVEL Robert Weaver/II		RADIOGRAPHER Robert Weaver		JOB NO 13860001	P.O. NO N/A	DATE 1/30/06		
ISOTOPE X-RAY IR 192	DIA. X LENS 118" X 079"	CURIES/AMA 32	FOCAL SPOT SIZE .140"	SFD 15"	SOD 14.625"	TIME 2:15	FILM PROCESSING Auto	FILM TYPE Kodak AA	FILM TECHNIQUE Double	PB SCREENS .010"
WELD PROCESS GTAW		MATERIAL SPEC. 625 Inconel		MATERIAL DIAMETER N/A	MATERIAL THICKNESS .375"	PENETRATOR ASTM 1B	SHIM N/A	ACCEPTANCE STANDARD ASME VIII, Div. 1, UW-51		

DESCRIPTION
65678/3.0/94/400/818
SE120-003 30L
page 1 of 3

REMARKS
Densitometer - 12105
cal due - 2/2/06

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	MIG-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT					
			SIZE	QUALITY LEVEL																													
18	0-14	D.M.	1B	.010"		✓																											
19						✓																											
20						✓																											
21						✓																											
22						✓																											
26						✓																											
28						✓																											
29						✓																											
30						✓																											
31						✓																											
32						✓																											
33						✓																											

End View | Side View

SINGLE WALL

DOUBLE WALL

P Penetrator
 S Shim
 L Location Marker
 () OTHER

Robert Weaver 655514/II

Cooperheat-MQS Signature

[Signature]

Customer Representative Signature

1/30/06

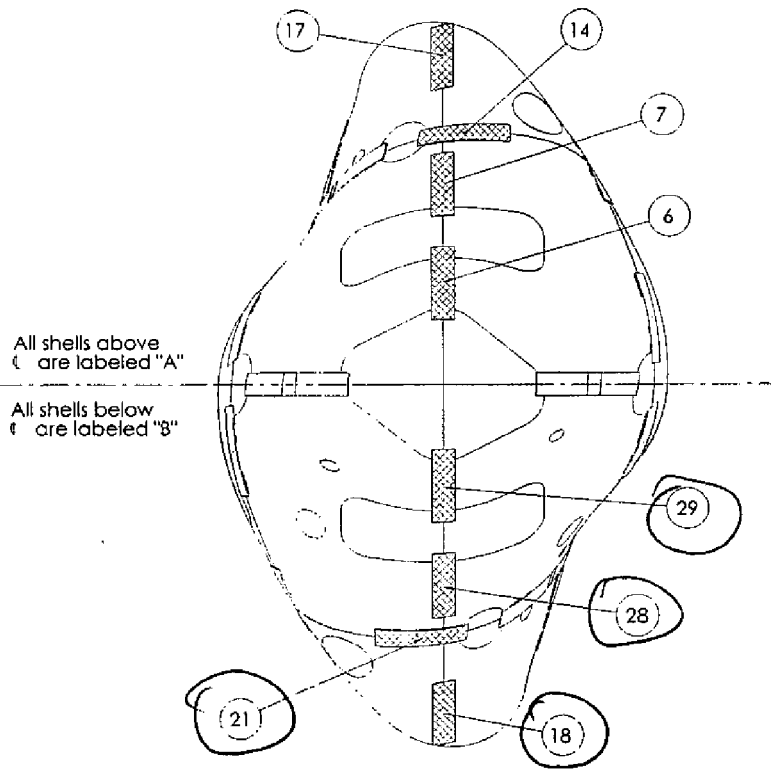
Date

MC116882.TIF1

65678/3.0/94/400/818
 SE120-003 30L

1/30/06
 Page 2 of 3

MC116882.TIF2



Item	Sht	Zone	Film Name	Center Point	Location	Comments
2	1	E-4	1A-2A-6A-7A	(26.99,18.90,14.49)		
3	1	E-3	1A-5A-6A-10A	(42.34,29.64,-10.46)		
4	1	E-7	4A-5A-9A-10A	(54.03,37.83,-25.58)		
5	1	E-2	2A-3A-7A-8A	(42.35,29.66,21.15)		
6	2	D-7	3A-4A-2	(87.67,17.72,0.00)		
7	2	E-7	3A-4A-1	(72.08,34.99,0.00)		
8	1	D-4	1A-1B-2A-5B	(40.46,0.00,20.75)		
9	1	D-2	2A-3A	(56.08,10.15,34.41)		
10	1	D-1	3A-4B-1	(75.85,0.00,29.70)		
11	1	D-1	3A-4B-2	(85.55,0.00,22.13)		
12	1	D-4	2A-5B	(40.32,0.00,35.85)		
13	1	D-7	4A-5A	(62.27,11.62,-35.85)		
14	2	E-7	3A-4A-8A-9A	(62.52,43.77,-3.72)		
15	1	E-2	3A-8A	(52.97,37.09,14.93)		
16	1	E-2	7A-8A	(35.91,-38.76,-18.38)		
17	2	E-7	8A-9A	(47.91,57.01,0.00)		
18	2	B-7	8B-9B	(47.91,-57.01,0.00)		
19	1	C-7	7B-8B	(35.91,-38.76,-18.38)		
20	1	C-7	3B-8B	(52.97,-37.09,-14.93)		
21	2	B-7	3B-4B-8B-9B	(62.52,-43.77,3.72)		
22	1	C-2	4B-5B	(62.27,-11.62,35.85)		
23	1	D-5	5A-2B	(40.32,0.00,-35.85)		
24	1	D-8	4A-3B-2	(85.55,0.00,-22.13)		
25	1	D-7	4A-3B-1	(75.85,0.00,-29.70)		
26	1	D-7	2B-3B	(56.08,-10.15,-34.41)		
27	1	D-5	1A-1B-5A-2B	(40.46,0.00,-20.75)		
28	2	B-7	3B-4B-1	(72.08,-34.99,0.00)		
29	2	C-7	3B-4B-2	(87.67,-17.72,0.00)		
30	1	C-7	2B-3B-7B-8B	(42.35,-29.66,-21.15)		
31	1	C-2	4B-5B-9B-10B	(54.03,-37.83,25.58)		
32	1	C-4	1B-5B-6B-10B	(42.34,-29.64,10.46)		
33	1	C-5	1B-2B-6B-7B	(26.99,-18.90,-14.49)		
34	1	E-2	7A-8A	(28.10,49.91,14.70)		
35	1	B-7	7B-8B	(28.10,-49.91,-14.70)		

CDCR
 120° Segment
 X-Ray Film Layout
 SE120-003-1 XMM 2A
 SCALE: 1:1000
 SHEET 003

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 57

Workorder: 65678/3-0 Sub:95 Op:60

Part: SE120-003 30U SUB-ASSY - - UPPER HALF OF 60 DEGREE

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	GOOD	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD 7-8		CWI				12-06-05	12-06-05	A
*				MFG		VISUAL	GOOD	358-D.M	933-D.L	
(20)		VWI ROOT PASS WELD 9-10		CWI				12-06-05	12-06-05	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 58

Workorder: 65678/3-0 Sub:95 Op:160

Part: SE120-003 30U SUB-ASSY - - UPPER HALF OF 60 DEGREE

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	GOOD	358-D.M	581-D.E	
(20)		VWI INTERIOR COVER PASS WELD 7-8		CWI				12-09-05	12-09-05	A
*				MFG		VISUAL	GOOD	358-D.M	581-D.E	
(20)		VWI INTERIOR COVER PASS WELD 9-10		CWI				12-09-05	12-09-05	A

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 59

Workorder: 65678/3-0 Sub:95 Op:180

Part: SE120-003 30U SUB-ASSY - - UPPER HALF OF 60 DEGREE

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 PER SPEC.	093-M.S	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 7-8		CWI				12-13-05	12-13-05		
*				MFG		VISUAL	OK PER SPEC.	093-M.S	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 9-1		CWI				12-14-05	12-13-05		

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 60

Workorder: 65678/3-0 Sub:109 Op:60

Part: SE120-003 30U SUB-ASSY - - UPPER HALF OF 60 DEGREE

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 PER SPEC.	093-M.S	933-D.L		A
(10)		VWI ROOT PASS WELD 7-8		CWI				01-13-06	01-13-06		
*				MFG		VISUAL	OK PER SPEC.	093-M.S	933-D.L		A
(20)		VWI ROOT PASS WELD 9-10		CWI				01-13-06	01-13-06		

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 61

Workorder: 65678/3-0 Sub:109 Op:160

Part: SE120-003 30U SUB-ASSY - - UPPER HALF OF 60 DEGREE

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	O.K. PER CUSTOMER	771-B.S	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 7-8		CWI			EQUIREMENTS	01-19-06	01-20-06		
*				MFG		VISUAL	O.K. PER CUSTOMER	771-B.S	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 9-10		CWI			EQUIREMENTS	01-19-06	01-20-06		

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 62

Workorder: 65678/3-0 Sub:109 Op:180

Part: SE120-003 30U SUB-ASSY - - UPPER HALF OF 60 DEGREE

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	197-T.FI	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 7-8		CWI				01-20-06	01-20-06		
*				MFG		VISUAL	ACCEPT	197-T.FI	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 9-1		CWI				01-20-06	01-20-06		

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 63

Workorder: 65678/3-0 Sub:11 Op:30

Part: SE120-003 3-4 SUB-SET - - 3-4 PANEL SUB-SET

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	GOOD TO SPEC	280-K.S	933-D.L	
(10)		VWI ROOT PASS WELD 3-4		CWI				12-13-05	12-13-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 64

Workorder: 65678/3-0 Sub:11 Op:130

Part: SE120-003 3-4 SUB-SET - - 3-4 PANEL SUB-SET

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 PER SPEC.	093-M.S	581-D.E	
(20)		VWI INTERIOR COVER PASS WELD 3-4		CWI				12-28-05	12-28-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 65

Workorder: 65678/3-0 Sub:11 Op:150

Part: SE120-003 3-4 SUB-SET - - 3-4 PANEL SUB-SET

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	ACCEPTED	197-T.FI	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 3-4		CWI				01-03-06	01-03-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 66

Workorder: 65678/3-0 Sub:106 Op:30

Part: SE120-003 3-4 SUB-SET - - 3-4 PANEL SUB-SET

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	709-K.A	933-D.L	
(10)		VWI ROOT PASS WELD 3-4		CWI			DRAWINGS AND SPE FICATIONS	11-07-05	11-08-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 68

Workorder: 65678/3-0 Sub:106 Op:150

Part: SE120-003 3-4 SUB-SET - - 3-4 PANEL SUB-SET

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 PER SPEC.	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 3-4		CWI				11-15-05	11-16-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 69

Workorder: 65678/3-0 Sub:8 Op:30

Part: SE120-003 5-1 SUB-SET - - 5-1 PANEL SUB-SET

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 TO SPECS	280-K.S	933-D.L	
(10)		VWI ROOT PASS WELD 5-1		CWI				12-05-05	12-05-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 70

Workorder: 65678/3-0 Sub:8 Op:130

Part: SE120-003 5-1 SUB-SET - - 5-1 PANEL SUB-SET

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 PER SPEC.	093-M.S	581-D.E	
(20)		VWI INTERIOR COVER PASS WELD 5-1		CWI				12-09-05	12-09-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 71

Workorder: 65678/3-0 Sub:8 Op:150

Part: SE120-003 5-1 SUB-SET - - 5-1 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 5-1		CWI				12-12-05	12-12-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 72

Workorder: 65678/3-0 Sub:103 Op:30

Part: SE120-003 5-1 SUB-SET - - 5-1 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(10)		VWI ROOT PASS WELD 5-1		CWI				11-22-05	11-22-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 73

Workorder: 65678/3-0 Sub:103 Op:130

Part: SE120-003 5-1 SUB-SET - - 5-1 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 5-1		CWI				12-02-05	12-02-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 74

Workorder: 65678/3-0 Sub:103 Op:150

Part: SE120-003 5-1 SUB-SET - - 5-1 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 5-1		CWI				12-04-05	12-05-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 75

Workorder: 65678/3-0 Sub:7 Op:30

Part: SE120-003 5-1-2 SUB-SET - - 5-1-2 PANEL SUB-SET

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	GREAT	280-K.S	933-D.L	
(10)		VWI ROOT PASS WELD 1-2		CWI				12-05-05	12-05-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 76

Workorder: 65678/3-0 Sub:7 Op:130

Part: SE120-003 5-1-2 SUB-SET - - 5-1-2 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (20)		VWI INTERIOR COVER PASS WELD 1-2		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 12-09-05	581-D.E 12-09-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 77

Workorder: 65678/3-0 Sub:7 Op:150

Part: SE120-003 5-1-2 SUB-SET - - 5-1-2 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 1-2		CWI				12-12-05	12-12-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 78

Workorder: 65678/3-0 Sub:102 Op:30

Part: SE120-003 5-1-2 SUB-SET - - 5-1-2 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(10)		VWI ROOT PASS WELD 1-2		CWI				11-22-05	11-22-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 79

Workorder: 65678/3-0 Sub:102 Op:130

Part: SE120-003 5-1-2 SUB-SET - - 5-1-2 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 1-2		CWI				12-02-05	12-02-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 80

Workorder: 65678/3-0 Sub:102 Op:150

Part: SE120-003 5-1-2 SUB-SET - - 5-1-2 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 1-2		CWI				12-05-05	12-05-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 81

Workorder: 65678/3-0 Sub:6 Op:250

Part: SE120-003 60D SUB-ASSY - - SIDE A 60 DEGREE VESSEL SEGMENT

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	ACCEPTED	299-M.G	933-D.L	
(10)		VWI ROOT PASS WELD 30D		CWI				01-27-06	01-27-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 82

Workorder: 65678/3-0 Sub:6 Op:350

Part: SE120-003 60D SUB-ASSY - - SIDE A 60 DEGREE VESSEL SEGMENT

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 30		CWI				01-27-06	01-30-06	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 83

Workorder: 65678/3-0 Sub:6 Op:370

Part: SE120-003 60D SUB-ASSY - - SIDE A 60 DEGREE VESSEL SEGMENT

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 PER SPEC.	093-M.S	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 30D		CWI				01-30-06	01-30-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 84

Workorder: 65678/3-0 Sub:94 Op:250

Part: SE120-003 60D SUB-ASSY - - SIDE B 60 DEGREE VESSEL SEGMENT

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	GOOD	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD 30D		CWI				01-12-06	01-12-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 85

Workorder: 65678/3-0 Sub:94 Op:350

Part: SE120-003 60D SUB-ASSY - - SIDE B 60 DEGREE VESSEL SEGMENT

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 30		CWI				01-24-06	01-20-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 86

Workorder: 65678/3-0 Sub:94 Op:370

Part: SE120-003 60D SUB-ASSY - - SIDE B 60 DEGREE VESSEL SEGMENT

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	O.K. PER CUSTOMER	771-B.S	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 30D		CWI			EQUIREMENTS	01-25-06	01-25-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 87

Workorder: 65678/3-0 Sub:97 Op:30

Part: SE120-003 8-9 SUB-SET - - 8-9 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(10)		VWI ROOT PASS WELD 8-9		CWI				11-22-05	11-22-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 88

Workorder: 65678/3-0 Sub:97 Op:130

Part: SE120-003 8-9 SUB-SET - - 8-9 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(20)		VWI INTERIOR COVER PASS WELD 8-9		CWI				11-30-05	11-30-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 89

Workorder: 65678/3-0 Sub:97 Op:150

Part: SE120-003 8-9 SUB-SET - - 8-9 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 8-9		CWI				12-02-05	12-02-05	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 90

Workorder: 65678/3-0 Sub:114 Op:30

Part: SE120-003 8-9 SUB-SET - - 8-9 PANEL SUB-SET

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	ACCEPTED TO CUSTO	197-T.FI	933-D.L	
(10)		VWI ROOT PASS WELD 8-9		CWI			R REQUIREMENTS	01-09-06	01-09-06	A

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 91

Workorder: 65678/3-0 Sub:114 Op:130

Part: SE120-003 8-9 SUB-SET - - 8-9 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (20)		VWI INTERIOR COVER PASS WELD 8-9		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 01-10-06	933-D.L 01-10-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 92

Workorder: 65678/3-0 Sub:114 Op:150

Part: SE120-003 8-9 SUB-SET - - 8-9 PANEL SUB-SET

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 PER SPEC.	093-M.S	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD 8-9		CWI				01-11-06	01-11-06	

A

Quality Assurance Documentation for Part ID: SE120-003-11 - Item: 95

Workorder: 65678/3-0 Sub:131 Op:10

Part: SE120-003-11 - - PORT 7 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VISUAL INSPECT PORT 7A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	GOOD	197-T.FI	053-M.D		A
(10)		TIE STRAP SPOT WELDS		CWI				08-18-06	08-21-06		
*		VISUAL INSPECT PORT 7B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	GOOD	197-T.FI	053-M.D		A
(20)		TIE STRAP SPOT WELDS		CWI				08-18-06	08-21-06		

Quality Assurance Documentation for Part ID: SE120-003-11 - Item: 96

Workorder: 65678/3-0 Sub:131 Op:20

Part: SE120-003-11 - - PORT 7 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.079	533-B.C			A
(10)		PORT 7A POSITION (REINSTALLED)						08-22-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.032	533-B.C			A
(20)		PORT 7B POSITION (REINSTALLED)						08-22-06			

Quality Assurance Documentation for Part ID: SE120-003-11 - Item: 96

Workorder: 65678/3-0 Sub:131 Op:30

Part: SE120-003-11 - - PORT 7 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D			A
(10)								08-22-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.20	261-T.D			A
(20)								08-22-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	10 TO 30	261-T.D			A
(30)								08-22-06			
*		PORT EXTENSION WALL THICKNESS 0.188 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.178 TO .203	261-T.D			A
(40)								08-22-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS VERIFI D PER PS483	840-G.M			A
(50)								08-28-06			
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)								08-28-06			

Quality Assurance Documentation for Part ID: SE120-003-12A - Item: 98

Workorder: 65678/3-0 Sub:120 Op:10


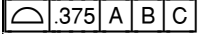

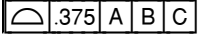
Part: SE120-003-12A - - PORT 12A AND 12B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPT PER SPEC	837-J.D	053-M.D	
(20)		VWI - ROOT PASS WELD P12AV		CWI				05-09-06	05-09-06	A
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	053-M.D	
(60)		VWI - COVER PASS WELD P12AV		CWI			OMER DRAWING&RE RMENTS	05-11-06	05-11-06	A
*				MFG		VISUAL	ACCEPT PER SPEC	837-J.D	053-M.D	
(80)		VWI - ROOT PASS WELD P12BV		CWI				05-09-06	05-09-06	A
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	053-M.D	
(120)		VWI - COVER PASS WELD P12BV		CWI			OMER DRAWING&RE RMENTS	05-11-06	05-11-06	A

Quality Assurance Documentation for Part ID: SE120-003-12A - Item: 99

Workorder: 65678/3-0 Sub:120 Op:20

Part: SE120-003-12A - - PORT 12A AND 12B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
2* (50)	F2	 PORT 12A FLANGE FACE	LASER	QA		J-1280	0.02 (-0.0290 TO -0.0096)	495-D.C 05-11-06		A
2* (60)	G2	 PORT 12A SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		J-1280	PORT SKIN -0.0847 T O +0.2276, VES. SKI N -0.1417 TO +0.122 2 (ACCEPT PER NC 19 824) [N/C:19824]	854-R.U 08-25-06		A
2* (70)	F2	 PORT 12B FLANGE FACE	LASER	QA		J-1280	0.067 (+0.020 TO +0.0873)	495-D.C 05-11-06		A
2* (80)	G2	 PORT 12B SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		J-1280	PORT SKIN -0.1178 T O +0.1817, VESSELL -0.1764 TO +0.1504	495-D.C 05-11-06		A

Quality Assurance Documentation for Part ID: SE120-003-13 - Item: 100

Workorder: 65678/3-0 Sub:132 Op:10

Part: SE120-003-13 - - PORT 8 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VISUAL INSPECT PORT 8A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG			PORT 8A WELDS GOO	763-R.M	053-M.D	
(10)		TIE STRAP SPOT WELDS		CWI				08-16-06	08-22-06	A
*		VISUAL INSPECT PORT 8B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	PORT 8B WELDS GOO	763-R.M	053-M.D	
(20)		TIE STRAP SPOT WELDS		CWI				08-17-06	08-22-06	A

Quality Assurance Documentation for Part ID: SE120-003-13 - Item: 101

Workorder: 65678/3-0 Sub:132 Op:20

Part: SE120-003-13 - - PORT 8 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		1444	.129	533-B.C			A
(10)		PORT 8A POSITION (REINSTALLED)						08-18-06			
*		$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		1444	.142	533-B.C			A
(20)		PORT 8B POSITION (REINSTALLED)						08-18-06			

Quality Assurance Documentation for Part ID: SE120-003-13 - Item: 101

Workorder: 65678/3-0 Sub:132 Op:30

Part: SE120-003-13 - - PORT 8 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D			A
(10)	08-22-06										
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D			A
(20)	08-22-06										
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	9 TO 25 MICRO-INCH	261-T.D			A
(30)	08-22-06										
*		PORT EXTENSION WALL THICKNESS 0.226 +0.045/0.010"	UT THICKNESS GA	QA		J-770-NDT	.247 TO .265	261-T.D			A
(40)	08-22-06										
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS VERIFI D PER PS483	840-G.M			A
(50)	08-28-06										
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)	08-28-06										

Quality Assurance Documentation for Part ID: SE120-003-15 - Item: 103

Workorder: 65678/3-0 Sub:133 Op:10

Part: SE120-003-15 - - PORT 9 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VISUAL INSPECT PORT 9A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK TIE STRAP SPOT WELDS		MFG		VISUAL	ACCEPT PER CUSTOM DRAWING AND SPECI ICATION	709-K.A	053-M.D		A
(10)				CWI				08-21-06	08-21-06		
*		VISUAL INSPECT PORT 9B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK TIE STRAP SPOT WELDS		MFG		VISUAL	ACCEPTABLE	197-T.FI	053-M.D		A
(20)				CWI				08-21-06			

Quality Assurance Documentation for Part ID: SE120-003-15 - Item: 104

Workorder: 65678/3-0 Sub:133 Op:20

Part: SE120-003-15 - - PORT 9 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.094	533-B.C			A
(10)		PORT 9A POSITION (REINSTALLED)						08-22-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.119	533-B.C			A
(20)		PORT 9B POSITION (REINSTALLED)						08-22-06			

Quality Assurance Documentation for Part ID: SE120-003-15 - Item: 104

Workorder: 65678/3-0 Sub:133 Op:30

Part: SE120-003-15 - - PORT 9 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	<1.02	495-D.C			A
(10)								08-23-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	<1.2	495-D.C			A
(20)								08-23-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	17-24, 11-14	495-D.C			A
(30)								08-23-06			
*		PORT EXTENSION WALL THICKNESS 0.188 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	0.184-0.205, 0.186- 0.206	495-D.C			A
(40)								08-23-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED CLEANLINE S PER PS483	840-G.M			A
(50)			08-28-06								
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)			08-28-06								

Quality Assurance Documentation for Part ID: SE120-003-17 - Item: 106

Workorder: 65678/3-0 Sub:134 Op:10

Part: SE120-003-17 - - PORT 10 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VISUAL INSPECT PORT 10A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	GOOD	197-T.FI	053-M.D		A
(10)		TIE STRAP SPOT WELDS		CWI				08-17-06	08-21-06		
*		VISUAL INSPECT PORT 10B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	GOOD	197-T.FI	053-M.D		A
(20)		TIE STRAP SPOT WELDS		CWI				08-17-06	08-21-06		

Quality Assurance Documentation for Part ID: SE120-003-17 - Item: 107

Workorder: 65678/3-0 Sub:134 Op:20

Part: SE120-003-17 - - PORT 10 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.015	533-B.C			A
(10)		PORT 10A POSITION (REINSTALLED)						08-18-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.067	533-B.C			A
(20)		PORT 10B POSITION (REINSTALLED)						08-16-06			

Quality Assurance Documentation for Part ID: SE120-003-17 - Item: 107

Workorder: 65678/3-0 Sub:134 Op:30

Part: SE120-003-17 - - PORT 10 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D			A
(10)								08-22-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D			A
(20)								08-22-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	7 TO 27 MICRO-INCH	261-T.D			A
(30)								08-22-06			
*		PORT EXTENSION WALL THICKNESS 0.250 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.242 TO .266	261-T.D			A
(40)								08-22-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS VERIFI D PER PS483	840-G.M			A
(50)			08-28-06								
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)			08-28-06								

Quality Assurance Documentation for Part ID: SE120-003-19 - Item: 109

Workorder: 65678/3-0 Sub:135 Op:10

Part: SE120-003-19 - - PORT 11 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VISUAL INSPECT PORT 11A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	ACCEPTANCE	197-T.FI	053-M.D	
(10)		TIE STRAP SPOT WELDS		CWI				08-21-06	08-21-06	A
*		VISUAL INSPECT PORT 11B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	PORT 11B WELDS ARE GOOD	763-R.M	053-M.D	
(20)		TIE STRAP SPOT WELDS		CWI				08-21-06	08-21-06	A

Quality Assurance Documentation for Part ID: SE120-003-19 - Item: 110

Workorder: 65678/3-0 Sub:135 Op:20

Part: SE120-003-19 - - PORT 11 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.077	533-B.C			A
(10)		PORT 11A POSITION (REINSTALLED)						08-22-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.082	533-B.C			A
(20)		PORT 11B POSITION (REINSTALLED)						08-22-06			

Quality Assurance Documentation for Part ID: SE120-003-19 - Item: 110

Workorder: 65678/3-0 Sub:135 Op:30

Part: SE120-003-19 - - PORT 11 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	<1.02	495-D.C			A
(10)								08-23-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	<1.2	495-D.C			A
(20)								08-23-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	18-24, 17-27	495-D.C			A
(30)								08-23-06			
*		PORT EXTENSION WALL THICKNESS: 0.120 +/- .015	UT THICKNESS GA	QA		J-770-NDT	0.117-0.121, 0.115- 0.121	495-D.C			A
(40)								08-23-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS VERIFI D PER PS483	840-G.M			A
(50)			08-28-06								
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)			08-28-06								

Quality Assurance Documentation for Part ID: SE120-003-21 - Item: 112

Workorder: 65678/3-0 Sub:136 Op:10

Part: SE120-003-21 - - PORT 15 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VISUAL INSPECT PORT 15A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	PORT 15A WELDS GOOD	763-R.M	053-M.D	
(10)		TIE STRAP SPOT WELDS		CWI				08-15-06	08-21-06	A
*		VISUAL INSPECT PORT 15B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	PORT 15B WELDS GOOD	763-R.M	053-M.D	
(20)		TIE STRAP SPOT WELDS		CWI				08-16-06	08-21-06	A

Quality Assurance Documentation for Part ID: SE120-003-21 - Item: 113

Workorder: 65678/3-0 Sub:136 Op:20

Part: SE120-003-21 - - PORT 15 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		1444	.189	533-B.C			A
(10)		PORT 15A POSITION (REINSTALLED)						08-18-06			
*		$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		1444	.145	533-B.C			A
(20)		PORT 15B POSITION (REINSTALLED)						08-16-06			

Quality Assurance Documentation for Part ID: SE120-003-21 - Item: 113

Workorder: 65678/3-0 Sub:136 Op:30

Part: SE120-003-21 - - PORT 15 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	<1.02	495-D.C			A
(10)								08-23-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	<1.2	495-D.C			A
(20)								08-23-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	18.28, 16.28	495-D.C			A
(30)								08-23-06			
*		PORT EXTENSION WALL THICKNESS 0.226 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	0.259-0.261, 0.259- 0.263	495-D.C			A
(40)								08-23-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED CLEANLINE S PER PS483	840-G.M			A
(50)			08-28-06								
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)			08-28-06								

Quality Assurance Documentation for Part ID: SE120-003-23 - Item: 115

Workorder: 65678/3-0 Sub:137 Op:10

Part: SE120-003-23 - - PORT DOME REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VISUAL INSPECT PORT DOME A WELD BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	ACCEPTABLE TO CUS MER REQUIREMENTS	197-T.FI	053-M.D		A
(10)		TIE STRAP SPOT WELDS		CWI				08-23-06	08-23-06		
*		VISUAL INSPECT PORT DOME B WELD BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	ACCEPTABLE TO CUS MER REQUIREMENTS	197-T.FI	053-M.D		A
(20)		TIE STRAP SPOT WELDS		CWI				08-23-06	08-23-06		

Quality Assurance Documentation for Part ID: SE120-003-23 - Item: 116

Workorder: 65678/3-0 Sub:137 Op:20

Part: SE120-003-23 - - PORT DOME REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	0.194	522-R.D			A
(10)		PORT 17A POSITION (REINSTALLED)						08-25-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.122	533-B.C			A
(20)		PORT 17B POSITION (REINSTALLED)						08-24-06			

Quality Assurance Documentation for Part ID: SE120-003-23 - Item: 116

Workorder: 65678/3-0 Sub:137 Op:30

Part: SE120-003-23 - - PORT DOME REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	<1.02	495-D.C			A
(10)								08-24-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	<1.2	495-D.C			A
(20)								08-24-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	17-24,22-31,11-17,1 1-25	495-D.C			A
(30)								08-24-06			
*		DOME WALL THICKNESS 0.375 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	0.366-0.410,0.369-0 .401	495-D.C			A
(40)								08-24-06			
*		PORT EXTENSION WALL THICKNESS 0.226 +0.045/-0.010" (17 & 18)	UT THICKNESS GA	QA		J-770-NDT	0.259-0.263,0.250-0 .261,0.251-0.262,0. 257-0.262	495-D.C			A
(50)								08-24-06			
Drawing ID: SE122-007 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED CLEANLINE S PER PS483	840-G.M			A
(60)								08-28-06			
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM PLY COMPLETION	840-G.M			A
(70)								08-28-06			

Quality Assurance Documentation for Part ID: SE120-003-3 - Item: 120

Workorder: 65678/3-0 Sub:127 Op:10

Part: SE120-003-3 - - PORT 2 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VISUAL INSPECT PORT 2A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	PORT 2A WELDS GOO	763-R.M	053-M.D		A
(10)		TIE STRAP SPOT WELDS		CWI				08-16-06	08-22-06		
*		VISUAL INSPECT PORT 2B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	PORT 2B WELDS GOO	763-R.M	053-M.D		A
(20)		TIE STRAP SPOT WELDS		CWI				08-16-06	08-22-06		

Quality Assurance Documentation for Part ID: SE120-003-3 - Item: 121

Workorder: 65678/3-0 Sub:127 Op:20

Part: SE120-003-3 - - PORT 2 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.061	533-B.C			A
(10)		PORT 2A POSITION (REINSTALLED)						08-18-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.145	533-B.C			A
(20)		PORT 2B POSITION (REINSTALLED)						08-16-06			

Quality Assurance Documentation for Part ID: SE120-003-3 - Item: 121

Workorder: 65678/3-0 Sub:127 Op:30

Part: SE120-003-3 - - PORT 2 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D			A
(10)								08-22-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D			A
(20)								08-22-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	10 TO 27	261-T.D			A
(30)								08-22-06			
*		PORT EXTENSION WALL THICKNESS 0.226 +0.045/0.010"	UT THICKNESS GA	QA		J-770-NDT	.250 TO .267	261-T.D			A
(40)								08-22-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS VERIFI D PER PS483	840-G.M			A
(50)								08-28-06			
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)								08-28-06			

Quality Assurance Documentation for Part ID: SE120-003-5 - Item: 123

Workorder: 65678/3-0 Sub:128 Op:10

Part: SE120-003-5 - - PORT 4 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VISUAL INSPECT PORT 4A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	ACCEPT	709-K.A	053-M.D	
(10)		TIE STRAP SPOT WELDS		CWI				08-25-06	08-25-06	A
*		VISUAL INSPECT PORT 4B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	ACCEPT	709-K.A	053-M.D	
(20)		TIE STRAP SPOT WELDS		CWI				08-25-06	08-25-06	A

Quality Assurance Documentation for Part ID: SE120-003-5 - Item: 124

Workorder: 65678/3-0 Sub:128 Op:20

Part: SE120-003-5 - - PORT 4 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		$\varnothing .25$ (M) A B C	LASER	QA		1444	0.078	522-R.D			A
(10)		PORT 4A POSITION (REINSTALLED)						08-28-06			
*		$\varnothing .25$ (M) A B C	LASER	QA		1444	0.074	522-R.D			A
(20)		PORT 4B POSITION (REINSTALLED)						08-28-06			

Quality Assurance Documentation for Part ID: SE120-003-5 - Item: 125

Workorder: 65678/3-0 Sub:128 Op:30

Part: SE120-003-5 - - PORT 4 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D			A
(10)								08-28-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D			A
(20)								08-28-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	6 TO 28 MICRO-INCH	261-T.D			A
(30)								08-29-06			
*		PORT EXTENSION WALL THICKNESS 0.500 +0.055/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.490 TO .550	261-T.D			A
(40)			UT CAL BLOCK			J-1157		08-28-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED CLEANLINE S PER PS483	840-G.M			A
(50)			08-28-06								
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)			08-28-06								

Quality Assurance Documentation for Part ID: SE120-003-7 - Item: 126

Workorder: 65678/3-0 Sub:129 Op:10

Part: SE120-003-7 - - PORT 5 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VISUAL INSPECT PORT 5A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK TIE STRAP SPOT WELDS		MFG		VISUAL	ACCEPT PER CUSTOM DRAWING AND SPECI ICATION	709-K.A	053-M.D	A
(10)				CWI				08-21-06	08-21-06	
*		VISUAL INSPECT PORT 5B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK TIE STRAP SPOT WELDS		MFG		VISUAL	ACCEPT PER CUSTOM DRAWING AND SPECI ICATION	709-K.A	053-M.D	A
(20)				CWI				08-21-06	08-21-06	

Quality Assurance Documentation for Part ID: SE120-003-7 - Item: 127

Workorder: 65678/3-0 Sub:129 Op:20

Part: SE120-003-7 - - PORT 5 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.053	533-B.C			A
(10)		PORT 5A POSITION (REINSTALLED)						08-22-06			
*		⊕ ∅.25 (M) A B C	LASER	QA		1444	.107	533-B.C			A
(20)		PORT 5B POSITION (REINSTALLED)						08-22-06			

Quality Assurance Documentation for Part ID: SE120-003-7 - Item: 127

Workorder: 65678/3-0 Sub:129 Op:30

Part: SE120-003-7 - - PORT 5 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	<1.02	495-D.C			A
(10)								08-23-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	<1.2	495-D.C			A
(20)								08-23-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	10-27, 29-31	495-D.C			A
(30)								08-23-06			
*		PORT EXTENSION WALL THICKNESS 0.188 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	0.198-0.207, 0.191- 0.206	495-D.C			A
(40)								08-23-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED CLEANLINE S PER PS483	840-G.M			A
(50)								08-28-06			
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)								08-28-06			

Quality Assurance Documentation for Part ID: SE120-003-9 - Item: 129

Workorder: 65678/3-0 Sub:130 Op:10

Part: SE120-003-9 - - PORT 6 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VISUAL INSPECT PORT 6A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	GOOD	197-T.FI	053-M.D		A
(10)		TIE STRAP SPOT WELDS		CWI				08-17-06	08-21-06		
*		VISUAL INSPECT PORT 6B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK		MFG		VISUAL	GOOD	197-T.FI	053-M.D		A
(20)		TIE STRAP SPOT WELDS		CWI				08-17-06	08-21-06		

Quality Assurance Documentation for Part ID: SE120-003-9 - Item: 130

Workorder: 65678/3-0 Sub:130 Op:20

Part: SE120-003-9 - - PORT 6 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		1444	.059	533-B.C			A
(10)		PORT 6A POSITION (REINSTALLED)						08-22-06			
*		$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		1444	.147	533-B.C			A
(20)		PORT 6B POSITION (REINSTALLED)						08-18-06			

Quality Assurance Documentation for Part ID: SE120-003-9 - Item: 130

Workorder: 65678/3-0 Sub:130 Op:30

Part: SE120-003-9 - - PORT 6 REMOVAL, DETAIL ASSEMBLY, TEMPORARY RE-ATTACHMENT AND INSPECTION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D			A
(10)								08-22-06			
*		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D			A
(20)								08-22-06			
*		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	13 TO 28 MICRO-INCH	261-T.D			A
(30)								08-22-06			
*		PORT EXTENSION WALL THICKNESS 0.250 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.253 TO .265	261-T.D			A
(40)								08-22-06			
*		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED CLEANLINE S PER PS483	840-G.M			A
(50)			08-28-06								
*		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED SUB ASSEM LY COMPLETION	840-G.M			A
(60)			08-28-06								

Quality Assurance Documentation for Part ID: SE120-003-DOME A - Item: 132

Workorder: 65678/3-0 Sub:122 Op:10

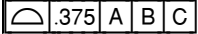
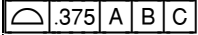
Part: SE120-003-DOME A - - PORT DOME A AND DOME B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	933-D.L	
(20)		VWI - ROOT PASS WELD PDAV		CWI			OMER DRAWING&RE RMENTS	05-18-06	05-18-06	A
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	
(60)		VWI - COVER PASS WELD PDAV		CWI				05-18-06	05-18-06	A
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	933-D.L	
(80)		VWI - ROOT PASS WELD PDBV		CWI			OMER DRAWING&RE RMENTS	05-18-06	05-18-06	A
*				MFG		VISUAL	ACCEPTED	299-M.G	053-M.D	
(120)		VWI - COVER PASS WELD PDBV		CWI				05-18-06	05-18-06	A

Quality Assurance Documentation for Part ID: SE120-003-DOME A - Item: 133

Workorder: 65678/3-0 Sub:122 Op:20

Part: SE120-003-DOME A - - PORT DOME A AND DOME B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
2*	G2	 .375 A B C	LASER	QA		J-1280	DOME -0.202 / +0.045 VESSEL SKIN -0.228 / +0.003(ACCEPT PER N.C. 19913) [N/C:19913]	854-R.U			A
(30)		PORT DOME A SIDEWALL AND ADJACENT VESSEL WALL						08-25-06			
2*	G2	 .375 A B C	LASER	QA		J-1280	DOME -0.205 / +0.150 VESSEL -0.213 / +0.287(ACCEPT PER N.C. 19913) [N/C:19913]	854-R.U			A
(40)		PORT DOME B SIDEWALL AND ADJACENT VESSEL WALL						08-25-06			

Quality Assurance Documentation for Part ID: SE120-003-NB - Item: 134

Workorder: 65678/3-0 Sub:119 Op:10

Part: SE120-003-NB - - PORT NB INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	683-K.M	933-D.L		A
(20)		VWI - ROOT PASS WELD PNBV		CWI				05-04-06	05-04-06		
*				MFG		VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	683-K.M	933-D.L		A
(60)		VWI - COVER PASS WELD PNBV		CWI				05-06-06	05-08-06		

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-004 PORT 6A - Item: 135

Workorder: 65678/3-0 Sub:230 Op:10















Part: SE120-004 PORT 6A - REWORK / REPAIR PER N/C - N/C # _____

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	GOOD	358-D.M	933-D.L		A
(30)				CWI				03-29-06	03-29-06		
*		VWI - EXTERIOR FILLETS P6AF		MFG		VISUAL	GOOD	358-D.M	933-D.L		A
(40)					CWI				03-29-06	03-29-06	

Quality Assurance Documentation for Part ID: SE120-004 - Item: 136

Workorder: 65678/3-0 Sub:1 Op:20



Part: SE120-004 - -

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 0.375 A B C	LASER	QA		1444	-0.414 / +0.537 (ACCEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U			A
(10)		FINAL VESSEL PROFILE						09-14-06			
3*	D3	 0.05  0.25 A B C	LASER	QA		1444	FLAT 0.041 / PROFILE -0.016 / +0.027	522-R.D			A
(20)		HALF A RFD 12-016						08-28-06			
3*	D3	 0.05  0.25 A B C	LASER	QA		1444	FLAT 0.088 / PROFILE +0.002 / +0.097 (ACCEPT PER NC # 20354) [N/C:20354-Doc:20354]	854-R.U			A
(30)		HALF B RFD 12-016						09-14-06			
*		 .25 A B C  17"	LASER	QA		1444	1.303 (ACCEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U			A
(40)		HALF -A- BOSS A FINAL						09-14-06			
*		 .25 A B C  17"	LASER	QA		1444	1.290 (ACCEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U			A
(50)		HALF -A- BOSS B FINAL						09-14-06			
*		 .25 A B C  17"	LASER	QA		1444	1.233 (ACCEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U			A
(60)		HALF -A- BOSS C FINAL						09-14-06			
*		 .25 A B C  17"	LASER	QA		1444	1.054 (ACCEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U			A
(70)		HALF -A- BOSS D FINAL						09-14-06			
*		 .25 A B C	LASER	QA		1444	1.446 (ACCEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U			A

INSPECTION DATA CHECKLIST

(80)		Ⓟ 17" HALF -B- BOSS A FINAL					C # 20384) [N/C:20384- Doc:20384]	09-14-06		
*		⊕ .25 A B C Ⓟ 17" HALF -B- BOSS B FINAL	LASER	QA	1444	1.381 (ACCEPT PER N C # 20384) [N/C:20384- Doc:20384]	854-R.U	09-14-06		A
(90)		⊕ .25 A B C Ⓟ 17" HALF -B- BOSS C FINAL	LASER	QA	1444	1.691 (ACCEPT PER N C # 20384) [N/C:20384- Doc:20384]	854-R.U	09-14-06		A
(100)		⊕ .25 A B C Ⓟ 17" HALF -B- BOSS D FINAL	LASER	QA	1444	0.895 (ACCEPT PER N C # 20384) [N/C:20384- Doc:20384]	854-R.U	09-14-06		A
(110)		⊕ .25 A B C Ⓟ 17" HALF -B- BOSS D FINAL	LASER	QA	1444	0.895 (ACCEPT PER N C # 20384) [N/C:20384- Doc:20384]	854-R.U	09-14-06		A
15*			LASER	QA	1444	98.502 / 98.598 (AC CEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U	09-14-06		A
(120)		98.641 +/-0.125"								
13*	F3	∥ .1 A	LASER	QA	1444	0.051	522-R.D	08-28-06		A
(130)										
13*	A3	∥ .1 A	LASER	QA	1444	0.115 (ACCEPT PER N C # 20384) [N/C:20384- Doc:20384]	854-R.U	09-14-06		A
(140)										
Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		⌒ .375 A B C Port 12A profile	LASER	QA		1444	-0.199 / +0.330 (AC CEPT PER NC # 20384) [N/C:20384-Doc:20384]	854-R.U	09-14-06	A
(150)										
Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
13*	E2		LASER	QA		1444	81.348 / 81.399	522-R.D	08-28-06	A
(160)		81.370 +/-0.125"								
13*	B2		LASER	QA		1444	81.347 / 81.462	522-R.D	08-28-06	A
(170)		81.370 +/-0.125"								
Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		



INSPECTION DATA CHECKLIST

SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 .375 A B C	LASER	QA		1444	-0.488 / +0.489 (AC CEPT PER NC # 20384) [N/C:20384-Doc:20 384]	854-R.U 09-14-06			A
(180)		Port 12B profile									
Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS			INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
15*		 .375 A B C	LASER	QA		1444	-0.150 / +0.218 (AC CEPT PER NC # 20384) [N/C:20384-Doc:20 384]	854-R.U 09-14-06			A
(190)		Port NB profile									

Quality Assurance Documentation for Part ID: SE120-004 - Item: 138

Workorder: 65678/3-0 Sub:2 Op:60

Part: SE120-004 - - VACUUM TESTING / PORT REMOVAL / FINAL INSPECTION ACTIVITIES SE120-003-1 120 DEGREE PRIMARY VESSEL WELDMENT

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
3* (10)	D3	 0.015	DEPTH MICROMET	MFG QA		J-520	.010	492-R.E 08-11-06	854-R.U 08-11-06	A
3* (20)	D3	 0.25 A B C	DEPTH MICROMET	MFG QA		J-520	.080	492-R.E 08-11-06	854-R.U 08-11-06	A
Drawing ID: SE121-013 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (30)		0.188 +/-0.005"	DEPTH MICROMET	MFG QA		J-520	.190	492-R.E 08-11-06	854-R.U 08-11-06	A
* (40)		0.637 +/-0.005" NOTE: DIMENSION WILL LIKELY BE S OUT OF TOLERANCE, I.D. CUT AS DET	CALIPER	MFG QA		P-1834	.587-.910 (ACCEPT P ER N.C. 20282)	854-R.U 08-18-06	854-R.U 08-11-06	A
* (50)		0.469 +/-0.005" NOTE: DIMENSION WILL LIKELY BE S OUT OF TOLERANCE, HOLES CUT AS D	CALIPER	MFG QA		P-4834	.400-.490 (ACCEPT P ER N.C. 20282)	854-R.U 08-18-06	854-R.U 08-11-06	A
Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (60)		RECORD PORT NB FLANGE THICKNESS AFTER REWORK. (TARGET 1.1875) TOLERANCE: 1.25 +0.01/-0.0725" NCR 19869	OD MICROMETER	MFG QA		P-4447	1.228/1.241	492-R.E 08-12-06	854-R.U 08-12-06	A

Quality Assurance Documentation for Part ID: SE120-004-17A - Item: 139

Workorder: 65678/3-0 Sub:125 Op:10

Part: SE120-004-17A - - PORT 17A AND 17B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(20)		VWI - ROOT PASS WELD P17AV		CWI				05-24-06	05-24-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(40)		VWI - COVER PASS WELD P17AV		CWI				05-24-06	05-24-06	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	358-D.M	933-D.L	
(60)		VWI - ROOT PASS WELD P17BV		CWI			DRAWING & REQUIE MENTS	05-25-06	05-25-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(80)		VWI - COVER PASS WELD P17BV		CWI				05-25-06	05-25-06	A

Quality Assurance Documentation for Part ID: SE120-004-17A - Item: 140

Workorder: 65678/3-0 Sub:125 Op:20

Part: SE120-004-17A - - PORT 17A AND 17B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
16* (30)	D8	⊕ ∅.25 (M) A B C PORT 17A POSITION	LASER	QA		J-1280	0.069	522-R.D 08-04-06			A
16* (40)	D8	⊕ ∅.25 (M) A B C PORT 17B POSITION	LASER	QA		J-1280	0.156	522-R.D 08-04-06			A

Quality Assurance Documentation for Part ID: SE120-004-18A - Item: 141

Workorder: 65678/3-0 Sub:126 Op:10

Part: SE120-004-18A - - PORT 18A AND 18B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(20)		VWI - ROOT PASS WELD P18AV		CWI				05-24-06	05-24-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(40)		VWI - COVER PASS WELD P18AV		CWI				05-24-06	05-24-06	A
*				MFG		VISUAL	ACCEPT PER CUSTOM	358-D.M	933-D.L	
(60)		VWI - ROOT PASS WELD P18BV		CWI			DRAWING & REQUIE MENTS	05-25-06	05-25-06	A
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	
(80)		VWI - COVER PASS WELD P18BV		CWI				05-25-06	05-25-06	A

Quality Assurance Documentation for Part ID: SE120-004-18A - Item: 142

Workorder: 65678/3-0 Sub:126 Op:20

Part: SE120-004-18A - - PORT 18A AND 18B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
17* (30)	B5	⊕ ∅.25 (M) A B C PORT 18A POSITION	LASER	QA		J-1280	0.186	522-R.D 08-04-06			A
17* (40)	B5	⊕ ∅.25 (M) A B C PORT 18B POSITION	LASER	QA		J-1280	0.143	522-R.D 08-04-06			A

Quality Assurance Documentation for Part ID: SE120-004-2A - Item: 143

Workorder: 65678/3-0 Sub:123 Op:10

Part: SE120-004-2A - - ALL ROUND PORT EXTENSION INSTALLATION

Drawing ID: SE120-004 Rev: 2D		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	A
(20)		VWI - ROOT PASS WELD P2AV		CWI				05-22-06	05-22-06	
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	A
(40)		VWI - COVER PASS WELD P2AV		CWI				05-22-06	05-22-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(60)		VWI - ROOT PASS WELD P2BV		CWI				06-22-06	06-22-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(80)		VWI - COVER PASS WELD P2BV		CWI				06-23-06	06-26-06	
*				MFG		VISUAL	ACCEPTABLE	709-K.A	053-M.D	A
(100)		VWI - ROOT PASS WELD P5AV		CWI				08-23-06	06-22-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(120)		VWI - COVER PASS WELD P5AV		CWI				06-23-06	06-26-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	840-G.M	A
(130)		VWI - FITUP / TACK WELDED JOINT WELD P5BV (TEAM LEADER VERIFICATION)		CWI				05-22-06	05-22-06	
*				MFG		VISUAL	ACCEPTABLE	709-K.A	053-M.D	A
(140)		VWI - ROOT PASS WELD P5BV		CWI				08-23-06	05-22-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(160)		VWI - COVER PASS WELD P5BV		CWI				06-22-06	06-22-06	
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D	A
(180)		VWI - ROOT PASS WELD P6AV		CWI				05-19-06	05-19-06	
*				MFG		VISUAL	ACCEPTABLE	728-R.D	581-D.E	A
(200)		VWI - COVER PASS WELD P6AV		CWI				05-19-06	05-20-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(220)		VWI - ROOT PASS WELD P6BV		CWI				06-22-06	06-22-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(240)		VWI - COVER PASS WELD P6BV		CWI				06-23-06	06-26-06	
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(260)		VWI - ROOT PASS WELD P7AV		CWI				06-21-06	06-21-06	

INSPECTION DATA CHECKLIST

*	(280)	VWI - COVER PASS WELD P7AV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-21-06	053-M.D 06-22-06		A
*	(300)	VWI - ROOT PASS WELD P7BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 05-22-06	053-M.D 05-22-06		A
*	(320)	VWI - COVER PASS WELD P7BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-23-06	053-M.D 06-26-06		A
*	(340)	VWI - ROOT PASS WELD P8AV	MFG CWI	VISUAL	ACCEPTABLE	728-R.D 05-23-06	053-M.D 05-23-06		A
*	(360)	VWI - COVER PASS WELD P8AV	MFG CWI	VISUAL	ACCEPTABLE	728-R.D 05-23-06	053-M.D 05-23-06		A
*	(380)	VWI - ROOT PASS WELD P8BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 05-23-06	053-M.D 05-23-06		A
*	(400)	VWI - COVER PASS WELD P8BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 05-23-06	053-M.D 05-23-06		A
*	(420)	VWI - ROOT PASS WELD P9AV	MFG CWI	VISUAL	ACCEPTABLE	728-R.D 05-22-06	053-M.D 05-22-06		A
*	(440)	VWI - COVER PASS WELD P9AV	MFG CWI	VISUAL	ACCEPTABLE	728-R.D 05-22-06	053-M.D 05-22-06		A
*	(460)	VWI - ROOT PASS WELD P9BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-22-06	053-M.D 06-22-06		A
*	(480)	VWI - COVER PASS WELD P9BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-23-06	053-M.D 06-26-06		A
*	(500)	VWI - ROOT PASS WELD P10AV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-23-06	053-M.D 06-23-06		A
*	(520)	VWI - COVER PASS WELD P10AV	MFG CWI	VISUAL	ACCEPTABLE	837-J.D 06-25-06	053-M.D 06-26-06		A
*	(540)	VWI - ROOT PASS WELD P10BV	MFG CWI	VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	358-D.M 05-19-06	933-D.L 05-19-06		A
*	(560)	VWI - COVER PASS WELD P10BV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 05-19-06	581-D.E 05-20-06		A
*	(580)	VWI - ROOT PASS WELD P11AV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-22-06	053-M.D 06-22-06		A
*	(600)	VWI - COVER PASS WELD P11AV	MFG CWI	VISUAL	ACCEPTABLE	299-M.G 06-23-06	053-M.D 06-26-06		A
*			MFG	VISUAL	ACCEPTABLE	299-M.G	053-M.D		A

INSPECTION DATA CHECKLIST

(620)		VWI - ROOT PASS WELD P11BV		CWI				06-22-06	06-22-06		
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D		A
(640)		VWI - COVER PASS WELD P11BV		CWI				06-23-06	06-26-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D		A
(660)		VWI - ROOT PASS WELD P15AV		CWI				05-23-06	05-23-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D		A
(680)		VWI - COVER PASS WELD P15AV		CWI				05-23-06	05-23-06		
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D		A
(700)		VWI - ROOT PASS WELD P15BV		CWI				05-23-06	05-23-06		
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D		A
(720)		VWI - COVER PASS WELD P15BV		CWI				05-23-06	05-23-06		

Quality Assurance Documentation for Part ID: SE120-004-2A - Item: 144

Workorder: 65678/3-0 Sub:123 Op:20

Part: SE120-004-2A - - ALL ROUND PORT EXTENSION INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
4* (30)	D5	⊕ ∅.25(M) A B C PORT 2A POSITION	LASER	QA		J-1280	0.110	522-R.D 08-04-06		A
4* (40)	D5	⊕ ∅.25(M) A B C PORT 2B POSITION	LASER	QA		J-1280	0.057	522-R.D 08-04-06		A
6* (70)	A5	⊕ ∅.25(M) A B C PORT 5A POSITION	LASER	QA		J-1280	0.084	522-R.D 08-04-06		A
6* (80)	A5	⊕ ∅.25(M) A B C PORT 5B POSITION	LASER	QA		J-1280	0.006	522-R.D 08-04-06		A
7* (110)	A5	⊕ ∅.25(M) A B C PORT 6A POSITION	LASER	QA		J-1280	0.240	522-R.D 08-04-06		A
7* (120)	A5	⊕ ∅.25(M) A B C PORT 6B POSITION	LASER	QA		J-1280	0.153	522-R.D 08-04-06		A
8* (150)	A5	⊕ ∅.25(M) A B C PORT 7A POSITION	LASER	QA		J-1280	0.211	522-R.D 08-04-06		A
8* (160)	A5	⊕ ∅.25(M) A B C PORT 7B POSITION	LASER	QA		J-1280	0.130	522-R.D 08-04-06		A
9* (190)	B5	⊕ ∅.25(M) A B C PORT 8A POSITION	LASER	QA		J-1280	0.182	522-R.D 08-04-06		A
9* (200)	B5	⊕ ∅.25(M) A B C PORT 8B POSITION	LASER	QA		J-1280	0.136	522-R.D 08-04-06		A
10* (230)	B5	⊕ ∅.25(M) A B C PORT 9A POSITION	LASER	QA		J-1280	0.023	522-R.D 08-04-06		A
10* (240)	B5	⊕ ∅.25(M) A B C PORT 9B POSITION	LASER	QA		J-1280	0.059	522-R.D 08-04-06		A
11* (270)	C5	⊕ ∅.25(M) A B C PORT 10A POSITION	LASER	QA		J-1280	0.113	522-R.D 08-04-06		A
11* (280)	C5	⊕ ∅.25(M) A B C PORT 10B POSITION	LASER	QA		J-1280	0.128	522-R.D 08-04-06		A
12* (310)	A7	⊕ ∅.25(M) A B C PORT 11A POSITION	LASER	QA		J-1280	0.200	522-R.D 08-04-06		A

INSPECTION DATA CHECKLIST

12* (320)	A7	Φ $\emptyset.25$ \textcircled{M} A B C PORT 11B POSITION	LASER	QA		J-1280	0.089	522-R.D 08-04-06			A
14* (350)	B5	Φ $\emptyset.25$ \textcircled{M} A B C PORT 15A POSITION	LASER	QA		J-1280	0.180	522-R.D 08-04-06			A
14* (360)	B5	Φ $\emptyset.25$ \textcircled{M} A B C PORT 15B POSITION	LASER	QA		J-1280	0.129	522-R.D 08-04-06			A

Quality Assurance Documentation for Part ID: SE120-004-4A - Item: 145

Workorder: 65678/3-0 Sub:121 Op:10

Part: SE120-004-4A - - PORT 4A AND 4B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	683-K.M	933-D.L		A
(20)		VWI - ROOT PASS WELD P4AV		CWI				05-15-06	05-15-06		
*				MFG		VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	358-D.M	933-D.L		A
(60)		VWI - COVER PASS WELD P4AV		CWI				05-17-06	06-12-06		
*				MFG		VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	683-K.M	933-D.L		A
(80)		VWI - ROOT PASS WELD P4BV		CWI				05-15-06	05-15-06		
*				MFG		VISUAL	ACCEPTABLE PER CU OMER DRAWING&RE RMENTS	683-K.M	933-D.L		A
(120)		VWI - COVER PASS WELD P4BV		CWI				05-17-06	06-12-06		

Quality Assurance Documentation for Part ID: SE120-004-4A - Item: 146

Workorder: 65678/3-0 Sub:121 Op:20

Part: SE120-004-4A - - PORT 4A AND 4B INSTALLATION

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
5*	B5	$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		J-1280	TP 0.312 TOP -0.085 / +0.076 (ACCEPT P ER N.C. 19855) [N/C :19855-Doc:19855]	854-R.U			A
(30)		PORT 4A POSITION						08-25-06			
5*	B5	$\varnothing .25 \text{ (M)}$ A B C	LASER	QA		J-1280	TP 0.340 TOP -0.057 / +0.098 (ACCEPT P ER N.C. 19855) [N/C :19855-Doc:19855]	854-R.U			A
(40)		PORT 4B POSITION						08-25-06			

JUN-21-2005 TUE 08:21 AM TEK MIDWEST

FAX NO. 708 430 0147

P. 01



GREENVILLE TUBE

P.O. Box 30 Greenville, PA 16125

REPORT OF TESTS

Phone (724)-588-6300
Fax (724)-588-1492

Customer _____

City _____

Our Order GM-4987

C.P.O. M49128631

Date May 26, 2005

Material: Type 316/316 L

(X) Seamless () Welded and Drawn () As Welded

Condition Bright Annealed

Finish Cold Drawn, Bright Annealed and Passivated

Spec. ASTM-A-269-04/A-213-04b/SA-213-04(EAW)

MAJOR TOOL & MACHINE Co.
P.O. 05-03220

REF # 1010873

Each Tube on this order has been spectrographically Checked for Mo

Heat Number	Size			
	O.D.	I.D.	Wall	Length
2D994	125"		.035" Avg	17'24"

Chemical Analysis

	%C	%Mn	%P	%S	%Si	%Ni	%Cr	%Mo	%Ti	%Cb+TA	%Fe	%N
Ladle	019	1.43	022	.001	37	12.01	17.15	2.13				04
Prod	019	1.45	.028	003	37	12.24	17.36	2.181				04
	%Cu	%Co	%Al	%Nb+TA	%Nb	%TA	%Al+Ti	%Cb+Nb	%Cb			
Ladle	.22	.15										
Prod	.18	.15										

Mechanical and Non-Destructive Tests

Tensile Strength	Yield Strength	% Elongation in 2"	Eddy Current	Hydro Test	Air Test
104,721	57,904	55	Passed		
103,488	54,208	55			

Mechanical Destructive and Other Tests

Hardness	Bend	Reverse Bend	Flange	Reverse Flat	Flare	Flat	Grain Size	Other Tests
RB 73/76					PASSED	PASSED		

ASTM-A-262, Practice

Corrosion Test

A _____ B _____ C _____ D _____ E 97361 AT
WE HEREBY CERTIFY THAT THE HEAT NUMBERS, ANALYSIS AND TESTS DETAILED HEREON, ARE CORRECT AS CONTAINED IN THE RECORDS OF THIS CORPORATION"

Important Notice: Any discrepancy in the amount of tubing must be reported within 24 hours after receipt by the customer. Greenville Tube certifies that the material used for the P.O. No. stated above is free from mercury and low melting alloy contamination

Signed:

Robert Ryan
Robert Ryan
Quality Control Manager / Metallurgical Engineer

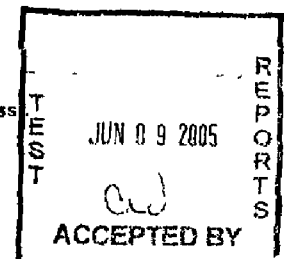
Cathy Rocole
Quality Control Ass

ness test performed on O.D. corrected for curvature per ASTM-E-18
inverted from 15-T Scale

ry of origin of raw material producer, China
ry of origin of melt Taiwan



JUN 24 2005





1565 FLBETWOOD DRIVE
 ELGIN, IL 60123
 CERTIFICATE OF ANALYSIS

CUSTOMER:

METALMEN SALES, INC.
 P.O. BOX 54
 NEW YORK, NY 10044

ORDER(S) : J36726
 SALES ORDER 78524-1
 QUANTITY : 2,310 00

SPEC. 4749 AMS 5599 F I625 ANNEALED
 APPR. GE S400, S1000 D,
 DESC. ALLOY 625 2B ANNEALED COIL
 Gauge: .010+/- .001 (.009 / .011)
 Width: 36.000 +/- .01

3891 ASTM B443 93 I525 GRADE 1
 Cust. Part #138020136008-01
 PAPER INTERLEAVE #3 EDGE
 MARK WEIGHT OF PAPER INTERLEAVE

HEAT NO 265096802 *MATON Tool PO POS-03219* *1pc* 12"x12" CHEMICAL PROPERTIES

ALUMINUM (Al)	0.2000 ✓	BERYLLIUM (Be)	
BORON (B)	0.0030	CALCIUM (Ca)	
CARBON (C)	0.0200 ✓	CHROMIUM (Cr)	21.5500 ✓
COBALT (Co)	0.1300 ✓	COLUM.+TANTALUM (Cb+Ta)	3.5100 ✓
COLUMBIUM (Cb)	3.4600	COPPER (Cu)	0.0800
HYDROGEN (H)		IRON (Fe)	4.4700 ✓
LANTHANUM (La)		MAGNESIUM (Mg)	0.0050 ✓
MANGANESE (Mn)	0.3200	MOLYBDENUM (Mo)	2.4300 ✓
NICKEL (Ni)	60.3100 ✓	NITROGEN (N)	
OXYGEN (O)		PHOSPHORUS (P)	0.0060 ✓
SILICON (Si)	0.2000 ✓	SULFUR (S)	0.0020 ✓
TANTALUM (Ta)	<.05	TITANIUM (Ti)	0.2500 ✓
TUNGSTEN (W)	0.1100	VANADIUM (V)	
ZIRCONIUM (Zr)		NICKEL+COBALT (Ni+Co)	60.4400

AS SHIPPED PROPERTIES:

DIR TENSILE / YIELD ✓	%ELG (2"/4D)	% R/A	GRAIN HARDNESS	WRAP	BEND ✓
F 138000 / 72500	46.0 ✓		9.0		PASS

AS SHIPPED PROPERTIES:

DIR TENSILE	YIELD	%ELG (2"/4D)	% R/A	GRAIN HARDNESS	WRAP	BEND
-------------	-------	--------------	-------	----------------	------	------

AFTER H/T @ ROOM TEMPERATURE; H/T AT F+/- F HRS+/- HRS COOL

DIR TENSILE	YIELD	%ELG (2"/4D)	% R/A	GRAIN HARDNESS	WRAP	BEND
-------------	-------	--------------	-------	----------------	------	------

AFTER H/T @ ROOM TEMPERATURE; H/T AT F+/- F HRS+/- HRS COOL

DIR TENSILE	YIELD	%ELG (2"/4D)	% R/A	GRAIN HARDNESS	WRAP	BEND
-------------	-------	--------------	-------	----------------	------	------

TESTED @ R; H/T AT F+/- F HRS+/- HRS COOL

DIR TENSILE	YIELD	%ELG (2"/4D)	% R/A	GRAIN HARDNESS	WRAP	BEND
-------------	-------	--------------	-------	----------------	------	------

DIR STRESS RUPTURE F						
HOURS	%ELG (2"/4D) PSI	IGO	IGA			MICRO

LOT CODE-100421 ; *1.0TX180 ; ELEC.ETCH/10%OXALIC/100XMPG

JUN 16 2005
 97132 *PH*

WE HEREBY CERTIFY THE MATERIAL SHIPPED ON THE ABOVE ORDER CONFORMS TO THE
 STATED CHEMICAL AND PHYSICAL REQUIREMENTS AND PROCESSED FREE OF MERCURY
 UNLESS OTHERWISE STATED).

AUTHORIZED SIGNATURE:

DATE: 01-08-01



JUN 18 2005

QUALITY MANAGER - RICHARD OMIOLEK

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-005-40 - Item: 149

Workorder: 65678/3-0 Sub:138 Op:10

Part: SE120-005-40 - - PORT 2 BACKING STRIP

Drawing ID: Rev:		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY 1.02 MAX	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U 08-21-05		
(20)										

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442551001-0	Date Entered Date De Commande Bestelldatum 06/03/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628086	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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HAYNES
International

CUSTOMER COPY

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

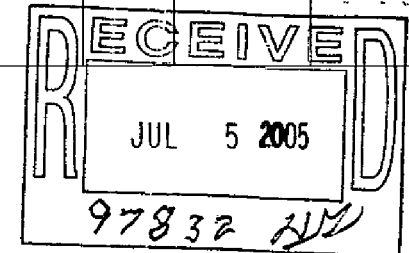
Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-66MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100	
Specification • Specification • Spezifikation 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	

Heat Number Numero De Coute 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 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
		Ta	Zr	Bi	Se	La	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo			
2650 5 6801	3.5026	<0.05																BUTT END *03

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

6/28/2005

Amanda Aguirre



Line 1-3

MC109510.T1F1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442551001-0	Date Entered Date De Comande Bestelldatum 06/03/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zausnis Nr 20050628086	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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International

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

Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-66MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
---	---	--

Specification • Specification • Spezifikation ASTM-B-443, 00c1, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
--	---	--

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiente • 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% Strickgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strickgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strickgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strickgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
137000 PSI		74000 PSI	44 %		(1)(A)	Temp:							Temp:				

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

6/28/2005 (1) 3942629401



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 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.

MC109510.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442551001-0	Date Entered Date De Commande Bestelldatum 06/03/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628086	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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International

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PO Box 9013
Kokomo, Indiana, 46902

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-66MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantite Commandee Bestelmenge 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

Amanda Aguirre



MC109510.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,



6/21/2005

Marlin C. Losch III



Quality Assurance Documentation for Part ID: SE120-005-41 - Item: 151

Workorder: 65678/3-0 Sub:145 Op:10

Part: SE120-005-41 - - PORT 5 BACKING STRIP

Drawing ID: Rev:		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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442557001-0	Date Entered Date De Commande Bestelldatum 06/03/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628088	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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International

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

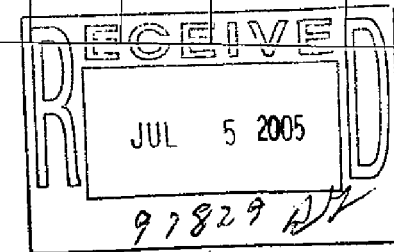
Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinaaire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-68MTM REV: 1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100	
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantie Commandee Bestellmenge 6 PC		Quantity Shipped Quantite Expeditee Liefermenge 6 PC	

Heat Number Numero De Caudie Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse														Si	Ti	V	W		
	Al	B	C	Ch+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S							
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585					BUTT END *03
2650 5 6801	3.5026	<0.05																		BUTT END *03

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

6/28/2005

Amanda Aguirre



Series 4-6

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, 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, EXCEPT BY FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC109512.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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Invoice No No. De Facture Rechnungs Nr 442557001-0	Date Entered Date De Commande Bestelldatum 06/03/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628088	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4															
Sold To • Client • Bestellauschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA			Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-68MTM REV: 1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100														
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; 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 Hte.Temp. Warm Zugversuch				Stress Rupture Temperature • Essai A Charge De Rupture Zelstandversuch									
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Stress Constraime Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA		
137000 PSI		74000 PSI	44 %		(1)(A)														

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

6/28/2005

(1) 3942629401

Amanda Aguirre



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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442557001-0	Date Entered Date De Commande Bestelldatum 06/03/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628088	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC	

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Kokomo, Indiana, 46902

Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-68MTM REV: 1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100

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: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

Amanda Aguirre



MC109512.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,

 6/29/2005

Marlin C. Losch III



Quality Assurance Documentation for Part ID: SE120-005-42 - Item: 153

Workorder: 65678/3-0 Sub:146 Op:10

Part: SE120-005-42 - - PORT 6 BACKING STRIP

Drawing ID: Rev:		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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442680001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628081	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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International**

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Kokomo, Indiana, 46902

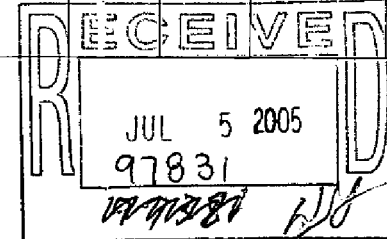
Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-69MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, 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 Coilee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
	(Ni)	Ta	Zr	Bi	Se	La	(Ni+Cu)	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *03
2650 5 6801	3.5026	<0.05																

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

6/28/2005

Amanda Aguirre



Linea 7-9

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MC109509.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Invoice No No. De Facture Rechnungs Nr 442680001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628081	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 • Bestellaranschrift	Ship To • Destinataire • Bestellmenge	Product Description • Description Produit • Material Beschreibung
MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-69MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100

Specification • Specification • Spezifikation	Quantity Ordered Quantite Commandee Bestellemenge	Quantity Shipped Quantite Expediee Liefermenge
ASME-SB-443, 04, 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 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	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 Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
137000 PSI		74000 PSI	44 %		(1)(A)	Temp:							Temp:				

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre
Certification Technician
Amanda Aguirre
6/28/2005

(1) 3942629401



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MC109509.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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HAYNES
International

Haynes International
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PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. De Facture Rechnungs Nr 442680001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628081	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-69MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E			Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expedee 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: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

Amanda Aguirre



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

Purchase Order Numbers

P05-03064

Best Regards,

 6/21/2005
Marlin C. Losch III



INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-005-43 - Item: 155

Workorder: 65678/3-0 Sub:147 Op:10

Part: SE120-005-43 - - PORT 7 BACKING STRIP

Drawing ID: Rev:		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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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Invoice No No. De Facture Rechnungs Nr 442681001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628092	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.120/0.130 x 0/0 x 0/0 SE120-004-70MTM REV: 1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
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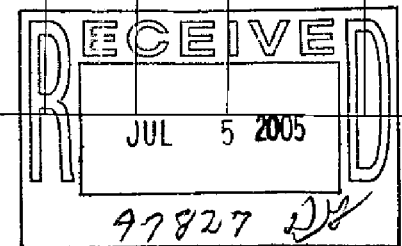
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
---	---	--

Heat Number Numero De Coudes Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb-Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

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Certification Technician

6/28/2005

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lines 10.72

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MC109514.T1P1

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PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. De Facture Rechnungs Nr 442681001-0		Date Entered Date De Commande Bestelldatum 06/06/05		Customer Reference Reference Client Kundenbestelldaten P05-03064		Report No. Rapport No Zeugnis Nr 20050628092		Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4									
Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Ship To • Destinaire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Product Description • Description Produit • Material Beschreibung 0.120/0.130 x 0/0 x 0/0 SE120-004-70MTM REV: 1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100									
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellemenge 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 Hte.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch					
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgrunze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrunze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgrunze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrunze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
137000 PSI		74000 PSI	44 %		(1)(A)												

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

6/28/2005

(1) 3942629401

Amanda Aguirre



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MC109514.TIF2

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International**

Haynes International
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PO Box 9013
Kokomo, Indiana, 46902

Invoice No No. De Facture Rechnungs Nr 442681001-0		Date Entered Date De Commande Bestelldatum 06/06/05		Customer Reference Reference Client Kundenbestelldaten P05-03064		Report No. Rapport No Zeugnis Nr 20050628092		Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4											
Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Ship To • Destinaataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Product Description • Description Produit • Material Beschreibung 0.120/0.130 x 0/0 x 0/0 SE120-004-70MTM REV: 1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100											
Specification • Specification • Spezifikation ASME-SB-443, 04, 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 Geglueht Haerte	Aged Hardness Durete Vieilli Gealtert Haerte	Grain Size Grosseur De Grain Korngrösse				IGA	Uniformity	Corrosion Rate	Oxidation Rate	Charpy Impact Test				Creep Rupture					
		Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %					ALA	P&W Figure Number	Attack Dpth	Corrosion	Test Method	Toughness Avg	Toughness 1	Toughness 2	Toughness 3	Test Etest Versuch
98 HRB	(1)(A)	7.5						MPY											

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

6/28/2005

(1) 3942629401

Amanda Aguirre



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MC109514.TIF3

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 442681001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628092	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Product • Material Beschreibung 0.120/0.130 x 0/0 x 0/0 SE120-004-70MTM REV: 1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E			Quantity Ordered Quantite Commandee Bestellemenge 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre
Certification Technician 6/28/2005

Amanda Aguirre



MC109514.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,

 6/21/2005

Marlin C. Losch III



Quality Assurance Documentation for Part ID: SE120-005-44 - Item: 157

Workorder: 65678/3-0 Sub:148 Op:10

Part: SE120-005-44 - - PORT 8 BACKING STRIP

Drawing ID: Rev:		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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

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 442683001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628090	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-71MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
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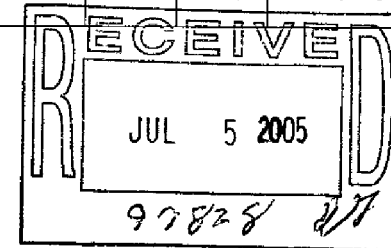
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
---	--	--

Heat Number Numero De Coulee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S _c	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
		Ta	Zr	Bi	Se	La	Cu+Ni+Pb	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

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

6/28/2005

Amanda Aguirre



Price 13.15

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 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.

MC109513.TIF1

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 442683001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628090	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4																
Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA			Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-71MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100															
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E			Quantity Ordered Quantite Commandee Bestellemenge 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 Zeilstandversuch								
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgranze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgranze	% Elong In % Allong EN % Dehnung	%RA		Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgranze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgranze	% Elong In % Allong EN % Dehnung	%RA		Temp:	Test Essai Versuch	Stress Constraite Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA		
137000 PSI		74000 PSI	44 %		(1)(A)															

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

6/28/2005

(1) 3942629401

Amanda Aguirre



MC109513.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 442683001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628090	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinaaire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beshreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-71MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

Amanda Aguirre



MC109513.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,


6/29/2005

Marlin C. Losch III



INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-005-45 - Item: 159

Workorder: 65678/3-0 Sub:149 Op:10

Part: SE120-005-45 - - PORT 9 BACKING STRIP

Drawing ID: Rev:		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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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**HAYNES
International**

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

Invoice No No. De Facture Rechnungs Nr 442687001-0	Date Entered Date De Commande Bestelkdatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628091	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellaanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-72MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
--	---	--

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestelmenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
---	---	--

Heat Number Numero De Coctee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb-Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre
Certification Technician
Amanda Aguirre
6/28/2005

RECEIVED
JUL 5 2005
97833 *AP*

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RAC
7-5-05

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FILE COPY 2

HAYNES
International

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

Invoice No No. De Facture Rechnungs Nr 442687001-0		Date Entered Date De Commande Bestelldatum 06/06/05		Customer Reference Reference Client Kundenbestelldaten P05-03064		Report No. Rapport No Zeugnis Nr 20050628091		Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4									
Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Ship To • Destinaire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-72MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100									
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellemenge 6 PC		Quantity Shipped Quantite Expeditee 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 Zeitstandversuch							
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA	Temp:	Test Essai Versuch	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA	Temp:	Test Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
137000 PSI		74000 PSI	44 %	(1)(A)													

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

6/28/2005 (1) 3942629401

Amanda Aguirre

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REC
7-5-05

MC109562.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 442687001-0		Date Entered Date De Commande Bestelkdatum 06/06/05		Customer Reference Reference Client Kundenbestelldaten P05-03064			Report No. Rapport No Zeugnis Nr 20050628091			Pages of Pages Page de Pages Anzahl der Seiten 3 Of 4														
Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA						Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA						Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-72MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100												
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E									Quantity Ordered Quantite Commandee Bestellmenge 6 PC			Quantity Shipped Quantite Expeditee Liefermenge 6 PC												
Annealed Hardness Durette Recuit Geglueht Haerte		Aged Hardness Durette Vieilli Gealtert Haerte		Grain Size Grosseur De Grain Korngroesse				IGA		Uniformity		Corrosion Rate		Oxidation Rate		Charpy Impact Test				Creep Rapture				
				Grain Size	Prolominant 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 Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN	% Elong @ 15 Hrs
				7.5						0.0001 IN		MPY				Fl. Lbs.	Fl. Lbs.	Fl. Lbs.	Fl. Lbs.	Temp:	PSI			

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

6/28/2005

(1) 3942629401

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(S), 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 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.

*AKC
7-5-05*

MC109562.TIF3

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442687001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628091	Pages of Pages Page de Pages Anzahl der Seiten 4 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 • Bestelltranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-72MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantite Commandee Bestellemenge 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

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(S), MODIFIED 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 WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

*AKU
7-5-05*

MC109562.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,

 6/21/2005
Marlin C. Losch III

AKU
7-5-05

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-005-46 - Item: 161

Workorder: 65678/3-0 Sub:150 Op:10

Part: SE120-005-46 - - PORT 10 BACKING STRIP

Drawing ID: Rev:		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY 1.02 MAX	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U 08-21-05		
(20)										

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442690001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628080	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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HAYNES
International

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

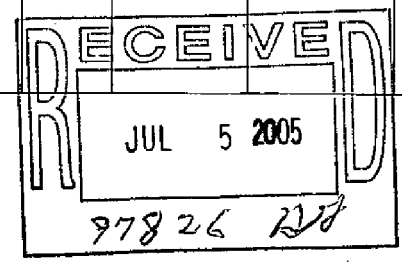
Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-73MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, 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 Coilee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
	Cr(Nb)	Ta	Zr	Bi	Sc	La	Cu+Ni	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

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

6/28/2005

Amanda Aguirre



lines 19-21

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MCI09515.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs-Nr 442690001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628080	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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Kokomo, Indiana, 46902

Sold To • Client • Bestellarnschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-73MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
--	---	--

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantité Commandée Bestellemenge 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 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	Temp:	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	Temp:	Test Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
137000 PSI		74000 PSI	44 %		(1)(A)												

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

Amanda Aguirre

6/28/2005 (1) 3942629401



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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442690001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628080	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-73MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantite Commandee Bestellemenge 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre
Certification Technician 6/28/2005

Amanda Aguirre



MC109515.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,



6/21/2005

Marlin C. Losch III



INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-005-47 - Item: 163

Workorder: 65678/3-0 Sub:151 Op:10

Part: SE120-005-47 - - PORT 11 BACKING STRIP

Drawing ID: Rev:		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY 1.02 MAX	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U 08-21-05		
(20)										

A



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

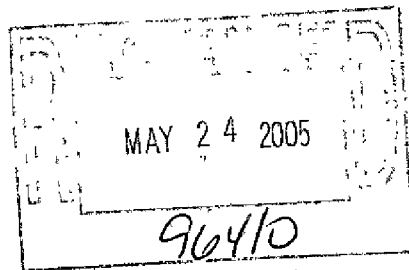
OUR ORDER NUMBER
5-1337

MATERIAL **SIZE**
Alloy 625 welded pipe 2-1/2" sch 10

QTY
20 ft

CONFORMS TO:
ASTM-B-705, PS483, PS 489

RM ID: A8519



*Line 1
B.7*

Certified By:

Rodney Bawlin

5/24/05

BRISTOL METALS L.P.
BRISTOL TN. U.S.A.
MILL TEST REPORT

TO: EAGLE ALLOYS CORPORATION
117 WEST PARK CT
TALBOTT, TN 37277

CUST NO: 557512
ORDER NO: 14762
PO NO: 8294
DATE: 01/21/2005

HEAT NO.: 26504674 2.5" WELDED PIPE SCH. 10S ALLOY 1625 UNS#N06625 ASTM
RM ID: AD519 B705-03 / ASME SB705-01, 03 ADD. CLASS 2, FULL FINISHED.

ALUMINUM	.2	CARBON	.033
CHROMIUM	22.0024	COBALT	.1849
IRON	4.5278	MANGANESE	.2605
MOLYBDENUM	0.8153	NB+TA	3.5003
NICKEL	59.3567	PHOSPHORUS	.007
SILICON	.19	SULFUR	.002
TITANIUM	.2644		
ELONG %	47	HARD RB	93
TENSILE	131000	YIELD	64000
ANNEALED	YES	EDDY CURRENT	OK
FLATTENING	OK	TENSION	OK
HYDRO PRSSURE	1000 PSI		

Annealed at 1925 Deg. F. and water quenched to
below 800 Deg. F. in less than 3 minutes

Bristol Metals has a Quality Management System that is in
compliance with ISO 9001:2000

Hardness 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 58049) 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



INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE120-005-48 - Item: 165

Workorder: 65678/3-0 Sub:152 Op:10

Part: SE120-005-48 - - PORT 15 BACKING STRIP

Drawing ID: Rev:		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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No. No. De Facture Rechnungs Nr 442713001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbest/dl/daten P05-03064	Report No. Rapport No Zeugnis Nr 20050628078	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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PO Box 9013
Kokomo, Indiana, 46902

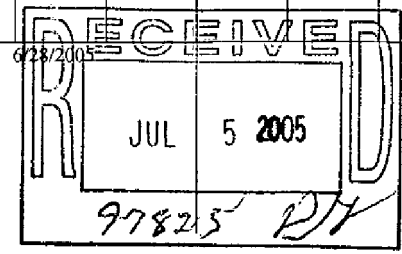
Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-75MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
--	--	--

Specification • Specification • Spezifikation ASME-SB-443, 04, 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 Coutee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb+Ta (Nb+Ti)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
	C(Nb)	Ta	Zr	Bi	Se	La	Cu+Co	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

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

Amanda Aguirre



linax 25.27

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CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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International**

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

Invoice No No. De Facture Rechnungs Nr 442713001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zengnis Nr 20050628078	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinatatre • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
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Product Description • Description Produit • Material Beschreibung
**0.125 (0.120/0.130) x 0/0 x 0/0
SE120-004-75MTM REV:1A
HAYNES(R) 625 ALLOY SHEET
Nadcap CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B, AS9100**

Specification • Specification • Spezifikation ASME-SB-443, 04, 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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Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Room Temp.						Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch						Stress Rupture Temperature • Essai A Charge De Rupture Zellstandversuch					
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	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
137000 PSI		74000 PSI	44 %		(1)(A)												

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

6/28/2005 (1) 3942629401

Amanda Aguirre



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Invoice No No. De Facture Rechnungs Nr 442713001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628078	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-75MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

Amanda Aguirre



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

Purchase Order Numbers

P05-03064

Best Regards,

 6/21/2005
Marlin C. Losch III



Quality Assurance Documentation for Part ID: SE120-006-6 - Item: 167

Workorder: 65678/3-0 Sub:144 Op:10

Part: SE120-006-6 - - PORT 4 BACKING STRIP

Drawing ID: Rev:		INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		MAGNETIC PERMEABILITY 1.02 MAX	MASTER GAGE	QA		J-1165	LESS THAN 1.02	854-R.U 08-21-05		
(20)										

A

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442715001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport Nr Zeugnis Nr 20050628084	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Shlp To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-67MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
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Specification • Specification • Spezifikation ASME-SB-443, 04, 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 Cotte Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb-Ta (Nb-Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
	(0.05)	Ta	Zr	Bi	Se	La	(0.05)	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

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

6/28/2005

Amanda Aguirre

RECEIVED
JUL 5 2005
97834

*Lenin 20.20
28-30*

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*RKU
28-05*

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Invoice No No. De Facture Rechnungs Nr 442715001-0		Date Entered Date De Commande Bestelldatum 06/06/05		Customer Reference Reference Client Kundenbestelldaten P05-03064		Report No. Rapport No Zeugnis Nr 20050628084		Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4											
Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Ship To • Destinaaire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA				Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-67MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100											
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E						Quantity Ordered Quantite Commandee Bestellmenge 6 PC		Quantity Shipped Quantite Expediee Liefermenge 6 PC											
Tensile Test at Room Temperature • Essal De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.						Tensile Test at Elevated Temperature • Essal De Traction A Hte.Temp. Warm Zugversuch						Stress Rupture Temperature • Essal A Charge De Rupture Zeitstandversuch							
Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgranze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgranze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Strieckgranze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgranze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch Temp:	Stress Constraite Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA		
137000 PSI		74000 PSI	44 %		(1)(A)														

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

6/28/2005 (1) 3942629401

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(S), 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, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

7-5-05
RDL

MC109561.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442715001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628084	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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HAYNES
International

CUSTOMER COPY

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

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-67MTM REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantite Commandee Bestelmenge 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

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

6/28/2005

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 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 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 REGARDING MULTIPLE MATERIAL SPECIFICATIONS.

*AKU
2-5-05*

MC109561.TIF4

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

Purchase Order Numbers

P05-03064

Best Regards,



6/29/2005

Marlin C. Losch III

AKU
2-5-05

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • 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 442718001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628079	Pages of Pages Page de Pages Anzahl der Seiten 1 Of 4
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Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458-E-19TH-ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458-E-19TH-ST INDIANAPOLIS IN 46218 USA
---	---


Product Description • Description Produit • Material Beschreibung
0.125 (0.120/0.130) x 0/0 x 0/0
SEI20-004-76MTM REV:1A
HAYNES(R) 625 ALLOY SHEET
Nadcap CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B, AS9100

Specification • Specification • Spezifikation ASME-SB-443, 04, 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 Caudée Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6801	0.28		0.025	3.51	0.2101	21.89	0.0587	4.0106	0.2503	8.66	60.59	0.006	0.004	0.24	0.3585			BUTT END *03
	(Nb)	Ta	Zr	Bi	Se	La	C+N+O	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *03
2650 5 6801	3.5026	<0.05																BUTT END *03

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

6/28/2005

Amanda Aguirre
 JUL 07 2005

RECEIVED
 JUL 6 2005
 97943 *RA*

line 31-33

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 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 41. 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.

MC109677.TIF1

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 442718001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628079	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-76MTM REV:1A HAYNES(R) 625 ALLOY SHEET Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
--	--	--

Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expeditee 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 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 Constraime Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA		
137000 PSI		74000 PSI	44 %		(1)(A)														

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

6/28/2005 (1) 3942629401

Amanda Aguirre

MTM 016 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, 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, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC. SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

MC109677.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr 442718001-0	Date Entered Date De Commande Bestelldatum 06/06/05	Customer Reference Reference Client Kundenbestelldaten P05-03064	Report No. Rapport No Zeugnis Nr 20050628079	Pages of Pages Page de Pages Anzahl der Seiten 4 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 MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.125 (0.120/0.130) x 0/0 x 0/0 SE120-004-76MTM-REV:1A HAYNES(R) 625 ALLOY SHEET - Nadcap CERTIFICATE NUMBER 0089 S400E,S1000E, EN 10204 3.1.B, AS9100
Specification • Specification • Spezifikation ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E		Quantity Ordered Quantite Commandee Bestellemenge 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.
Mill Orders Used: 3942629401 (6 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre
Certification Technician 6/28/2005

Amanda Aguirre

MTR
016
JUL 07 2005

MCI09677.TIF4

JUL 07 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

Purchase Order Numbers

P05-03064

Best Regards,

6/29/2005

Marlin C. Losch III



Allegheny Ludlum
An Allegheny Technologies Company

Jessop Speciality Products
500 Green Street
Washington, PA 15301

CERTIFIED MATERIAL
TEST REPORT

OUR ORDER NO.
YOUR ORDER NO.
MEMO NO.
DATE
SALESMAN NO.

QP1066210
1606
270107-00
03/08/2005
505

6610

Bill HIGH TEMP METALS
To 12910 SAN FERNANDO RD
SYLMAR CA

ATI WEST
8570 MERCURY LANE
PICO RIVERA CA

91342

90669

P. M. Claditis
P. M. Claditis - Product Quality Engineer

JESSOP UNS N06625 ALLOY HRAP
AMS 5599F ASTM B443-01 GRADE 1 ASME SB-443-01 GRADE 1
CHEMISTRY & PROPERTIES TO AMS 5666E ASME SB-446-01 & ASTM B446-02
S400E S1000E NADCAP APPROVAL

Heat	Slip	Lot No	Size	Pcs	Weight
S11857L04	08044 A	150387	1.7700 x 48.0000 x 163.0000	1	4300

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	TI	CB	N	AL	FE
S11857L04	.079 /	.13 /	.012 /	.0002 /	.20 /	60.49 /	20.89 /	8.99 /	.16 /	.063	.18 /	3.53 /	.012	.15 /	4.64 /

Heat	TA
S11857L04	.020 /

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
150387	1.7700	69.5 KSI	124.0 KSI	42.0 /	36.0	BHN217			7 /

MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY
MATERIAL WAS NOT WELD REPAIRED
NADCAP CERT #106684 ALLEGHENY LUDLUM BRACKENRIDGE, PA EXPIRES APRIL 30, 2005
DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE
MATERIAL IS OF USA MELT AND MANUFACTURE

RECEIVED
JUL 23 2005
98632 D/A

JUL 27 2005 *line 4*

WITH 017

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.

MC110168.TIF



Allegheny Ludlum
An Allegheny Technologies Company

Jessop Speciality Products
500 Green Street
Washington, PA 15301

CERTIFIED MATERIAL
TEST REPORT

OUR ORDER NO. 8F206210
YOUR ORDER NO. 1606
MEMO NO. 070107-00
DATE 03/08/2005
SALESMAN NO. 1505

6610

Bill HIGH TEMP METALS
To 12910 SAN FERNANDO RD
SYLMAR CA

ATI WEST
8570 MERCURY LANE
PICO RIVERA CA

91342

90569

P. M. Claditis
P. M. Claditis - Product Quality Engineer

JESSOP UNS N06625 ALLOY HRAP
AMS 5599F ASTM B443-01 GRADE 1 ASME SB-443-01 GRADE 1
CHEMISTRY & PROPERTIES TO AMS 5666E ASME SB-446-01 & ASTM B446-02
S400E S1000E NADCAP APPROVAL

Heat	Slip	Lot No	Size	Pcs	Weight
S11857L04	08044 A	150387	1.7700 x 48.0000 x 163.0000	1	4300

Heat	C	MN	P	S	SI	NI	CR	NO	CO	CU	TI	CB	N	AL	FE
S11857L04	.079	.13	.012	.0002	.20	60.49	20.89	8.99	.16	.063	.18	3.53	.012	.15	4.64

Heat	TA
S11857L04	.020

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
150387	1.7700	69.5 KSI	124.0 KSI	42.0	36.0	BHN217			7

MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY
MATERIAL WAS NOT WELD REPAIRED
NADCAP CERT #106684 ALLEGHENY LUDLUM BRACKENRIDGE, PA EXPIRES APRIL 30, 2005
DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE
MATERIAL IS OF USA MELT AND MANUFACTURE

PAGE 1 FINAL PAGE


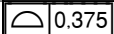
EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

MC110168.TIF2

Quality Assurance Documentation for Part ID: SE120-014-FJS - Item: 172

Workorder: 65678/3-0 Sub:193 Op:60

Part: SE120-014-FJS - - SPACER SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
4* (10)	D5	 PORT FJS POSITION	LASER	QA		1444	0.175	522-R.D 08-24-06			A
Drawing ID: SE121-014 Rev: 1C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		 FINAL SPACER PROFILE	LASER	QA		1444	-0.145 / +0.266 (AC CEPT PER NC # 20353) [N/C:20353-Doc:20 353]	854-R.U 09-14-06			A
* (30)		SPACER MAGNETIC PERMEABILITY 1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	522-R.D 08-24-06			A
* (40)		SPACER INTERIOR SURFACE FINISH 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	8-24	522-R.D 08-24-06			A
* (50)		SPACER WALL THICKNESS 0.375 +0.04/-0	UT THICKNESS GA UT CAL BLOCK	QA		J-1009-NDT J-1157	0.378 / 0.402	522-R.D 08-24-06			A

Quality Assurance Documentation for Part ID: SE121-014 PORT - Item: 173

Workorder: 65678/3-0 Sub:193 Op:15

Part: SE121-014 PORT - - SPACER SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		VWI - ROOT PASS WELD PSV		MFG		VISUAL	ACCEPTABLE PER CUMER REQUIREMENTS	358-D.M 06-20-06	581-D.E 06-20-06		A
(100)				CWI							
*		VWI - COVER PASS WELD PSV		MFG		VISUAL	ACCEPTABLE PER CUMER REQUIREMENTS	358-D.M 06-21-06	933-D.L 06-21-06		A
(120)					CWI						

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S10-S6 SUB-SET - Item: 174

Workorder: 65678/3-0 Sub:206 Op:30

Part: SE121-014 S10-S6 SUB-SET - - S10-S6 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD S10-S6		CWI				04-12-06	04-12-06	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S10-S6 SUB-SET - Item: 175

Workorder: 65678/3-0 Sub:206 Op:130

Part: SE121-014 S10-S6 SUB-SET - - S10-S6 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (20)		VWI EXTERIOR COVER PASS WELD S10		MFG CWI		VISUAL	ACCEPTABLE PER CRI ERIA	509-S.R 04-26-06	933-D.L 04-26-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S10-S6 SUB-SET - Item: 176

Workorder: 65678/3-0 Sub:206 Op:150

Part: SE121-014 S10-S6 SUB-SET - - S10-S6 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE PER CRI	509-S.R	053-M.D	
(20)		VWI INTERIOR COVER PASS WELD S10-		CWI			ERIA	04-25-06	06-27-06	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S10-S6-S7 SUB-SET - Item: 177

Workorder: 65678/3-0 Sub:205 Op:30

Part: SE121-014 S10-S6-S7 SUB-SET - - S10-S6-S7 PANEL SUB-SET

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	GOOD	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD S6-S7		CWI				04-12-06	04-12-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S10-S6-S7 SUB-SET - Item: 179

Workorder: 65678/3-0 Sub:205 Op:130

Part: SE121-014 S10-S6-S7 SUB-SET - - S10-S6-S7 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE PER CRI	509-S.R	933-D.L	
(20)		VWI EXTERIOR COVER PASS WELD S6-		CWI			ERIA	04-25-06	04-26-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S10-S6-S7 SUB-SET - Item: 178

Workorder: 65678/3-0 Sub:205 Op:150

Part: SE121-014 S10-S6-S7 SUB-SET - - S10-S6-S7 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	ACCEPTABLE PER CRI	509-S.R	053-M.D	
(20)		VWI INTERIOR COVER PASS WELD S6-		CWI			ERIA	04-26-06	06-27-06	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S8-S9 SUB-SET - Item: 180

Workorder: 65678/3-0 Sub:209 Op:30

Part: SE121-014 S8-S9 SUB-SET - - S8-S9 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	GOOD	358-D.M	933-D.L	
(10)		VWI ROOT PASS WELD S8-S9		CWI				05-03-06	05-03-06	A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S8-S9 SUB-SET - Item: 181

Workorder: 65678/3-0 Sub:209 Op:130

Part: SE121-014 S8-S9 SUB-SET - - S8-S9 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (20)		VWI EXTERIOR COVER PASS WELD S8-		MFG CWI			ACCEPTABLE	053-M.D 06-27-06	053-M.D 06-27-06	

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-014 S8-S9 SUB-SET - Item: 182

Workorder: 65678/3-0 Sub:209 Op:150

Part: SE121-014 S8-S9 SUB-SET - - S8-S9 PANEL SUB-SET

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				MFG		VISUAL	GOOD	358-D.M	053-M.D	
(20)		VWI INTERIOR COVER PASS WELD S8-		CWI				05-03-06	06-27-06	

A

Quality Assurance Documentation for Part ID: SE121-014 - Item: 183

Workorder: 65678/3-0 Sub:193 Op:12

Part: SE121-014 - - SPACER SUB-ASSEMBLY

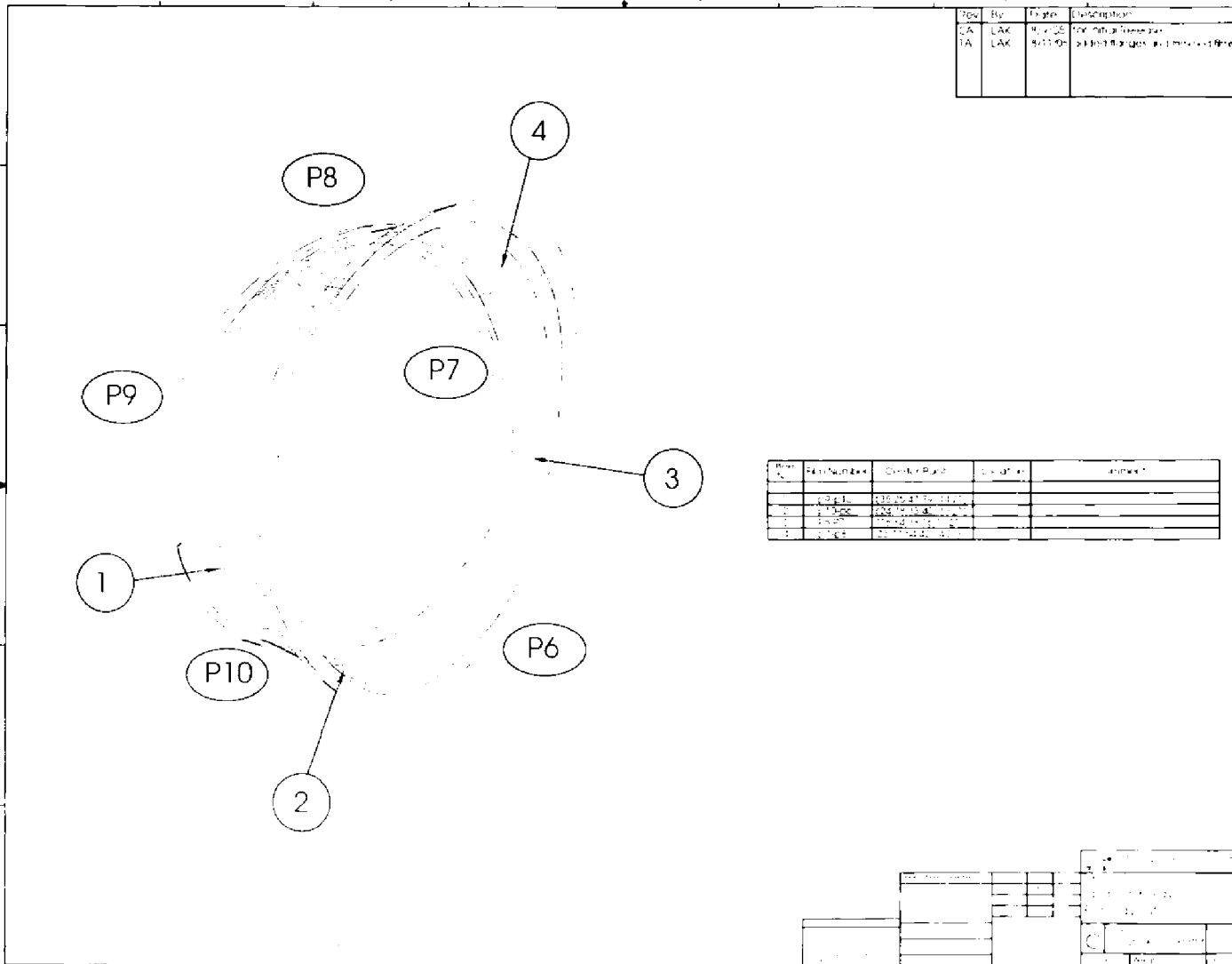
Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	933-D.L		A
(10)		VWI ROOT PASS WELD SFA		CWI			OMER REQUIERMENT	06-09-06	06-09-06		
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	933-D.L		
(20)		VWI ROOT PASS WELD SFB		CWI			OMER REQUIERMENT	06-09-06	06-09-06		
*				MFG		VISUAL	ACCEPT PER CUSTOM	358-D.M	933-D.L		A
(110)		VWI EXTERIOR COVER PASS WELD SF		CWI			REQUIREMENTS	06-12-06	06-12-06		
*				MFG		VISUAL	ACCEPT PER CUSTOM	358-D.M	933-D.L		A
(120)		VWI EXTERIOR COVER PASS WELD SF		CWI			REQUIREMENTS	06-12-06	06-12-06		

Quality Assurance Documentation for Part ID: SE121-014 - Item: 184

Workorder: 65678/3-0 Sub:193 Op:14

Part: SE121-014 - - SPACER SUB-ASSEMBLY

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	053-M.D		A
(10)		VWI INTERIOR COVER PASS WELD SFA		CWI			MER REQUIREMENTS	06-19-06	06-19-06		
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	053-M.D		A
(20)		VWI INTERIOR COVER PASS WELD SFB		CWI			MER REQUIREMENTS	06-19-06	06-19-06		
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	053-M.D		A
(30)		VWI INTERIOR COVER PASS WELD S7-		CWI			MER REQUIREMENTS	06-19-06	06-19-06		
*				MFG		VISUAL	ACCEPTABLE PER CU	358-D.M	053-M.D		A
(40)		VWI INTERIOR COVER PASS WELD S9-		CWI			MER REQUIREMENTS	06-19-06	06-19-06		





65678/3.0/193/25/818
 SE121-014
 Page 2 of 2
 6/28/06

Quality Assurance Documentation for Part ID: SE121-014 - Item: 187

Workorder: 65678/3-0 Sub:199 Op:10


Part: SE121-014 - - SPACER MACHINING

Drawing ID: SE121-014 Rev: 1C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	D6	 0.010	INDICATOR	MFG		P-5255	W/IN .007	105-D.B 08-09-06			A
1* (20)	D8	 0.010	INDICATOR	MFG		P-5255	W/IN .008	105-D.B 08-09-06			A
1* (30)	D7	(6.50) INTERPRET AS MINIMUM	INDICATOR	MFG		P-5255	7.895	105-D.B 08-09-06			A

Quality Assurance Documentation for Part ID: SE121-014 - Item: 188

Workorder: 65678/3-0 Sub:199 Op:30

Part: SE121-014 - - SPACER MACHINING

Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		 0.375 A B C	LASER	QA		1444	-0.145 / +0.266 (AC CEPT PER NC # 20353) [N/C:20353-Doc:20 353]	854-R.U		
(10)		FINAL SPACER PROFILE (WALL AND FLANGE PROFILES)						09-14-06		

Quality Assurance Documentation for Part ID: SE121-014-1 - Item: 189

Workorder: 65678/3-0 Sub:194 Op:60

Part: SE121-014-1 - - SPACER WALL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK PER SPEC.	093-M.S	933-D.L		A
(10)		VWI ROOT PASS WELD S7-S8		CWI				05-10-06	05-09-06		
*				MFG		VISUAL	OK PER SPEC.	093-M.S	933-D.L		A
(20)		VWI ROOT PASS WELD S9-S10		CWI				05-10-06	05-09-06		

Quality Assurance Documentation for Part ID: SE121-014-1 - Item: 190

Workorder: 65678/3-0 Sub:194 Op:160

Part: SE121-014-1 - - SPACER WALL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT	837-J.D	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD S9-		CWI				05-10-06	05-10-06		
*				MFG		VISUAL	ACCEPT	837-J.D	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD S7-		CWI				05-10-06	05-10-06		

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 438174001-0	Date Entered Date De Commande Bestelldatum 04/06/05	Customer Reference Reference Client Kundenbestelldaten 1525 REMAKE	Report No. Rapport No. Zeugnis Nr 20050921020	Pages of Pages Page de Pages Anzahl der Seiten 1 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 HIGH TEMP METALS INC 12910 SAN FERNANDO RD SYLMAR CA 91342 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 1.520 x 60 x 160 NSP 5822 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E, S1000 1/3/2005, EN 10204 3.1, AS9100
--	---	--

Specification • Specification • Spezifikation AMS 5599, F; AMS 5666, E; ASME-SB-443, 04, UNS# N06625, Gr. 1; ASME-SB-446, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1; RR9000:SABRe; MR0175-2002, ORG	Quantity Ordered Quantité Commandée Bestellmenge 1 PC	Quantity Shipped Quantité Expédiée Liefermenge 1 PC
---	--	--

Heat Number Noms De Caudes Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	Cr+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6861	0.18		0.026	3.49	0.2484	21.98		4.1913	0.2984	8.67	59.93	0.006	0.003	0.13	0.276			BUTT END *01
	Ca+Mg	Ta	Zr	Bi	Se	La	Cu+Ni	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *01
2650 5 6861	3.4866	<0.05																BUTT END *01

Certified By • Certifié Par • Bescheinigt Durch: Penny Powell
Certification Technician

9/21/2005

Penny E. Powell



OCT 06 2005

*Reel 100957
MB 06665
Line 2*

MCI12435.TIF1

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 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.

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Sales Order No Reference Commande Bestellungs Nr 438174001-0	Date Entered Date De Commande Bestelldatum 04/06/05	Customer Reference Reference Client Kundenbestelldaten 1525 REMAKE	Report No. Rapport No Zeugnis Nr 20050921020	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 • Bestellanschrift HIGH TEMP METALS INC 12910 SAN FERNANDO RD SYLMAR CA 91342 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 1.520 x 60 x 160 NSP 5822 HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400E, S1000 1/3/2005, EN 10204 3.1, AS9100
--	---	--

Specification • Specification • Spezifikation AMS 5599, F; AMS 5666, E; ASME-SB-443, 04, UNS# N06625, Gr. 1; ASME-SB-446, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1; RR9000:SABRe; MR0175-2002, ORG	Quantity Ordered Quantite Commandee Bestellmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 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 Hie. Temp. Warm Zugversuch						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%	% Allong EN	%RA		Versuch	Zugfestigkeit	Lim. Elast. A 1%	Lim. Elast. A 0.2%	% Allong EN	%RA	Temp.	Essai	Contrainte	Heures	% Allong EN	% RA
	1% Strieckgrenze	0.2% Strieckgrenze	% Dehnung	%RA		Temp.		1% Strieckgrenze	0.2% Strieckgrenze	% Dehnung	%RA		Versuch	Spannung	Stunden	% Dehnung	% RA
128000 PSI	(L)	75000 PSI	45 %	57 %	(1)(A)												
126000 PSI	(T)	76000 PSI	44 %	52 %	(1)(A)												

Certified By • Certifie Par • Bescheinigt Durch: Penny Powell
Certification Technician

9/21/2005

(1) 2743817491

Penny E. Powell



OCT 06 2005

MC112435.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Sales Order No Reference Commande Bestellungs Nr 438174001-0	Date Entered Date De Commande Bestelldatum 04/06/05	Customer Reference Reference Client Kundenbestelldaten 1525 REMAKE	Report No. Rapport No Zeugnis Nr 20050921020	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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HAYNES
International

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

Sold To • Client • Bestellanschrift HIGH TEMP METALS INC 12910 SAN FERNANDO RD SYLMAR CA 91342 USA	Ship To • Destinataire • Bestelmenge MAJOR TOOL AND MACHINE 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
--	--

Product Description • Description Produit • Material Beschreibung 1.520 x 60 x 160 NSP 5822 HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400E, S1000 1/3/2005, EN 10204 3.1, AS9100
--

Specification • Specification • Spezifikation AMS 5599, F; AMS 5666, E; ASME-SB-443, 04, UNS# N06625, Gr. 1; ASME-SB-446, 04, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1; RR9000:SABRe; MR0175-2002, ORG	Quantity Ordered Quantite Commandee Bestelmenge 1 PC	Quantity Shipped Quantite Expediee Liefermenge 1 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.
THIS MATERIAL WAS MELTED AND MANUFACTURED IN THE UNITED STATES.
This material was melted and manufactured in the United States.
No welding performed on this material.
Mill Orders Used: 2743817491 (1 PC)
(A) 1750 °F to 1900 °F

Certified By • Certifie Par • Bescheinigt Durch: Penny Powell
Certification Technician
9/21/2005

Penny E. Powell



OCT 06 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 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.

MC112435.TIF4



Jessop Speciality Products
 500 Green Street
 Washington, PA 15301

**CERTIFIED MATERIAL
 TEST REPORT**

OUR ORDER NO. QPS110800
 YOUR ORDER NO. T53722
 MEMO NO. 286651-01 LGS
 DATE 01/12/2006
 SALESMAN NO. 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
 TEMPERANCE MI

48182

48182

JESSOP UNS N06625 ALLOY HRAP
 ASTM B443-00 GRADE 1 ASME SB-443-01 GRADE 1 AMS-5599F;
 S400E S1000E



TRACER# 127395

Heat	Slip	Lot No	Size	Pcs	Weight
512537L03	48078 A	165684	2.0000 x 54.0000 x 140.0000	1	4740

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	TI	CB	N	AL	FE
512537L03	.083	.08	.010	.0001	.24	60.99	22.20	8.43	.065	.056	.16	3.47	.023	.005	4.31

Heat	TA
512537L03	.003

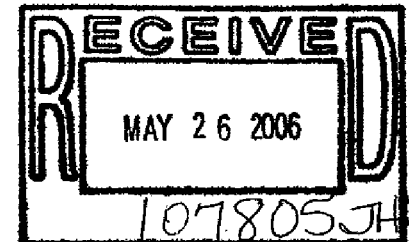
Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
165684	2.0000	57.2 KSI	123.5 KSI	47.0	43.0	BHN207			7

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, PA
 EN 10204:2004 3.1 CERTIFICATE



MAY 26 2006

PAGE 1 FINAL PAGE



Line 1

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.

Quality Assurance Documentation for Part ID: SE121-091 - Item: 194

Workorder: 65678/3-0 Sub:217 Op:30

Part: SE121-091 - - END COVERS (WITH PUMPOUT FEATURES)

Drawing ID: SE121-102 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				CWI		VISUAL	BUTT AND FILLET WELDS ACCEPTABLE PER DRAWING AND ROUTE REQUIREMENTS.	933-D.L		
(10)		VWI VESSEL BLANK OFF COVER WELD						06-28-06		

A

Quality Assurance Documentation for Part ID: SE121-091 - Item: 195

Workorder: 65678/3-0 Sub:218 Op:30

Part: SE121-091 - - END COVERS (BLANK)

Drawing ID: SE121-102 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*				CWI		VISUAL	BUTT AND FILLET WELDS ACCEPTABLE PER DRAWING AND ROUTE REQUIREMENTS.	933-D.L		
(10)		VWI VESSEL BLANK OFF COVER WELD						06-28-06		

A



Allegheny Ludlum Jascoop Plate Products Division
An Allegheny Technologies Company

500 Green Street
Washington, Pennsylvania 15301

CERTIFIED MATERIAL TEST REPORT

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 Represento

Memo No: 260311-00

Our Order no: RU4910400
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

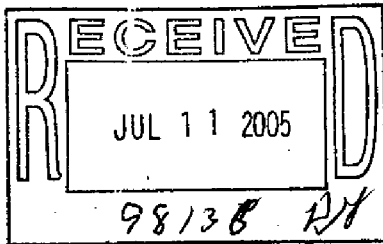
Heat	Slip	Lot No	Size	Pcs	Weight
818102	34967 A	143182	1.5000 x 83.0000 x 260.0000	1	9488 GV-STOCK

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	

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

98,42 lines 25-30

ROLLED AN LOYS 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

0616-1198



Allegheny Ludlum Jessop Plate Products Division

An Allegheny Technologies Company

1201 Valley Road
Coatesville, 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

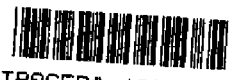
Robert Campagna
Quality Assurance Representat:

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	
		818102	34967 A	1.5000 79.0000	1	8166 260311-00	Shi
				ITEM TOTAL:	1	8166	
				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: SE121-095 - Item: 198

Workorder: 65678/3-0 Sub:219 Op:40



Part: SE121-095 - - VF SEALS

Drawing ID: SE121-095 Rev: 0				INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC			GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			0.03"	A B C	CMM	QA		00027	WITHIN 0.030	754-G.F			A
(10)										08-22-06			
*			0.03"	A B C	CMM	QA		00027	WITHIN 0.030	754-G.F			A
(20)										08-22-06			

Quality Assurance Documentation for Part ID: SE121-095 - Item: 199

Workorder: 65678/3-0 Sub:233 Op:40

Part: SE121-095 - - LOOSE SEALS SE120-002-25



Drawing ID: SE121-095 Rev: 0				INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY				
SHEET	ZONE	CHARACTERISTIC			GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*			0.03"	A B C	CMM	QA		194	ACCEPT	667-J.B			A
(10)										05-30-06			
*			0.03"	A B C	CMM	QA		194	ACCEPT	667-J.B			A
(20)										05-30-06			

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-095 - Item: 200

Workorder: 65678/3-0 Sub:238 Op:40

Part: SE121-095 - REWORK / REPAIR PER N/C - N/C # _____

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		 0.03" A B C		QA		DEA	W/IN .030	854-R.U			A
(10)								08-25-06			
*		 0.03" A B C		QA		DEA	W/IN .030	854-R.U			A
(20)								08-25-06			

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 456788001-0	Date Entered Date De Commande Bestelldatum 12/19/05	Customer Reference Reference Client Kundenbestelldaten P05-06722	Report No. Rapport No Zeugnis Nr 20051221016	Pages of Pages Page de Pages Anzahl der Seiten 1 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 • Bestelltranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
--	--	--

Specification • Spécification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	Quantity Ordered Quantité Commandée Bestellmenge 6 PC	Quantity Shipped Quantité Expédiée Liefermenge 6 PC
---	--	--

Heat Number Numero De Charge Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																	
	Al	B	C	CH+Ti (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6834	0.18		0.031	3.5	0.2154	22.29		4.2836	0.2766	8.59	59.94	0.007	0.0033	0.18	0.285			BUTT END *02
2650 5 6805	0.2		0.031	3.29	0.2063	21.92		4.7049	0.2688	8.65	59.41	0.007	0.005	0.2	0.3161			BUTT END *01
2650 5 6834		Ta	Zr	Bi	Se	La	Cb+Ta	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		BUTT END *02
2650 5 6805																		BUTT END *01

Certified By • Certifié Par • Bescheinigt Durch: Amanda Aguirre
Certification Technicien 12/21/2005

Amanda Aguirre



DEC 30 2005

DEC 28 2005
103801 JH
Lines 1-3

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 BUYER'S RESPONSIBILITY FOR OBTAINING ALL NECESSARY REGULATORY AND COMPLIANCE STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY 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.

MC114888.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Sales Order No Reference Commande Bestellungs Nr 456788001-0	Date Entered Date De Commande Bestelldatum 12/19/05	Customer Reference Reference Client Kundenbestelldaten P05-06722	Report No. Rapport No Zeugnis Nr 20051221016	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 • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
---	---	--

Specification • Specification • Spezifikation ASTM-B-443, 00el, UNS# N06625, Gr. 1; ASTM-B-443, 00el, UNS# N06625, Gr. 1	Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expeditee 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 Zeitstandsversuch				
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 Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA
132000 PSI 126000 PSI		61500 PSI 63000 PSI	51 % 49.5 %	(1)(A) (2)(A)											

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

12/21/2005

(1) 2942995301 (2) 2944652551

Amanda Aguirre

MTM 016
DEC 30 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 EXCEPTONS OR PURCHASE ORDER REQUIREMENTS. THE REPRODUCING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUTES EXCEPT UNDER 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 REQUESTING MULTIPLE MATERIAL SPECIFICATIONS.

MC114888.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 456788001-D	Date Entered Date De Commande Bestelldatum 12/19/05	Customer Reference Reference Client Kundenbestelldaten P05-06722	Report No. Rapport No Zeugnis Nr 20051221016	Pages of Pages Page de Pages Anzahl der Seiten 4 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 • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1		Quantity Ordered Quantite Commandee Bestellmenge 6 PC	Quantity Shipped Quantite Expeditee 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.
THIS MATERIAL WAS MELTED AND MANUFACTURED IN THE UNITED STATES.
Mill Orders Used: 2942995301 (3 PC), 2944652551 (3 PC)
(A) 1750 °F to 1950 °F

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

12/21/2005

Amanda Aguirre



DEC 30 2005

MC114888.TIF4

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIÉ • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 455676001-0	Date Entered Date De Commande Bestelldatum 12/01/05	Customer Reference Reference Client Kundenbestelldaten P05-06722	Report No. Rapport No Zeugnis Nr 20051205027	Pages of Pages Page de Pages Anzahl der Seiten 1 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 MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
--	--	--

Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expediee Liefermenge 6 PC
---	---	--

Heat Number Numero De Coulee Charge Nr	Chemical Analysis • Analyse Chimique • Chemische Analyse																		
	Al	B	C	Cb+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W		
2650 5 6805	0.2		0.031	3.29	0.2063	21.92		4.7049	0.2688	8.65	59.41	0.007	0.005	0.2	0.3161				BUTT END *01
2650 5 6805		Ta	Zr	Bi	Se	La			Mg	Y	Ag	N	Ca	(Al+Ti)	Ni+Co	Ni+Mo			BUTT END *01

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

12/5/2005

Amanda Aguirre
DEC 08 2005



12.7.05
103249 wx
line (1-3)

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(S), 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 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.

MC114399.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 455676001-0	Date Entered Date De Commande Bestelldatum 12/01/05	Customer Reference Reference Client Kundenbestelldaten P05-06722	Report No. Rapport No Zeugnis Nr 20051205027	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4
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HAYNES
International

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

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
---	---	--

Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	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 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	Temp.	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	Temp.	Test Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	%RA
126000 PSI		63000 PSI	49.5 %		(1)(A)												

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

12/5/2005

(1) 2944652551

Amanda Aguirre



DEC 08 2005

MC114399.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

FILE COPY 2

Sales Order No Reference Commande Bestellungs Nr 455676001-0	Date Entered Date De Commande Bestelldatum 12/01/05	Customer Reference Reference Client Kundenbestelldaten P05-06722	Report No. Rapport No Zeugnis Nr 20051205027	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
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HAYNES
International

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

Sold To • Client • Bestellaranschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestelmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
---	--

Product Description • Description Produit • Material Beschreibung
**0.188 x 0/0 x 0/0
SE121-095-1MTM
HAYNES(R) 625 ALLOY PLATE -
Nadcap CERTIFICATE NUMBER 0089
S400 4/29/2004; S1000 1/3/2005, EN 10204 3.1, AS9100**

Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	Quantity Ordered Quantite Commandee Bestelmenge 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.
THIS MATERIAL WAS MELTED AND MANUFACTURED IN THE UNITED STATES.
Mill Orders Used: 2944652551 (6 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre
Certification Technician
12/5/2005

Amanda Aguirre



DEC 08 2005

MC114399.TIF4



Jessop Speciality Products
 500 Green Street
 Washington, PA 15301

**CERTIFIED MATERIAL
 TEST REPORT**

OUR ORDER NO. LP5090610
 YOUR ORDER NO. T52162
 MEMO NO. 272971-00 DUAL CERT
 DATE 04/27/2005
 SALESMAN NO. 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
 TEMPERANCE MI

48182

48182

ALC 316/316L STAINLESS HRAP
 ASTM A240-04a ASME SA-240-04 AMS 5507F UNS S31603
 AMS 5524K (316) UNS S31600

Heat	Slip	Lot No	Size	Fcs	Weight
819882	16122 A	153423	.1875 x 96.0000 x 240.0000	1	1372



Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
819882	.018	1.42	.024	.0004	.42	10.05	16.27	2.08	.31	.36	.065

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grain Size
153423	.1875	45.7 KSI	84.0 KSI	59.0	72.0	BHN149	OK	OK	

MATERIAL WAS SOLUTION ANNEALED (HEAT TREATED) ABOVE 1900F AND WATER QUENCHED
 MATERIAL WAS PRODUCED WITHOUT KNOWN CONTACT WITH MERCURY
 MATERIAL IS OF USA MELT AND MANUFACTURE
 MATERIAL WAS NOT WELD REPAIRED
 DIN 50049 3.1.B AND EN 10204 3.1.B CERTIFICATE



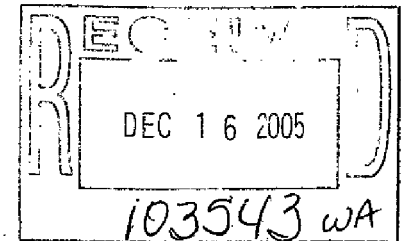
Certification of Conformance: We certify that the above material meets all requirements of the purchase order and material specifications.
 125 W. Sterns Rd Temperance, MI 48182

Customer: MAJOR TOOL & MACHINE
 P.O. # P05-06721 TN
 3/16" PLATE 316L
 Tracer No. [117581]

Shpr-W55002 Date 12/14/2005
 47-39/64 X 106-55/64 2 PC
 Heat No. [019082]

[Signature]

DEC 19 2005



ROLLED ALLOYS QUALITY ASSURANCE
 APPROVED *[Signature]*
 DATE 5-4-05

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 463912001-0	Date Entered Date De Commande Bestelldatum 03/20/06	Customer Reference Reference Client Kundenbestelldaten P06-01320	Report No. Rapport No. Zeugnis Nr 20060321014	Pages of Pages Page de Pages Anzahl der Seiten 1 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 MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA
--	--

Product Description • Description Produit • Material Beschreibung
0.188 x 0/0 x 0/0
SE121-095-1MTM
HAYNES(R) 625 ALLOY PLATE
Nadcap CERTIFICATE NUMBER 0089
S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100

Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1	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																	
	Al	B	C	Co+Ta (Nb+Ta)	Co	Cr	Cu	Fe	Mn	Mo	Ni	P	S	Si	Ti	V	W	
2650 5 6834	0.18		0.031	3.5	0.2154	22.29		4.2836	0.2766	8.59	59.94	0.007	0.003	0.18	0.285			BUTT END *02
2650 5 6834	Co+Ni	Ta	Zr	Bi	Se	La	Ca+Cu	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

3/21/2006

Amanda Aguirre

MTM 016 MAR 27 2006

RECEIVED
MAR 27 2006
1062602H
Lines 1-3

MC117251.TIF1

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS				
Sales Order No Reference Commande Bestellungs Nr 463912001-0	Date Entered Date De Commande Bestelldatum 03/20/06	Customer Reference Reference Client Kundenbestelldaten P06-01320	Report No. Rapport No Zeugnis Nr 20060321014	Pages of Pages Page de Pages Anzahl der Seiten 2 Of 4

HAYNES
International

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

Sold To • Client • Bestellanschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Ship To • Destinataire • Bestellmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA	Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
---	---	--

Specification • Specification • Spezifikation ASTM-B-443, 00e1, UNS# N06625, Gr. 1	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 Bel 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	1% Yield Lim. Elast. A 1% 1% Strieckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch	Ultimate	1% Yield Lim. Elast. A 1% 1% Strieckgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA		Test Essai Versuch	Stress Contrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA	% RA
131000 PSI		66500 PSI	46 %		(1)(A)													

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre 3/21/2006 (1) 2942812701
Certification Technician

Amanda Aguirre

MTM 016 MAR 27 2006

MC117251.TIF2

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr 463912001-0	Date Entered Date De Commande Bestelldatum 03/20/06	Customer Reference Reference Client Kundenbestelldaten P06-01320	Report No. Rapport No Zeugnis Nr 20060321014	Pages of Pages Page de Pages Anzahl der Seiten 4 Of 4
Sold To • Client • Bestellanrschrift MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		Ship To • Destinataire • Bestelmenge MAJOR TOOL AND MACHINE INC 1458 E 19TH ST INDIANAPOLIS IN 46218 USA		
Specification • Specification • Spezifikation ASTM-B-443, 00c1, UNS# N06625, Gr. 1		Quantity Ordered Quantite Commandee Bestellemenge 6 PC	Quantity Shipped Quantite Expeditee Liefermenge 6 PC	

FILE COPY 2

HAYNES
International

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

Product Description • Description Produit • Material Beschreibung 0.188 x 0/0 x 0/0 SE121-095-1MTM HAYNES(R) 625 ALLOY PLATE - Nadcap CERTIFICATE NUMBER 0089 S400 4/29/2004, S1000 1/3/2005, EN 10204 3.1, AS9100
--

All tests and inspections have been performed and results meet specification requirements.
THIS MATERIAL IS FREE FROM MERCURY, CADMIUM, RADIUM, AND ALPHA SOURCE CONTAMINATION.
THIS MATERIAL WAS MELTED AND MANUFACTURED IN THE UNITED STATES.
Mill Orders Used: 2942812701 (6 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre 3/21/2006
Certification Technician

Amanda Aguirre



MAR 27 2006

MC117251.TIF4

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 206

Workorder: 65678/3-0 Sub:219 Op:10

Part: SE121-099-1 - - VF SEALS

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			OD MICROMETER	QA		P-4808	.188/.189	503-B.H		
(20)		0.188 +0.045 / - 0.010" MATERIAL THICK						12-28-05		

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 207

Workorder: 65678/3-0 Sub:223 Op:10

Part: SE121-099-1 - - END COVER SEALS

Drawing ID: SE121-099 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			OD MICROMETER	QA		P-4808	.198/.203	503-B.H		
(20)		0.188 +0.045 / - 0.010" MATERIAL THICK						12-19-05		

A

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 208

Workorder: 65678/3-0 Sub:224 Op:10

Part: SE121-099-1 - - END COVER SEALS

Drawing ID: SE121-099 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			OD MICROMETER	QA		P-4808	.198/.203	503-B.H		
(20)		0.188 +0.045 / - 0.010" MATERIAL THICK						12-19-05		

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 210

Workorder: 65678/3-0 Sub:233 Op:10

Part: SE121-099-1 - - LOOSE SEALS SE120-002-25

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			OD MICROMETER	QA		P-4808	.186/.187	503-B.H		
(20)		0.188 +0.045 / - 0.010" MATERIAL THICK						04-03-06		

A

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 211

Workorder: 65678/3-0 Sub:238 Op:10

Part: SE121-099-1 - REWORK / REPAIR PER N/C - N/C # _____

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*			CALIPER	QA		J-1389	.200	137-G.F		
(20)		0.188 +0.045 / - 0.010" MATERIAL THICK						05-23-06		

A

Quality Assurance Documentation for Part ID: SE122-007-3 - Item: 212

Workorder: 65678/3-0 Sub:153 Op:10

Part: SE122-007-3 - - PORT DOME BACKING STRIP

Drawing ID: Rev:			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		
(20)		MAGNETIC PERMEABILITY 1.02 MAX						08-21-05		

A

Quality Assurance Documentation for Part ID: SE124-047 - Item: 213

Workorder: 65678/3-0 Sub:229 Op:10

Part: SE124-047 - - WELD BOSSES

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		VWI - ROOT PASS WELD HALF -A- BOSS A		MFG		VISUAL	ACCEPTABLE	299-M.G	840-G.M	A
(20)				CWI				05-31-06	06-01-06	
*		VWI - COVER PASS WELD HALF -A- BOSS A		MFG		VISUAL	ACCEPTABLE	099-J.V	053-M.D	A
(40)				CWI				06-12-06	06-12-06	
*		VWI - ROOT PASS WELD HALF -A- BOSS B		MFG		VISUAL	ACCEPTABLE	299-M.G	840-G.M	A
(60)				CWI				05-31-06	06-01-06	
*		VWI - COVER PASS WELD HALF -A- BOSS B		MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(80)				CWI				06-02-06	06-12-06	
*		VWI - ROOT PASS WELD HALF -A- BOSS C		MFG		VISUAL	ACCEPTED	299-M.G	840-G.M	A
(100)				CWI				05-30-06	06-01-06	
*		VWI - COVER PASS WELD HALF -A- BOSS C		MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(120)				CWI				06-02-06	06-12-06	
*		VWI - ROOT PASS WELD HALF -A- BOSS D		MFG		VISUAL	ACCEPTED	299-M.G	840-G.M	A
(140)				CWI				05-30-06	06-01-06	
*		VWI - COVER PASS WELD HALF -A- BOSS D		MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(160)				CWI				06-02-06	06-12-06	
*		VWI - ROOT PASS WELD HALF -B- BOSS A		MFG		VISUAL	ACCEPTABLE	728-R.D	840-G.M	A
(180)				CWI				05-30-06	06-01-06	
*		VWI - COVER PASS WELD HALF -B- BOSS A		MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(200)				CWI				06-02-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	840-G.M	A

INSPECTION DATA CHECKLIST

(220)	VWI - ROOT PASS WELD HALF -B- BOSS B		CWI				05-30-06	06-01-06	
*			MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(240)	VWI - COVER PASS WELD HALF -B- BOSS B		CWI				06-02-06	06-12-06	
*			MFG		VISUAL	ACCEPTABLE	728-R.D	840-G.M	A
(260)	VWI - ROOT PASS WELD HALF -B- BOSS C		CWI				05-30-06	06-01-06	
*			MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(280)	VWI - COVER PASS WELD HALF -B- BOSS C		CWI				06-02-06	06-12-06	
*			MFG		VISUAL	ACCEPTABLE	728-R.D	840-G.M	A
(300)	VWI - ROOT PASS WELD HALF -B- BOSS D		CWI				05-30-06	06-01-06	
*			MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D	A
(320)	VWI - COVER PASS WELD HALF -B- BOSS D		CWI				06-02-06	06-12-06	

Employees: 053-M.Dunn / 093-M.Stewart / 099-J.Velez / 105-D.Back / 137-G.Ford / 197-T.Fischer / 261-T.Dunn / 280-K.St. Henry / 299-M.Gregory / 307-D.Jett / 358-D.Mcnew / 492-R.Elkins / 495-D.Coffman / 503-B.Houk / 509-S.Roberts / 522-R.Durham / 533-B.Clevenger / 581-D.Edwards / 667-J.Bannister / 683-K.Mcnew / 709-K.Appleby / 728-R.Dalton / 754-G.Ford / 763-R.Mieth / 771-B.Schultz / 837-J.Deverter / 840-G.Masood / 854-R.Upchurch / 933-D.Leapley

Upchurch, Kim

From: McCorkle, Doug
Sent: Friday, August 04, 2006 12:41 PM
To: 'Michael E. Viola'
Cc: Manuel, Mike
Subject: VVSA # 3 Clevis Boss position (projected approx 17-18")

Following are the clevis boss locations based on the previously selected best fit baseline. The final numbers will vary slightly based on repeatability and work performed between this check and the final profile inspection. Please review the data and advise if you have concerns. If you desire a particular hole to be re-done, we must begin by 07Aug2006.

Half B:

A: 1.296 TP

B: 1.291 TP

C: 0.866 TP

D: 1.612 TP

Half A:

A: 1.237 TP

B: 1.732 TP

C: 1.044 TP

D: 1.160 TP



65678-3 LIFTING
BOSESSES.xls

Doug McCorkle

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655
Fax: 609-243-2021

Part: SE120-002 / PPPL NCSX VVSA

Drawing ID: SE120-004 Revision: 2

Customer P.O.: S005243-F/Ln:3
Qty: 1

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: Vessel wall on half B is mismatched to the inside of the flange approx. 21 inches long. The worst spot is .320. Vessel wall on half A is mismatched to the inside of the flange approx. 23 inches long. The worst spot is .250. Flanges are located within profile tolerance.

Proposed Disposition:

Recommend the same remedial disposition as provided for unit # 1. MTM will weld the outside surfaces once the vacuum test plugs are installed, PPPL will weld the insided surfaces once the spacer is permanently installed.

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 NC19990

This is for: **SE120-004 end flange mismatches on VVSA #3**

Problem:

Vessel wall on half B is mismatched to the inside of the flange approx. 21 inches long. The worst spot is .320. Vessel wall on half A is mismatched to the inside of the flange approx. 23 inches long. The worst spot is .250. Flanges are located within profile tolerance.

Major Tool recommended Disposition:

Recommend the same remedial disposition as provided for unit # 1. MTM will weld the outside surfaces once the vacuum test plugs are installed, PPPL will weld the inside surfaces once the spacer is permanently installed.

Project Disposition:

Presently the vessel is right at the plasma facing component limit and there is concern that weld shrinkage will further encroach on the plasma facing components. Due to the encroachment of the shell ID on the plasma facing components, we require that the shell be corrected back to nominal position as described in teleconference 3 PM 6/16/06 at the mismatched (~21") region indicated above. D. McCorkle advised that their likely approach will be to insert several (6 to 9) slits longitudinally into the shell end which will allow it to be adjusted outward. The slits shall be long enough to correct as much of the deviated area as possible.

The flange in this region is also out of tolerance to the outside which is causing a large step in the mating of the flange to the shell. Major tool believes that the developed circumference of the flange is correct and the mismatch is due to local distortion. Major Tool also discussed the use of a spider to better control this distortion. Major Tool may also either adjust the best fit of the flange such that the "overstep buttering" will not exceed 3/16" or slit the flange in this region to reduce the local circumference and reduce the outward out of tolerance condition.

Approvals:

Mike
Viola

Digitally signed by Mike Viola
DN: cn=Mike Viola, c=US
Reason: I am approving this document
Date: 2006.06.16 15:29:11 -04'00'

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: 2006.06.16 16:21:59 -04'00'

Responsible Line Manager:

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655
Fax: 609-243-2021

Part: /
Drawing ID: SE122-072 Revision: 1

Customer P.O.: S005243-F/Ln:3
Serial No./Qty: 1 (VVSA 3)

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: PORT NB HAS DEFORMATION TO HOLE PATTERN AFTER WELDING HAS BEEN COMPLETED ON PORT 4 A/B AND 12 A/B
HOLES DO NOT ALIGN TO MATING THREADED HOLE IN NB COVER. HOLES DID ALIGN AFTER NB WAS WELDED IN,BUT DO NOT NOW THAT PORT 4 AND 12 IS COMPLETED.

Proposed Disposition:

The flange has been reworked in the same manner as unit 1 & 2. The NB flange face was re-cut to restore flatness.
The holes were opened up to 5/8" dia. The flange thickness now checks 1.228-1.241.

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 NC19869

This is for: **VVSA # 3 Profile** SE122-072

Problem:

PORT NB HAS DEFORMATION TO HOLE PATTERN AFTER WELDING HAS BEEN COMPLETED ON PORT 4 A/B AND 12 A/B
HOLES DO NOT ALIGN TO MATING THREADED HOLE IN NB COVER. HOLES DID ALIGN AFTER NB WAS WELDED IN, BUT DO NOT NOW THAT PORT 4 AND 12 IS COMPLETED.

MTM Recommended Disposition:

The flange has been reworked in the same manner as unit 1 & 2. The NB flange face was re-cut to restore flatness. The holes were opened up to 5/8" dia. The flange thickness now checks 1.228-1.241.


Use as is.

Project Disposition:

Use as is.

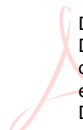
Approvals:

Mike
Viola

 Digitally signed by Mike Viola
DN: cn=Mike Viola, c=US
Reason: I am approving this document
Date: 2006.08.15 12:38:07
-04'00'

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: 2006.08.17 09:12:08 -04'00'

Responsible Line Manager:

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655
Fax: 609-243-2021

Part: /
Drawing ID: SE120-002 Revision: 1

Customer P.O.: S005243-F/Ln:3
Serial No./Qty: VVSA # 3

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem:

The profile of the vessel checks -0.414 / +0.537.
The position of boss "a" on half "a" checks 1.303.
The position of boss "b" on half "a" checks 1.290.
The position of boss "c" on half "a" checks 1.233.
The position of boss "d" on half "a" checks 1.054.
The position of boss "a" on half "b" checks 1.446.
The position of boss "b" on half "b" checks 1.381.
The position of boss "c" on half "b" checks 1.691.
The position of boss "d" on half "b" checks 0.895.
The nb port height checks from 98.502 / 98.598.
The parallelism of the flange face on prt 12b checks 0.115.
The profile of port 12a checks from -0.199 / +0.330.
The profile of port 12b checks from -0.488 / +0.489.
The profile of the nb port checks -0.150 / +0.218.

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 NC20384

This is for: **VVSA # 3 Profile** SE120-002

Problem: See 060828 65678-3 FINAL NUMBERS.MC9; 060828 65678-3 VESSEL FINAL SCAN.xls; 060828 65678-3NB PORT.xls; 060828 65678-3PORT 12'S.xls at <ftp://ftp.pppl.gov/pub/vio-vvsa/VVSA%203/>

1. The profile of the vessel checks -0.414 / +0.537.
2. The position of boss "a" on half "a" checks 1.303.
3. The position of boss "b" on half "a" checks 1.290.
4. The position of boss "c" on half "a" checks 1.233.
5. The position of boss "d" on half "a" checks 1.054.
6. The position of boss "a" on half "b" checks 1.446.
7. The position of boss "b" on half "b" checks 1.381.
8. The position of boss "c" on half "b" checks 1.691.
9. The position of boss "d" on half "b" checks 0.895.
10. The nb port height checks from 98.502 / 98.598.
11. The parallelism of the flange face on prt 12b checks 0.115.
12. The profile of port 12a checks from -0.199 / +0.330.
13. The profile of port 12b checks from -0.488 / +0.489.
14. The profile of the nb port checks -0.150 / +0.218.

Project Disposition:

After review by Mike Cole and Art Brooks, the project has determined that the shell geometry poses no hard interferences and the plasma encroachment is acceptable. The bosses had been reviewed and previously accepted. However, due to some discussion about the method of calculation of the boss true positions reported by Major Tool above, a second review was made along with further discussion with Major Tool. This review is summarized in the two attachments included with this NCR. "RE NCR20384 boss numbers.msg" and "Final data for review of VVSA3 NC 20384.msg" Therefore, project disposition is: use as is.

Approvals:

Mike Viola

Digitally signed by Mike Viola
DN: cn=Mike Viola, c=US
Reason: I have reviewed this document
Date: 2006.09.11 09:24:06
-04'00'

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: 2006.09.13 09:34:36 -04'00'

Responsible Line Manager:

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: LARRY SUTTON
E-Mail: S-04286-F

Telephone: 609-243-2441
Fax: 609-243-2021

Part: /

Drawing ID: SE120-004

Revision: 2

Customer P.O.: S005243-F/Ln:3
Serial No./Qty:

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: The profile of the reworked area is -0.284 / -0.015.

Proposed Disposition:

Customer 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:** _____

McCorkle, Doug

From: Michael E. Viola [mviola@pppl.gov]
Sent: Wednesday, July 26, 2006 9:55 AM
To: Manuel, Mike; McCorkle, Doug; Durham, Rob
Cc: Arthur W. Brooks; Bob Simmons; Brad Nelson; Frank A. Malinowski; Hutch Neilson; John W. Edwards; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; Mike Cole; Paul Goranson; Phil Heitzenroeder; Robert A Keilbach; Ronald L. Strykowski; Steve Raftopoulos; Thomas G. Brown; Wayne T. Reiersen
Subject: VVSA #2 and #3 scan data

Mike, Doug and Rob,

VVSA #2

We have reviewed the VVSA #2 profile data and found it acceptable.
We are reviewing the VVSA #2 spacer scans again. Our initial scan of the VVSA #1 spacer seems to indicate that the port is not aimed along the centerline. We are double checking our data.
We have not received the scans of the VVSA #2 port hole locations nor the port flange locations.
Can Rob provide those locations/scans using the final scan coordinate system?
Greg Masood spoke with Frank yesterday and is providing the missing elements of the data package.

VVSA #3

We have reviewed the VVSA #3 end flange repaired weld scan and found it acceptable. Thank you.
I don't believe that we have the other end flange scan of VVSA #3.

Thanks,
Mike Viola, PPPL, (609) 243 3655

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: LARRY SUTTON
E-Mail: S-04286-F

Telephone: 609-243-2441
Fax: 609-243-2021

Part: /
Drawing ID: SE120-004 Revision: 2D

Customer P.O.: S005243-F/Ln:3
Serial No./Qty:

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: The lifting bosses are out of the 0.250 positional tolerance.

Half "A" Boss "A" checks 1.237

Half "A" Boss "B" checks 1.732

Half "A" Boss "C" checks 1.044

Half "A" Boss "D" checks 1.160

Half "B" Boss "A" checks 1.296

Half "B" Boss "B" checks 1.291

Half "B" Boss "C" checks 0.866

Half "B" Boss "D" checks 1.612

Refer to attached document for Verisurf excel report.

Proposed Disposition:

Submitting to PPPL for early notification. Final numbers will also be included with the final NCR submittal.
No RC/CA 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:** _____

McCorkle, Doug

From: McCorkle, Doug
Sent: Friday, August 04, 2006 12:41 PM
To: 'Michael E. Viola'
Cc: Manuel, Mike
Subject: VVSA # 3 Clevis Boss position (projected approx 17-18")

Attachments: 65678-3 LIFTING BOSSES.xls

Following are the clevis boss locations based on the previously selected best fit baseline. The final numbers will vary slightly based on repeatability and work performed between this check and the final profile inspection. Please review the data and advise if you have concerns. If you desire a particular hole to be re-done, we must begin by 07Aug2006.

Half B:

A: 1.296 TP
B: 1.291 TP
C: 0.866 TP
D: 1.612 TP

Half A:

A: 1.237 TP
B: 1.732 TP
C: 1.044 TP
D: 1.160 TP



65678-3 LIFTING
BOSSES.xls

Doug McCorkle

McCorkle, Doug

From: Michael E. Viola [mviola@pppl.gov]
Sent: Wednesday, August 16, 2006 9:17 AM
To: McCorkle, Doug; Manuel, Mike
Cc: Bob Simmons; Brad Nelson; Frank A. Malinowski; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; Paul Goranson; Phil Heitzenroeder; Wayne T. Reiersen
Subject: VVSA #3 Boss locations

Doug, Mike,
The VVSA #3 boss locations are further out than the other two VVSAs.
It is going to make the installation of the supports more difficult but
Paul Goranson has a work around redesign so we will accept as is.

Thanks,
Mike Viola, PPPL, (609) 243 3655

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655
Fax: 609-243-2021

Part: /

Drawing ID: SE121-013

Revision: 0

Customer P.O.: S005243-F/Ln:3
Serial No./Qty: 1 (VVSA # 3)

Reported By: DOUG MCCORKLE

E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

- Problem: 1. Zone G4: 0.637 +/- .005 DIM CHECKS .587 TO .910
2. Zone B5: 0.469 +/- .005 DIM. CHECKS .400 TO .490
3. Zone G4: 0.75 (+/-0.010") HALF A FLANGE CHECKS 0.620 - 0.650 (HALF B IS WITHIN TOLERANCE)

Proposed Disposition:

1. Propose grinding the flange seal weld prep to ensure 0.62" minimum flange face (as done with VVSA 1 & 2)
- 2&3. Propose Use as is

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 NC20282

This is for: **VVSA # 3 Profile** SE121-013

Problem:

1. Zone G4: 0.637 +/- .005 DIM CHECKS .587 TO .910
2. Zone B5: 0.469 +/- .005 DIM. CHECKS .400 TO .490
3. Zone G4: 0.75 (+/-0.010") HALF A FLANGE CHECKS 0.620 - 0.650 (HALF B IS WITHIN TOLERANCE)

MTM Recommended Disposition:

Use as is.

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: 2006.08.15 12:36:40
-04'00'

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: 2006.08.17 09:12:44
-04'00'

Responsible Line Manager:

McCorkle, Doug

From: Appleby, Kenny
Sent: Monday, September 11, 2006 10:17 AM
To: McCorkle, Doug
Subject: RE: Drawing SE121-013 Dimension 0.637

Doug,

Yes. We ground into the seal and added weld to achieve this dimension.

Kenny

From: McCorkle, Doug
Sent: Monday, September 11, 2006 10:05 AM
To: Appleby, Kenny
Subject: Drawing SE121-013 Dimension 0.637

Kenny, please confirm that during the Flange Seal installation (SE121-095), VVSA # 1, 2, and 3 seal to flange weld preps were ground as necessary to ensure solid material was achieved for a minimum of 0.62" in the applicable region after welding.

Thanks,
Doug Mc.

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655
Fax: 609-243-2021

Part: /
Drawing ID: SE121-014 Revision: 1C

Customer P.O.: S005243-F/Ln:3
Serial No./Qty: Lot 3 / 1 Pc

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: The profile of the spacer is out of tolerance. the profile checks from -0.145 / +0.266. The area that is out of tolerance is about a 12" long area on the top flange side profile. Refer to attached graphical report.

Proposed Disposition:

SUBMITTING TO PPPL FOR REMEDIAL DISPOSITION

Number of additional pages: 1

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 NC20353

This is for: **VVSA # 3 Profile** SE121-014

Problem:

The profile of the spacer is out of tolerance. the profile checks from -0.145 / +0.266. The area that is out of tolerance is about a 12" long area on the top flange side profile. Refer to attached graphical report.
See attached ncr20353attach.xls

MTM Recommended Disposition:


None

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: 2006.09.01 08:07:46
-04'00'

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: 2006.09.01 10:59:02 -04'00'

Responsible Line Manager:

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: Mike Viola
E-Mail: mviola@pppl.gov

Telephone: 609-243-3655
Fax: 609-243-2021

Part: /
Drawing ID: SE120-002 Revision: 1

Customer P.O.: S005243-F/Ln:3
Serial No./Qty: VVSA # 3

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: The flatness of the VV Flange Seal on half b checks 0.088 (0.038 out of tolerance).

Proposed Disposition:

SUBMITTING TO PPPL FOR REMEDIAL DISPOSITION

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 NC20354

This is for: VVSA # 3 Profile SE120-002

Problem:

The flatness of the VV Flange Seal on half b checks 0.088 (0.038 out of tolerance).

MTM Recommended Disposition:

None

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: 2006.09.01 08:09:27
-04'00'

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: 2006.09.01 10:59:42
-04'00'

Responsible Line Manager:

Customer: PRINCETON PLASMA PHYSICS LAB

Contact: LARRY SUTTON
E-Mail: S-04286-F

Telephone: 609-243-2441
Fax: 609-243-2021

Part: /
Drawing ID: SE120-004 Revision: 2

Customer P.O.: S005243-F/Ln:3
Serial No./Qty:

Reported By: DOUG MCCORKLE
E-Mail: dMcCorkle@MajorTool.com

Telephone: 317-636-6433
Fax: 317-634-9420

Problem: The profile of the vessel skin exceeds the tolerance. The vessel profile checks from -0.317 / +0.397.

Refer to attached graphical report.

Proposed Disposition:

SUBMITTING TO PPPL FOR DISPOSITION
NOTIFICATION ONLY - WILL BE SUBMITTED TO PPPL FOR EVALUATION.
FINAL INSPECTION TO FOLLOW.
(NON-RECORDABLE)

UPDATE: PPPL CHOSE THE BEST FIT OF THE VESSEL WALL, INCLUDING THE PORTS 12 AND NB.
MTM IS MOVING FORWARD WITH THIS BASELINE.

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:** _____

McCorkle, Doug

From: Michael E. Viola [mviola@pppl.gov]
Sent: Tuesday, May 23, 2006 1:07 PM
To: Manuel, Mike; McCorkle, Doug
Cc: Thomas G. Brown; Arthur W. Brooks; Cole, Michael; Bradley E. Nelson; Goranson, Paul L.; Steve Raftopoulos; Bob Simmons; Bradley E. Nelson; Frank A. Malinowski; Jim Lyon; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; Paul Goranson; Phil Heitzenroeder; Wayne T. Reiersen
Subject: RE: VVSA 2 after vacuum test scans

Mike and Doug,
The best fit of the skin results in:
Total Points: 9320
Number of OOT: 757
Average Deviation: -0.00378
Maximum Deviation: 0.43864
Minimum Deviation: -0.36430
Deviation Range: 0.80294

The best fit including the port12s and NB:
Total Points: 12457
Number of OOT: 1115
Average Deviation: 0.00458
Maximum Deviation: 0.44905
Minimum Deviation: -0.40803
Deviation Range: 0.85707

And the position of the port 12s after only a best fit of the skin:
Total Points: 2883
Number of OOT: 1130
Average Deviation: 0.06689
Maximum Deviation: 0.58223
Minimum Deviation: -0.58354
Deviation Range: 1.16577

The best fit of the vessel with the ports is nearly the same as the best fit of the shell alone AND the position of the port 12s included after the best fit of the skin only is significantly worse (+/- .58"). Therefore, please use the file "65678-2AFTER VACCUM VESSEL PORT 12 AND NB PORT BEST FIT"

Thanks,

Mike Viola, PPPL, (609) 243 3655

-----Original Message-----

From: Thomas G. Brown
Sent: Monday, May 22, 2006 5:20 PM
To: Arthur W. Brooks; Michael E. Viola; 'Cole, Michael'; Bradley E. Nelson; 'Goranson, Paul L.'
Cc: Steve Raftopoulos; Bob Simmons; Bradley E. Nelson; Frank A. Malinowski; 'Jim Lyon'; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; 'Paul Goranson'; Phil Heitzenroeder; Wayne T. Reiersen
Subject: RE: VVSA 2 after vacuum test scans

Mike,

I looked at only the file "65678-2AFTER VACCUM VESSEL PORT 12 AND NB PORT BEST FIT". I looked at 97 points in the plus direction ranging from +0.1" to 0.26" which were all on the vessel surface. There was no violation in the stay out boundary for rotating the MC over the vessel. I also look at 46 points that were out of tolerance in the negative direction in the range of -.1" to -0.22". All the negative out-of-tolerance points were

on the shell (Art checked) except for two points on the vertical port (port 12). I don't know if it's too late but this case would be my choice to select since I believe it is the best fit of the ports and the VV surface looks good; much better than VVSA1.

Tom

-----Original Message-----

From: Arthur W. Brooks
Sent: Friday, May 19, 2006 4:01 PM
To: Michael E. Viola; 'Cole, Michael'; Thomas G. Brown; Bradley E. Nelson; 'Goranson, Paul L.'
Cc: Steve Raftopoulos; Bob Simmons; Bradley E. Nelson; Frank A. Malinowski; Jim Lyon; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; 'Paul Goranson'; Phil Heitzenroeder; Wayne T. Reiersen
Subject: RE: VVSA 2 after vacuum test scans

Mike,

None of the VVSA2 data show encroachment on the First Wall Geometry.

The attached plots shows that both the fit to the skin and the fit to skin with ports (labeled just ports) are a slight improvement (increased clearances to the FW) over the no fit data. Recall that the design envelope allows the VV shell outer surface to get within 1.005" of the FW face over a limited range of the vessel and grow to the preferred build of 3.555" +/- 0.188". We are trying not to either further encroach on the FW at it's tightest location nor reduce the region of full build. The data shows that both fits accomplish this. The no fit data shows a slight reduction in the region of full build, but not a reduction/encroachment at the tightest location.

The decision as to which fit to use should be driven by other external considerations (ie assembly, etc) since either fit is satisfactory with respect to the FW issue.

Art

-----Original Message-----

From: Michael E. Viola
Sent: Friday, May 19, 2006 2:06 PM
To: Arthur W. Brooks; 'Cole, Michael'; Thomas G. Brown; Bradley E. Nelson; 'Goranson, Paul L.'
Cc: Steve Raftopoulos; Bob Simmons; Brad Nelson; Frank A. Malinowski; Jim Lyon; Larry L. Sutton; Lawrence E. Dudek; Marianne Tyrrell; Paul Goranson; Phil Heitzenroeder; Wayne T. Reiersen
Subject: VVSA 2 after vacuum test scans

Please look at the VVSA 2 folder in the public folder on the FTP site.

They have scans after the vacuum test.

Some are raw without a best fit.

Some are with the best fit of the shell

Some are of the best fit of the shell with the ports included.

They are asking which file to use as their basis for the port cutting off and reattachment?

they are looking for an answer this afternoon.

Thanks,

Mike Viola, PPPL, (609) 243 3655