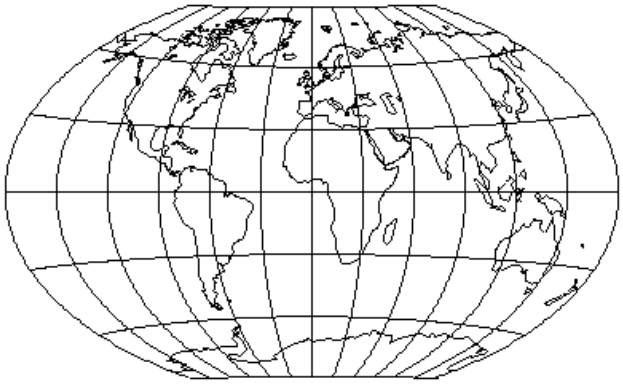


PRINCETON PLASMA PHYSICS LAB

Purchase Order Number:

S005243-F

Part Number:

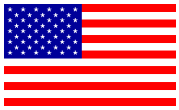
SE120-002

Part Name:

VVSA 120 DEGREE VESSEL PERIOD

MTM Work Order Number:

65678/2.0



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 Description / Material Description / File Name / Heat Lot
1	CERTIFICATE OF CONFORMANCE

*****Unspecified Part ID*****

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
2	5	250	150	Material Certification: / 190045 - BOLT SET, .312-24 X 2.0" 12PT - MC118213.TIF / CERTIFIED
3	199	30		Inspection Data Checklist: 1 steps
4	217	10	10	Material Certification: / SE121-091-1BLANK - VVSA END COVER BLANK - mc109666.tif / 818102
5	218	10	10	Material Certification: / SE121-091-1BLANK - VVSA END COVER BLANK - Same as Item #4 / 818102
6	220	10	10	Material Certification: / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 - mc114888.tif / 2650 5 6805 & 2650 5 6834
7	220	10	10	Material Certification: Trace ID: 135017 / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 - mc114399.tif / 2650 5 6805
8	224	10	10	Material Certification: / SE121-099-1 - VVSA END COVER SEAL - 316L - mc114628.tif / 819882-117581
9	226	10	10	Material Certification: / SE121-099-1 - VVSA END COVER SEAL - 316L - Same as Item #8 / 819882-117581
10	232	10	10	Material Certification: Trace ID: 135016 / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 - mc117251.tif / 2650 5 6834
11	232	10	10	Material Certification: / SE121-095-1 - VVSA FLANGE SEAL - ALLOY 625 - Same as Item #10 / 2650 5 6834

SE120-002 - PPPL NCSX VVSA

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
12				Segmentation Scheme: - Numbered Panels (orignal).TIF
13	1	10		Inspection Data Checklist: 4 steps
14	2	10		Inspection Data Checklist: 1 steps
15	5	195		Certification: X-RAY CERT - mc113895.tif
16	5	195		Map(s): X-RAY MAP - Same as Item #15
17	5	247		Certification: X-RAY CERT - mc118511.tif
18	5	247		Map(s): X-RAY MAP - Same as Item #17

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
19	98	30		Inspection Data Checklist: 1 steps
20	98	130		Inspection Data Checklist: 1 steps
21	98	150		Inspection Data Checklist: 1 steps
22	111	30		Inspection Data Checklist: 1 steps
23	111	130		Inspection Data Checklist: 1 steps
24	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 Description / Material Description / File Name / Heat Lot
25	96	30		Inspection Data Checklist: 1 steps
26	96	130		Inspection Data Checklist: 1 steps
27	96	150		Inspection Data Checklist: 1 steps
28	110	30		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

29	110	130		Inspection Data Checklist: 1 steps
30	110	150		Inspection Data Checklist: 1 steps

SE120-003 120 - 120 DEG VESSEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
31	5	60		Inspection Data Checklist: 1 steps
32	5	160		Inspection Data Checklist: 1 steps
33	5	180		Inspection Data Checklist: 1 steps
34	5	243		Inspection Data Checklist: 6 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
35	6	70		Inspection Data Checklist: 2 steps
36	6	170		Inspection Data Checklist: 2 steps
37	6	190		Inspection Data Checklist: 2 steps
38	6	400		Map(s): X-RAY MAP - MC111823.TIF
39	6	400		Certification: X-RAY CERT -
40	94	70		Inspection Data Checklist: 2 steps
41	94	170		Inspection Data Checklist: 2 steps
42	94	190		Inspection Data Checklist: 2 steps
43	94	400		Map(s): X-RAY MAP -
44	94	400		Certification: X-RAY CERT -

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
45	95	60		Inspection Data Checklist: 2 steps
46	95	160		Inspection Data Checklist: 2 steps
47	95	180		Inspection Data Checklist: 2 steps
48	109	60		Inspection Data Checklist: 2 steps
49	109	160		Inspection Data Checklist: 2 steps
50	109	180		Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
51	11	30		Inspection Data Checklist: 1 steps
52	11	130		Inspection Data Checklist: 1 steps
53	11	150		Inspection Data Checklist: 1 steps
54	106	30		Inspection Data Checklist: 1 steps
55	106	130		Inspection Data Checklist: 1 steps
56	106	150		Inspection Data Checklist: 1 steps

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

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

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

57	8	30		Inspection Data Checklist: 1 steps
58	8	130		Inspection Data Checklist: 1 steps
59	8	150		Inspection Data Checklist: 1 steps
60	103	30		Inspection Data Checklist: 1 steps
61	103	130		Inspection Data Checklist: 1 steps
62	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 Description / Material Description / File Name / Heat Lot
63	7	30		Inspection Data Checklist: 1 steps
64	7	130		Inspection Data Checklist: 1 steps
65	7	150		Inspection Data Checklist: 1 steps
66	102	30		Inspection Data Checklist: 1 steps
67	102	130		Inspection Data Checklist: 1 steps
68	102	150		Inspection Data Checklist: 1 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
69	6	250		Inspection Data Checklist: 1 steps
70	6	350		Inspection Data Checklist: 1 steps
71	6	370		Inspection Data Checklist: 1 steps
72	94	250		Inspection Data Checklist: 1 steps
73	94	350		Inspection Data Checklist: 1 steps
74	94	370		Inspection Data Checklist: 1 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
75	97	30		Inspection Data Checklist: 1 steps
76	97	130		Inspection Data Checklist: 1 steps
77	97	150		Inspection Data Checklist: 1 steps
78	114	30		Inspection Data Checklist: 1 steps
79	114	130		Inspection Data Checklist: 1 steps
80	114	150		Inspection Data Checklist: 1 steps

SE120-003 - VVSA 120 DEG. VESSEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
81	2	20		Furnace charts: THERMOCOUPLE CHART -
82	2	20		Certification: THERMAL CYCLE CERTIFICATE -

SE120-003-11 - PORT # 7 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
83	131	10		Inspection Data Checklist: 2 steps
84	131	20		Inspection Data Checklist: 2 steps

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

85	131	30		Inspection Data Checklist: 6 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
86	120	10		Inspection Data Checklist: 4 steps
87	120	20		Inspection Data Checklist: 4 steps

SE120-003-13 - PORT # 8 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
88	132	10		Inspection Data Checklist: 2 steps
89	132	20		Inspection Data Checklist: 2 steps
90	132	30		Inspection Data Checklist: 6 steps

SE120-003-15 - PORT # 9 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
91	133	10		Inspection Data Checklist: 2 steps
92	133	20		Inspection Data Checklist: 2 steps
93	133	30		Inspection Data Checklist: 6 steps

SE120-003-17 - PORT # 10 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
94	134	10		Inspection Data Checklist: 2 steps
95	134	20		Inspection Data Checklist: 2 steps
96	134	30		Inspection Data Checklist: 6 steps

SE120-003-19 - PORT # 11 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
97	135	10		Inspection Data Checklist: 2 steps
98	135	20		Inspection Data Checklist: 2 steps
99	135	30		Inspection Data Checklist: 6 steps

SE120-003-21 - PORT # 15 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
100	136	10		Inspection Data Checklist: 2 steps
101	136	20		Inspection Data Checklist: 2 steps
102	136	30		Inspection Data Checklist: 6 steps

SE120-003-23 - PORT DOME EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
103	137	10		Inspection Data Checklist: 2 steps
104	137	20		Inspection Data Checklist: 2 steps
105	137	30		Certificate of Conformance: PORT DOME EXTENSION -
106	137	30		Inspection Data Checklist: 7 steps
107	137	30		Certificate of Conformance: PORT DOME EXTENSION -

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

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
108	137	30		Certificate of Conformance: PORT DOME EXTENSION -
109	137	30		Certificate of Conformance: PORT DOME EXTENSION -

SE120-003-3 - PORT # 2 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
110	127	10		Inspection Data Checklist: 2 steps
111	127	20		Inspection Data Checklist: 2 steps
112	127	30		Inspection Data Checklist: 6 steps

SE120-003-5 - PORT # 4 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
113	128	10		Inspection Data Checklist: 2 steps
114	128	20		Inspection Data Checklist: 2 steps
115	128	30		Inspection Data Checklist: 6 steps

SE120-003-7 - PORT # 5 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
116	129	10		Inspection Data Checklist: 2 steps
117	129	20		Inspection Data Checklist: 2 steps
118	129	30		Inspection Data Checklist: 6 steps

SE120-003-9 - PORT # 6 EXTENSION

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
119	130	10		Inspection Data Checklist: 2 steps
120	130	20		Inspection Data Checklist: 2 steps
121	130	30		Inspection Data Checklist: 6 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
122	122	10		Inspection Data Checklist: 4 steps
123	122	20		Inspection Data Checklist: 2 steps

SE120-003-NB

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
124	119	10		Inspection Data Checklist: 2 steps

SE120-004 - VVSA 120 DEG. VESSEL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
125	1	20		Inspection Data Checklist: 19 steps
126	1	30		Inspection Data Checklist: 3 steps
127	2	60		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

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
128	125	10		Inspection Data Checklist: 4 steps
129	125	20		Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
130	126	10		Inspection Data Checklist: 4 steps
131	126	20		Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
132	123	10		Inspection Data Checklist: 36 steps
133	123	20		Inspection Data Checklist: 18 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
134	121	10		Inspection Data Checklist: 4 steps
135	121	20		Inspection Data Checklist: 2 steps

SE120-005-38 - LEAK CHECK TUBING

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
136	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 Description / Material Description / File Name / Heat Lot
137	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 Description / Material Description / File Name / Heat Lot
138	138	10		Inspection Data Checklist: 1 steps
139	138	10	10	Material Certification: / SE120-005-40 - VVSA PORT 2 BACKING STRIP - mc109510.tif / 2650 5 6801

SE120-005-41 - PORT 5 BACKING STRIP

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
140	145	10		Inspection Data Checklist: 1 steps
141	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 Description / Material Description / File Name / Heat Lot
142	146	10		Inspection Data Checklist: 1 steps
143	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 Description / Material Description / File Name / Heat Lot

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

144	147	10		Inspection Data Checklist: 1 steps
145	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 Description / Material Description / File Name / Heat Lot
146	148	10		Inspection Data Checklist: 1 steps
147	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 Description / Material Description / File Name / Heat Lot
148	149	10		Inspection Data Checklist: 1 steps
149	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 Description / Material Description / File Name / Heat Lot
150	150	10		Inspection Data Checklist: 1 steps
151	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 Description / Material Description / File Name / Heat Lot
152	151	10		Inspection Data Checklist: 1 steps
153	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 Description / Material Description / File Name / Heat Lot
154	152	10		Inspection Data Checklist: 1 steps
155	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 Description / Material Description / File Name / Heat Lot
156	144	10		Inspection Data Checklist: 1 steps
157	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 Description / Material Description / File Name / Heat Lot
158	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 Description / Material Description / File Name / Heat Lot
159	154	10	10	Material Certification: / INCONEL 625_8 - PLATE,NICKEL ALLOY 1.625" THK - mc110171.tif / 5L211-1A
160	156	10	10	Material Certification: / INCONEL 625_8 - PLATE,NICKEL ALLOY 1.625" THK - Same as Item #159 / 5L211-1A

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
161	193	60		Inspection Data Checklist: 5 steps

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

SE121-013-1 - VVSA FLANGE Qty: 1

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
162	219	30		Certification: X-RAY CERT - mc113900.tif

SE121-014 PORT - SPACER PORT SUB-ASSY

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
163	193	15		Inspection Data Checklist: 2 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
164	206	30		Inspection Data Checklist: 1 steps
165	206	130		Inspection Data Checklist: 1 steps
166	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 Description / Material Description / File Name / Heat Lot
167	205	30		Inspection Data Checklist: 1 steps
168	205	150		Inspection Data Checklist: 1 steps
169	205	130		Inspection Data Checklist: 1 steps

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

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
170	209	30		Inspection Data Checklist: 1 steps
171	209	130		Inspection Data Checklist: 1 steps
172	209	150		Inspection Data Checklist: 1 steps

SE121-014 - VESSEL SPACER

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
173	193	12		Inspection Data Checklist: 4 steps
174	193	13		Inspection Data Checklist: 1 steps
175	193	14		Inspection Data Checklist: 4 steps
176	193	25		Map(s): X-RAY MAP - mc118510.tif
177	193	25		Certification: X-RAY CERT - Same as Item #176
178	199	10		Inspection Data Checklist: 3 steps

SE121-014-1 - SPACER WELDMENT

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
179	194	60		Inspection Data Checklist: 2 steps
180	194	160		Inspection Data Checklist: 2 steps
181	194	180		Inspection Data Checklist: 2 steps

SE121-014-3BLANK - VVSA SPACER BLANK

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

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

182	195	10	10	Material Certification: / INCONEL 625_7 - PLATE,NICKEL ALLOY 1.5" THK - mc112435.tif / 2650-5-6861
183	203	10	10	Material Certification: / INCONEL 625_7 - PLATE,NICKEL ALLOY 1.5" THK - Same as Item #182 / 2650-5-6861

SE121-091 - COVER

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
184	217	25		Inspection Data Checklist: 3 steps
185	217	30		Inspection Data Checklist: 1 steps
186	218	25		Inspection Data Checklist: 3 steps
187	218	30		Inspection Data Checklist: 1 steps

SE121-095 - VESSEL FLANGE SEAL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
188	220	40		Inspection Data Checklist: 2 steps
189	232	40		Inspection Data Checklist: 2 steps

SE121-099 - VVSA END COVER SEAL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
190	224	40		Inspection Data Checklist: 2 steps
191	226	40		Inspection Data Checklist: 2 steps

SE121-099-1 - VV END COVER SEAL

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
192	220	10		Inspection Data Checklist: 1 steps
193	224	10		Inspection Data Checklist: 1 steps
194	226	10		Inspection Data Checklist: 1 steps
195	232	10		Inspection Data Checklist: 1 steps

SE122-007-3 - PORT DOME BACKING STRIP

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
196	153	10		Inspection Data Checklist: 1 steps

SE124-047 - CLEVIS BOSS

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
197	230	10		Inspection Data Checklist: 16 steps
198	230	20		Inspection Data Checklist: 8 steps

WELD WIRE

Item#	Sub	Op	Pc	Document Description / Material Description / File Name / Heat Lot
199	0	10	30	Material Certification: TRACE ID: 95569 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC095629.PDF / CB7996 / CT7519 / CV8061 / K48
200	0	10	30	Material Certification: TRACE ID: 95373 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC095872.TIF / CB7996 / CT7519 / CV8061 / K48
201	0	10	30	Material Certification: TRACE ID: 83645 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC075605.TIF / CB7996 / CT7519 / CV8061 / K48
202	0	10	30	Material Certification: TRACE ID: 119262 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC107551.TIF / CB7996 /

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

				CT7519 / CV8061 / K48
203	0	10	30	Material Certification: TRACE ID: 41171 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC075552.TIF / CB7996 / CT7519 / CV8061 / K48
204	0	10	30	Material Certification: TRACE ID: 121403 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC108429.TIF / CB7996 / CT7519 / CV8061 / K48
205	0	10	30	Material Certification: TRACE ID: 117505 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC106871.TIF / CB7996 / CT7519 / CV8061 / K48
206	0	10	30	Material Certification: TRACE ID: 94241 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC094945.PDF / CB7996 / CT7519 / CV8061 / K48
207	0	10	30	Material Certification: TRACE ID: 94880 / INCONEL625_093_GTAW - WELD WIRE/GTAW, .093 DIA - MC095280.PDF / CB7996 / CT7519 / CV8061 / K48
208	0	10	40	Material Certification: TRACE ID: 94238 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC094944.PDF / 34932 / AB8051 / AV8128
209	0	10	40	Material Certification: TRACE ID: 94881 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC095279.PDF / 34932 / AB8051 / AV8128
210	0	10	40	Material Certification: TRACE ID: 121606 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC108415.TIF / 34932 / AB8051 / AV8128
211	0	10	40	Material Certification: TRACE ID: 119208 / INCONEL625_062_GTAW - WELD WIRE/GTAW, .062 DIA - MC107550.TIF / 34932 / AB8051 / AV8128
212	0	10	50	Material Certification: TRACE ID: 128464 / ER70S-2_093_GTAW - WELD WIRE,GTAW .093 DIA - MC111269.TIF / X01823
213	0	10	60	Material Certification: TRACE ID: 89286 / ER309L_093_GTAW - WELD WIRE,GTAW .093 DIA - MC092279.TIF / 21010424
214	0	10	70	Material Certification: / ER316L_062_GTAW - WELD WIRE, GTAW .062" DIA - MC089458.TIF / 95316
215	0	10	80	Material Certification: / ER316L_093_GTAW - WELD WIRE,GTAW .093 DIA - MC097557.TIF / 95762
216	0	10	90	Material Certification: / INCONEL625_035_GMAW - WELD WIRE/GMAW, .035 DIA - MC109152.TIF / XB8273

mc118213.tif (1696x2200x2 tiff)

MDC VACUUM PRODUCTS, LLC
23842 Cabot Blvd., Hayward CA 94545-1651
Phone: 510.265.3500 - **Fax:** 510.887.0626 – **Toll Free:** 800.443.8817
E-Mail: sales@mdcvacuum.com - **Web:** http://www.mdcvacuum.com

HIGH VACUUM COMPONENTS *from one source...*

Certification of Conformance
Catalog Products

COMPANY: MAJOR TOOL AND MACHINE

ATTENTION: K. UPCHURCH

DATE: MAY 2, 2006

SUBJECT: CERTIFICATION OF PO# P06-00385
MDC ORDER CONFIRMATION NUMBER: M408519

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

MIKE SCHULTZ
Shipping/Receiving Supervisor
MDC Vacuum Product, LLC
e-mail: mschultz@mdcvacuum.com
phone: 510 265 3500

RECEIVED
FEB 28 2006
105152
Lines 1,2,3
RKU

...Dedicated to Quality and Service

Form 10-13, Rev B

Major Tool & Machine, Inc.

INSPECTION DATA CHECKLIST

Quality Assurance Documentation for Part ID: ***Unspecified Part ID* - Item: 3**

Workorder: 65678/2-0 Sub:199 Op:30

Part: ***Unspecified Part ID* - - VVSA 120 DEGREE VESSEL**

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		J-1280	-0.076 / +0.177	789-D.W			A
		FINAL SPACER PROFILE									
(10)		(WALL AND FLANGE PROFILES)						06-15-06			

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

mc109666.tif (1703x2196x2 tiff)

3 0516-1 196

Allegheny Ludlum Jessop Plate Products Division
An Allegheny Technologies Company

Page

500 Green Street
Washington, Pennsylvania 15301

CERTIFIED MATERIAL TEST REPORT

Billto:
PLATE PROD DIV / A-L
1201 VALLEY ROAD
COATESVILLE PA
19320

Shipto:
PLATE PROD DIV / A-L
1201 VALLEY ROAD
COATESVILLE PA
19320

PHIL CLADITIS
Quality Assurance Representa

Memo No:260311-00

Our Order no: RW4910400
Your Order No:M E M O
Date: 09/03/2004
DUAL CERT

ALC 316/316L STAINLESS HRAP
ASTM A240-04a ASME SA-240-01 ASTM A480-02 ASME SA-480-01
AMS 5507F (316L) AMS 5524K (316) ASTM A666-03 COND A CHEM/PHYS TO
ASTM A312-02 ASME SA-312-01 ASTM A479-02 ASME SA-479-01 ASTM A262-02
PRACTICE E SCREEN PRAC A

Heat	Slip	Lot No	Size	Pcs	Weight
818102	34967 A	143182	1.5000 x 83.0000 x 260.0000	1	9488 GV-STOCK

Heat	C	MN	P	S	SI	NI	CR	MO	CO	CU	N
818102	.018	1.57	.027	.0004	.31	10.14	16.38	2.10	.25	.37	.069

Lot No	Gauge	Yield Strength	Tensile Strength	Elong	Red. of Area	Hardness	Bend	Corrosion	Grai 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

RECEIVED
JUL 11 2005
98138 DH

MTM 016

TRACER# 109293

98,42
lines 25,36
lines 13-18

ROLLED ALLOYS QUALITY ASSURANCE
APPROVED M. Rajin
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

mc109666.tif (1704x2207x2 tiff) [2]

0516-1 198

Allegheny Ludlum Jessop Plate Products Division
An Allegheny Technologies Company

1201 Valley Road
Coatesville, Pennsylvania 19320

CERTIFICATE OF CONFORMANCE

Our Order no: GV-098284
Your Order No: J06587
Memo No: 4261130-00
Date: 09/15/2004
516

Billto:
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 LBS	Mill Cert	Ord
001	316L				1.5000	79.0000	WID 235.0000 LEN	1			
					PN:530034299001						
		818102	34967	A	1.5000	79.0000	235.0000	1	8166	260311-00	Shi
							ITEM TOTAL:	1	8166		
							TOTAL ORDER:	1	8166		

MTM 016

JUL 11 2005

TRACER# 109293

_____X____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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
456788001-0	12/19/05	P05-06722	20051221016	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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 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

Heat Number	Cb(Nb)	Ta	Zr	Bi	Se	La	Cu+Co+Ni	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		
2650 5 6834																	BUTT END *02	
2650 5 6805																	BUTT END *01	

Certified By • Certific Par • Bescheinigt Durch: Amanda Aguirre 12/21/2005
Certification Technician

Amanda Aguirre

MTM 016 DEC 30 2005

REC 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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114888.TIF (1636x2139x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
456788001-0	12/19/05	P05-06722	20051221016	2 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
132000 PSI		61500 PSI	51 %		(1)(A)
126000 PSI		63000 PSI	49.5 %		(2)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. / Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114888.TIF (1626x2112x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
456788001-0	12/19/05	P05-06722	20051221016	3 Of 4

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 Beshreibung
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	Quantity Ordered / Quantite Commandee / Bestellmenge	Quantity Shipped / Quantite Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp.	Stress Constraint Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
94 HRB 93 HRB		(1)(A) (2)(A)	5.5 6																				

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114888.TIF (1620x2133x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestelldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
456788001-0	12/19/05	P05-06722	20051221016	4 Of 4

HAYNES International

FILE COPY 2

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

Sold To • Client • Bestellaraueschrift
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 Beshreibung
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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	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 • Certifie Par • Bescheinigt Durch: Amanda Aguirre 12/21/2005
Certification Technician

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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mc114888.TIF (1620x2167x2 tiff) [4]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
455676001-0	12/01/05	P05-06722	20051205027	1 Of 4

HAYNES International

FILE COPY 2

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

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MAJOR TOOL AND MACHINE INC
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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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		
2650 5 6805																	BUTT END *01	

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

12/5/2005

Amanda Aguirre

DEC 08 2005

MTM 016

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
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114399.tif (1628x2148x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestdlldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
455676001-0	12/01/05	P05-06722	20051205027	2 Of 4

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 Beshreibung
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 Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 %RA	
126000 PSI		63000 PSI	49.5 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA % RA	

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

Amanda Aguirre

12/5/2005

(1) 2944652551

MTM 016

DEC 08 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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
THE RECORDING OF FALSE, FICTICIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUES INCLUDING FEDERAL LAW, TITILE 18, CHAPTER 47. THIS DOCUMENT SHALL NOT BE REPORDUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC.
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114399.tif (1628x2145x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
455676001-0	12/01/05	P05-06722	20051205027	3 Of 4

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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
93 HRB		(1)(A)	6																				

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

12/5/2005

(1) 2944652551

Amanda Aguirre

MTM 016 DEC 08 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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114399.tif (1628x2151x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestdlldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
455676001-0	12/01/05	P05-06722	20051205027	4 Of 4

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 Beshreibung

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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	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 12/5/2005
Certification Technician

Amanda Aguirre

MTM 016

DEC 08 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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc114399.tif (1660x2183x2 tiff) [4]

JS0288A-1 200

ATI Allegheny Ludlum
Allegheny Technologies

Jessop Specialty 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. Cladita
P. M. Cladita - Product Quality Engineer

Ship To ROLLED ALLOYS
125 W STERNS RD
TEMPERANCE MI 48182

ROLLED ALLOYS INC
125 W STERNS RD
P O BOX 310
TEMPERANCE MI 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	Pcs	Weight
819882	16122 A	153423	.1875 x 96.0000 x 240.0000	1	1372

TRACER# 117581

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

DEC 19 2005
MTM 017
RECEIVED
DEC 16 2005
103543 WA
Line 1-6

ROLLED ALLOYS
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 TM
3/16" PLATE 316L
Tracer No. [117581]

Shpr-W55002
47-39/64 X 106-55/64 2 PC
Heat No. [819882]

Date 12/14/2005

ROLLED ALLOYS QUALITY ASSURANCE
APPROVED
DATE 5-4-05

PAGE 1 FINAL PAGE

EXCEPT AS OTHERWISE NOTED, THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH THE LISTED SPECIFICATIONS AND RESULTS CONFORM TO THE SPECIFICATION AND ORDER REQUIREMENTS.

mc114628.tif (1636x2200x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
463912001-0	03/20/06	P06-01320	20060321014	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		
2650 5 6834																	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

106260JH
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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS

mc117251.TIF (1671x2158x2 tiff)

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

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
463912001-0	03/20/06	P06-01320	20060321014	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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
131000 PSI		66500 PSI	46 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre 3/21/2006 (1) 2942812701
Certification Technician

Amanda Aguirre

MTM 016 MAR 27 2006

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mc117251.TIF (1664x2164x2 tiff) [2]

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

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
463912001-0	03/20/06	P06-01320	20060321014	3 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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	6 PC

Annealed Hardness / Durette Recuit / Geglueht Haerte	Aged Hardness / Durette Vieilli / Gealtert Haerte		Grain Size / Grosseur De Grain / Korngruesse						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 Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
96 HRB		(1)(A)	6																				

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

3/21/2006

(1) 2942812701

Amanda Aguirre

MTM 016

MAR 27 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.
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mc117251.TIF (1665x2181x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestdlldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
463912001-0	03/20/06	P06-01320	20060321014	4 Of 4

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 Beshreibung

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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1	6 PC	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: 2942812701 (6 PC)
(A) 1750 °F to 1950 °F

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre 3/21/2006
Certification Technician

Amanda Aguirre

MTM 016 MAR 27 2006

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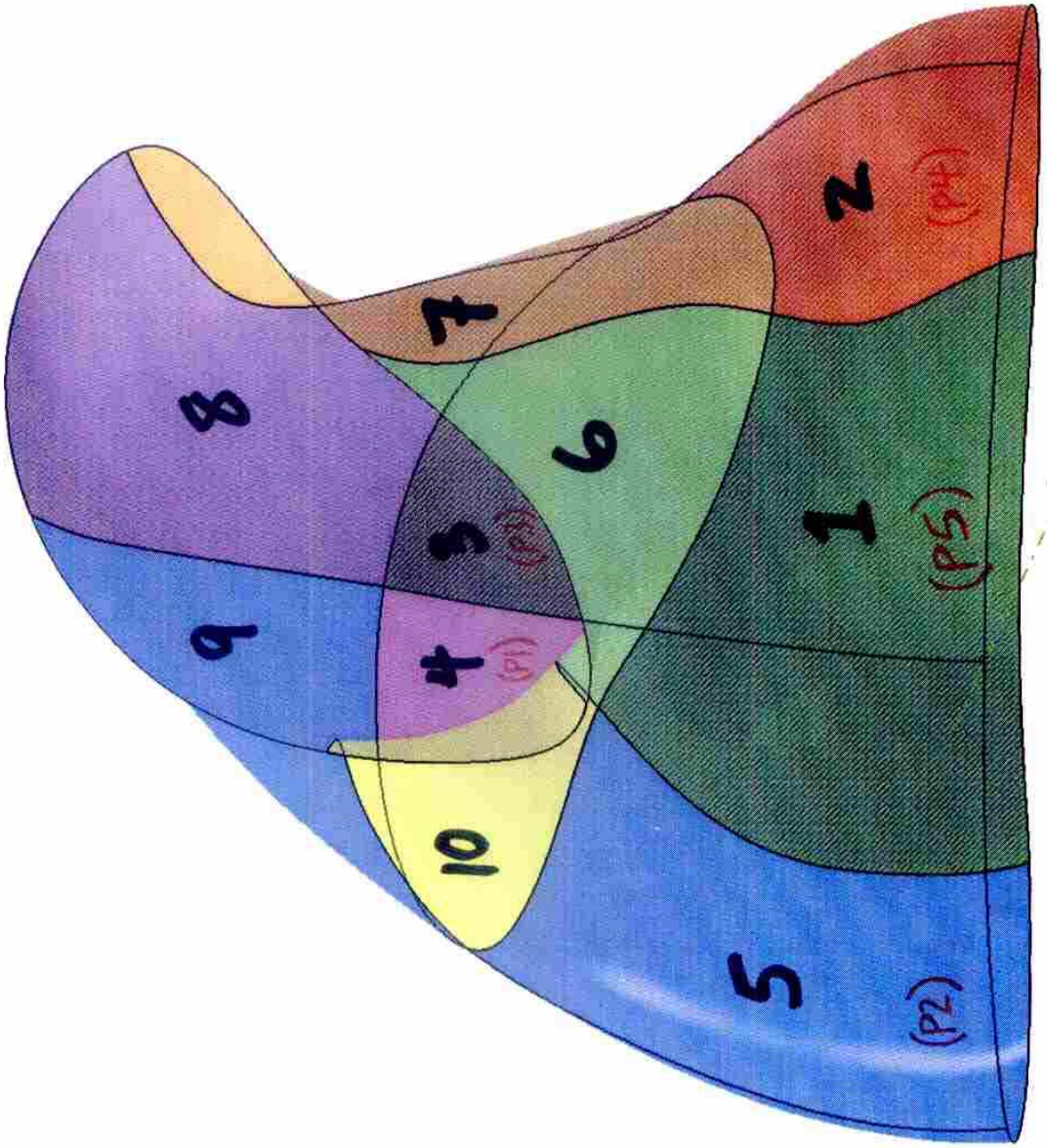
mc117251.TIF (1655x2182x2 tiff) [4]

Numbered Panels (orignal).TIF (1264x1660x16M tiff)



Quality Assurance Documentation for Part ID: SE120-002 - Item: 13

Workorder: 65678/2-0 Sub:1 Op:10

Part: SE120-002 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI VESSEL FLANGE A SEAL WELD R		MFG CWI		VISUAL	ACCEPTABLE	299-M.G 07-12-06	053-M.D 07-12-06		A
* (20)		VWI VESSEL FLANGE B SEAL WELD R		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 07-13-06	581-D.E 07-13-06		A
* (30)		VWI VESSEL FLANGE A SEAL WELD C		MFG CWI		VISUAL	ACCEPTABLE	299-M.G 07-12-06	053-M.D 07-12-06		A
* (40)		VWI VESSEL FLANGE B SEAL WELD C		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 07-13-06	581-D.E 07-13-06		A

Quality Assurance Documentation for Part ID: SE120-002 - Item: 14

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

Part: SE120-002 - - VVSA 120 DEGREE VESSEL

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	VERIFIED WITH PPPL	581-D.E	840-G.M		A
							SUPPLIED GAUGES A				
		BASE PRESSURE LESS THAN 1 x 10(-3)					MTM'S VARIAN 979				
(10)		(PRIOR TO THERMAL CYCLE)		QA				05-20-06	05-22-06		

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

4959

COOPERHEAT MQS℠ MQS Inspection

10520 Chester Road
Woodlawn, Ohio 45215

CLIENT	INTERPRETER/LEVEL	RADIOGRAPHER	JOB NO	P.O. NO	DATE
Major Tool & Machine	Robert Weaver / II	Robert Weaver	13850291	N/A	11/14/05

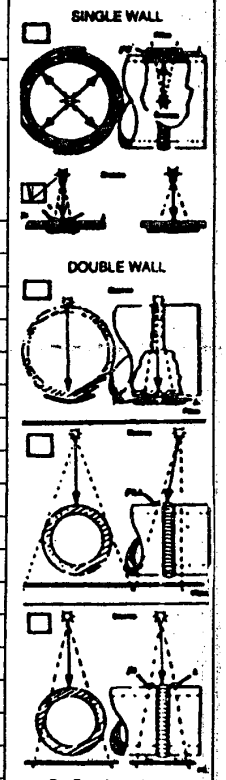
ISOTOPE/X-RAY *	DIA. X LEN/KV	CURIES/MA	FOCAL SPOT SIZE	SFD	SOD	TIME	FILM PROCESSING	FILM TYPE	FILM TECHNIQUE	PB SCREENS
IR192	.118"x.079"	67	.142"	35"/12"	34.625"/11.625"	14:00/1:45	Auto	Kodak MX125	Double	.010"

WELD PROCESS	MATERIAL SPEC.	MATERIAL DIAMETER	MATERIAL THICKNESS	PENETRAMETER	SHIM	ACCEPTANCE STANDARD
GTAW	625 Inconel	N/A	.375"	ASTM 1B	N/A	ASME VIII, Div. 1, UW-51

DESCRIPTION
65678/2.0/5/195/818
5E120-002
Page 1 of 2

REMARKS

FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRAMETER SIZE	PENETRAMETER QUALITY LEVEL	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
8	0-14	M.S.	1B	.010"		✓																					✓	
10						✓													✓								✓	
11						✓																					✓	
12						✓																					✓	
23						✓																					✓	
24						✓																					✓	
25						✓																					✓	
27						✓													✓								✓	



Robert Weaver 655514/II
Cooperheat-MQS Signature

Customer Representative Signature

11/14/05
Date

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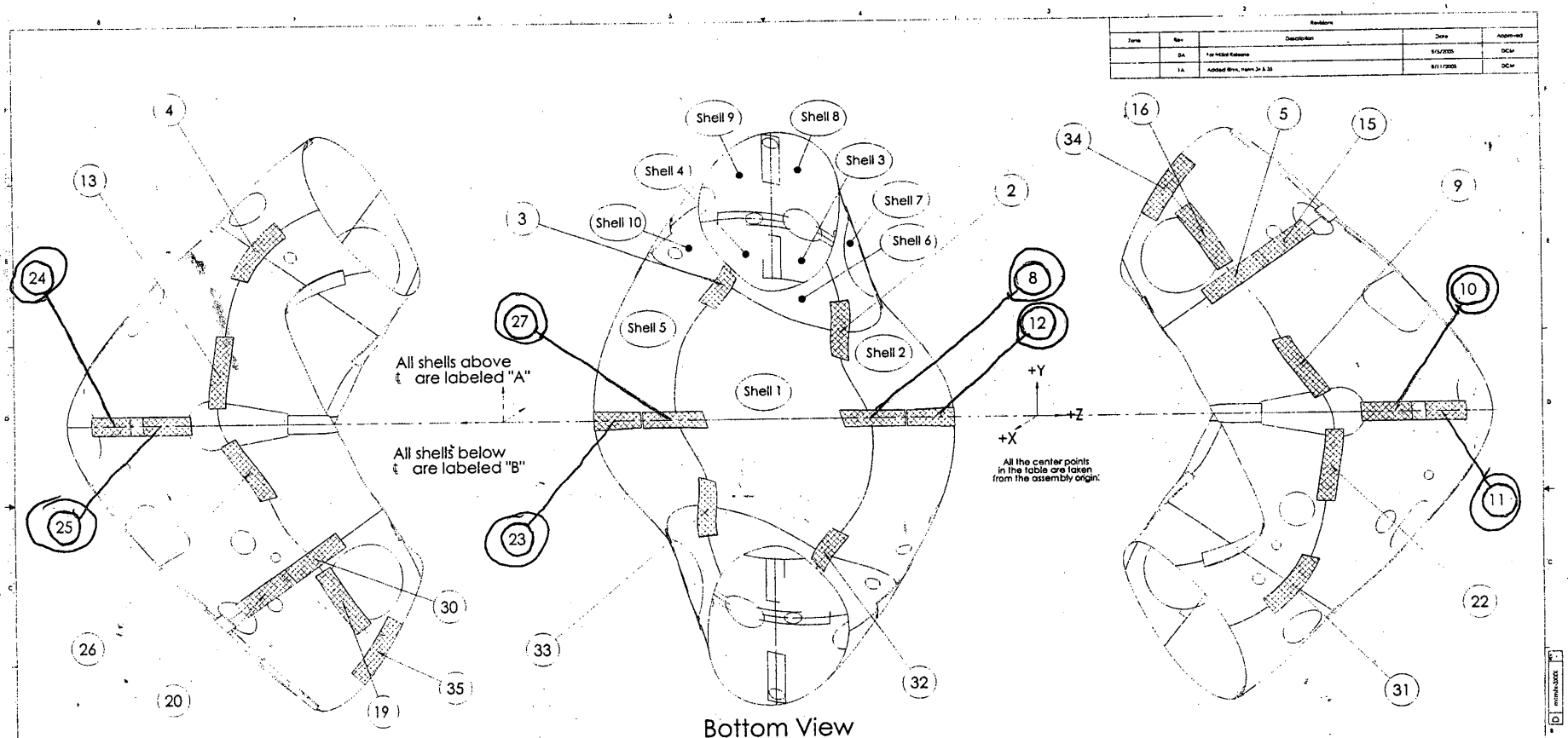


65678/2.0/5/195/818
SE120-002
page 2 of 2
11/14/05

Revisions				
Zone	Rev	Description	Date	Approved
	0A	For Initial Release	9/15/2005	DCM
	1A	Added Bins, Items 34 & 35	9/11/2005	DCM

CDCPInc
124 Hubbard Hill Rd
Windsor, NH 03244

TITLE: 120° Segment X-Ray Film Layout

SIZE D | DWG. NO. SE120-002-1-XMTM | REV 1A

SCALE: 1:10 WEIGHT: | SHEET 1 OF 3

mc113895.tif (2542x3334x2 tiff) [2]

mc118511.tif (3341x2543x2 tiff)

4959

COOPERHEAT MQS

10520 Chester Road
Woodlawn, Ohio 45215

CLIENT	INTERPRETER/LEVEL	RADIOGRAPHER	JOB NO	P.O. NO	DATE
Major Tool + Machine	Robert Weaver / II	Robert Weaver	13860001	N/A	4/26/06

ISOTOPE/X-RAY	DIA. X LEN/KV	CURIES/MA	FOCAL SPOT SIZE	SFD	SOD	TIME	FILM PROCESSING	FILM TYPE	FILM TECHNIQUE	PB SCREENS
IR192	.118"x.089"	4/0	.148"	15"	14.625"	2:00	Auto	Kodak AA	Double	.010"

WELD PROCESS	MATERIAL SPEC.	MATERIAL DIAMETER	MATERIAL THICKNESS	PENETRAMETER	SHIM	ACCEPTANCE STANDARD
GTAW	625 Inconel	N/A	.375"	ASTM 1B	N/A	ASME VIII, Div. 1, UW-51

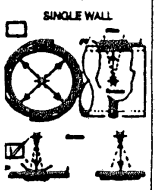
DESCRIPTION
65678/2.0/5/247/818
SE 120-002 rev. 1
Page 1 of 2

REMARKS
Densitometer - 12105
Cal due - 5/2/06

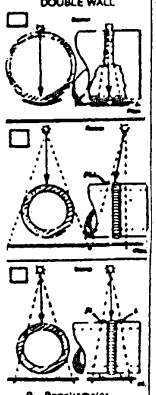
FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRAMETER SIZE	PENETRAMETER QUALITY LEVEL	SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT-THROUGH	BURN-THROUGH	CRATER-PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
36	0-1	N/A	1B	.010"		✓																					✓	
37	0-1					✓																					✓	
38	0-10												✓														✓	
39	0-1					✓																					✓	
40	0-1					✓																					✓	
41	0-1					✓																					✓	
42	0-1					✓																					✓	
43	0-10					✓							✓														✓	
44	0-1					✓																					✓	
45	0-0					✓																					✓	
46	0-10					✓																					✓	
47	0-10					✓																					✓	
48	0-10					✓																					✓	

End View | Side View

SINGLE WALL



DOUBLE WALL



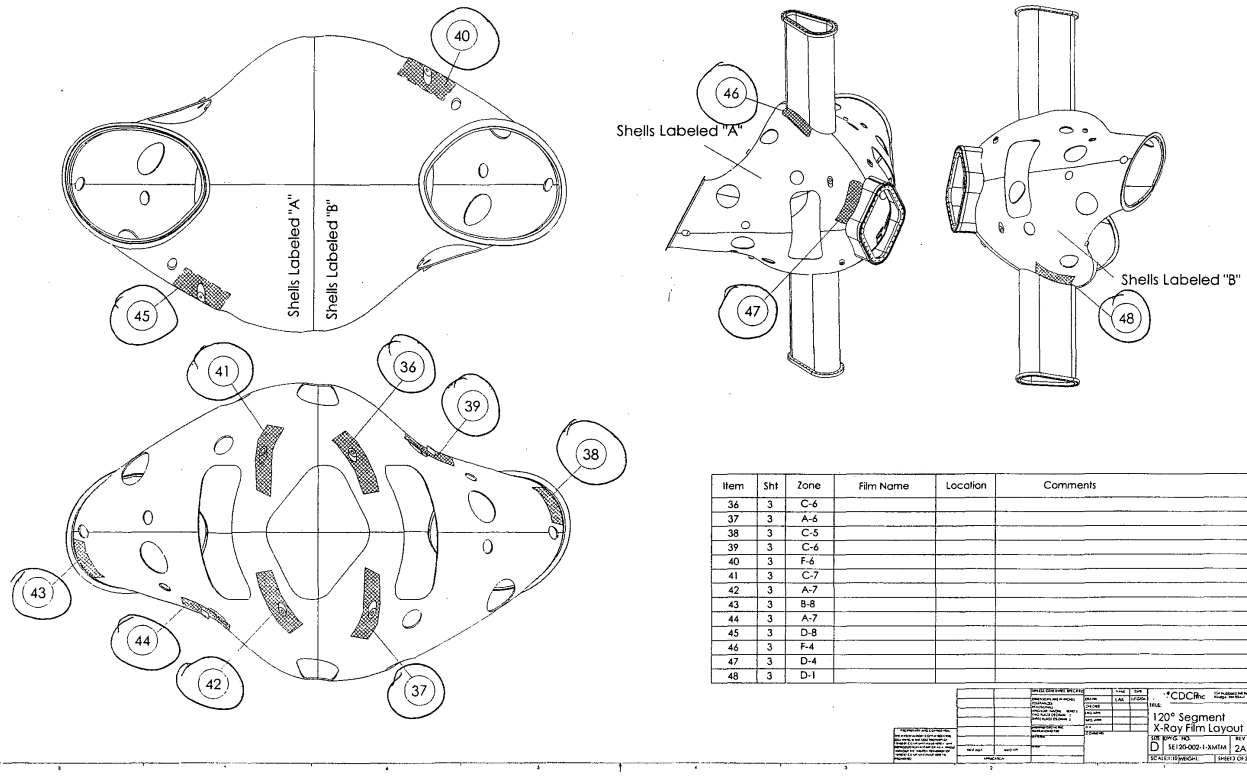
P Penetrameter
S Shim
L Location Marker
( ) OTHER

Robert Weaver 655514/II
Cooperheat-MQS Signature

Douglas D. Edwards
Customer Representative Signature

4/26/06
Date

65678/2.0/5/247/818
SE120-002 rev. 1
4/27/06
Page 2 of 2



Item	Sht	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			

CDC Inc
TITLE: 120° Segment X-Ray Film Layout
SIZE D | DWG NO. SE120-002-1-XMTM | REV 2A
SCALE: NTS | WEIGHT: | SHEET 2 OF 2

0.0000

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 19

Workorder: 65678/2-0 Sub:98 Op:30

Part: SE120-003 10-6 SUB-SET - - VVSA 120 DEGREE VESSEL

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	ROOT PASS WELD OK	763-R.M	933-D.L		A
(10)		VWI ROOT PASS WELD 10-6		CWI				08-09-05	08-09-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 20

Workorder: 65678/2-0 Sub:98 Op:130

Part: SE120-003 10-6 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 10-6		CWI				08-10-05	08-10-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 21

Workorder: 65678/2-0 Sub:98 Op:150

Part: SE120-003 10-6 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 10-		CWI				08-10-05	08-10-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 22

Workorder: 65678/2-0 Sub:111 Op:30

Part: SE120-003 10-6 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE	709-K.A	933-D.L		A
(10)		VWI ROOT PASS WELD 10-6		CWI			FICATIONS.	09-02-05	09-02-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 23

Workorder: 65678/2-0 Sub:111 Op:130

Part: SE120-003 10-6 SUB-SET - - VVSA 120 DEGREE VESSEL

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 INTERIOR COVER PASS WELD 10-6		CWI				09-07-05	09-07-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6 SUB-SET - Item: 24

Workorder: 65678/2-0 Sub:111 Op:150

Part: SE120-003 10-6 SUB-SET - - VVSA 120 DEGREE VESSEL

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	O.K. PERT CUSTOMER REQUIREMENTS	771-B.S 09-09-05	933-D.L 09-09-05		A

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 25

Workorder: 65678/2-0 Sub:96 Op:30

Part: SE120-003 10-6-7 SUB-SET - - VVSA 120 DEGREE VESSEL

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	ROOT PASS WELD OK	763-R.M	933-D.L		A
(10)		VWI ROOT PASS WELD 6-7		CWI				08-09-05	08-09-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 26

Workorder: 65678/2-0 Sub:96 Op:130

Part: SE120-003 10-6-7 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 6-7		CWI				08-10-05	08-10-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 27

Workorder: 65678/2-0 Sub:96 Op:150

Part: SE120-003 10-6-7 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 6-7		CWI				08-10-05	08-10-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 28

Workorder: 65678/2-0 Sub:110 Op:30

Part: SE120-003 10-6-7 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE	709-K.A	933-D.L		A
(10)		VWI ROOT PASS WELD 6-7		CWI			FICATIONS.	09-02-05	09-02-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 29

Workorder: 65678/2-0 Sub:110 Op:130

Part: SE120-003 10-6-7 SUB-SET - - VVSA 120 DEGREE VESSEL

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 INTERIOR COVER PASS WELD 6-7		CWI				09-07-05	09-07-05		

Quality Assurance Documentation for Part ID: SE120-003 10-6-7 SUB-SET - Item: 30

Workorder: 65678/2-0 Sub:110 Op:150

Part: SE120-003 10-6-7 SUB-SET - - VVSA 120 DEGREE VESSEL

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 6-7		MFG CWI		VISUAL	O.K. PER CUSTOMER REQUIREMENTS	771-B.S 09-09-05	933-D.L 09-09-05		A

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 31

Workorder: 65678/2-0 Sub:5 Op:60

Part: SE120-003 120 - - VVSA 120 DEGREE VESSEL

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	933-D.L	933-D.L		A
(10)		VWI ROOT PASS WELD 0		CWI				11-01-05	11-01-05		

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 32

Workorder: 65678/2-0 Sub:5 Op:160

Part: SE120-003 120 - - VVSA 120 DEGREE VESSEL

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 R	771-B.S	581-D.E		A
(20)		VWI EXTERIOR COVER PASS WELD 0		CWI			EQUIREMENTS	11-14-05	11-14-05		

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 33

Workorder: 65678/2-0 Sub:5 Op:180

Part: SE120-003 120 - - VVSA 120 DEGREE VESSEL

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 0		MFG CWI		VISUAL	O.K. PER CUSTOMER REQUIREMENTS	771-B.S 11-14-05	581-D.E 11-14-05		A

Quality Assurance Documentation for Part ID: SE120-003 120 - Item: 34

Workorder: 65678/2-0 Sub:5 Op:243

Part: SE120-003 120 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD VFA		MFG CWI		VISUAL	VISUALLY ACCEPTAB	791-D.W 04-20-06	933-D.L 04-20-06		A
* (20)		VWI ROOT PASS WELD VFB		MFG CWI		VISUAL	VISUALY ACCEPTABL	837-J.D 04-20-06	053-M.D 04-20-06		A
* (110)		VWI EXTERIOR COVER PASS WELD VF		MFG CWI		VISUAL	ACCEPTED	299-M.G 04-21-06	933-D.L 04-24-06		A
* (120)		VWI EXTERIOR COVER PASS WELD VF		MFG CWI			ACCEPTED	358-D.M 04-24-06	933-D.L 04-24-06		A
* (130)		VWI INTERIOR COVER PASS WELD VF		MFG CWI		VISUAL	ACCEPTED	299-M.G 04-21-06	053-M.D 04-21-06		A
* (140)		VWI INTERIOR COVER PASS WELD VF		MFG CWI		VISUAL	GOOD	358-D.M 04-21-06	053-M.D 04-21-06		A

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 35

Workorder: 65678/2-0 Sub:6 Op:70

Part: SE120-003 30L SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD 2-3		MFG CWI		VISUAL	OK	358-D.M 08-30-05	933-D.L 08-30-05		A
* (20)		VWI ROOT PASS WELD 4-5		MFG CWI		VISUAL	OK	093-M.S 08-30-05	933-D.L 08-30-05		A

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 36

Workorder: 65678/2-0 Sub:6 Op:170

Part: SE120-003 30L SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 2-3		CWI				08-31-05	08-31-05		
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 4-5		CWI				08-31-05	08-31-05		

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 37

Workorder: 65678/2-0 Sub:6 Op:190

Part: SE120-003 30L SUB-ASSY - - VVSA 120 DEGREE VESSEL

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 2-3		MFG CWI		VISUAL	OK	358-D.M 09-01-05	933-D.L 09-01-05		A
* (20)		VWI EXTERIOR COVER PASS WELD 4-5		MFG CWI		VISUAL	OK	358-D.M 09-01-05	933-D.L 09-01-05		A

COOPERHEAT MQS

MQS Inspection

4959

10520 Chester Road
Woodlawn, Ohio 45215

CLIENT	INTERPRETER/LEVEL	RADIOGRAPHER	JOB NO	P.O. NO	DATE
Major Tool & Machine	John Ballard	John Ballard	13850291		9/12/05

ISOTOPE/X-RAY	DIA. X LEN/KV	CURIES/MA	FOCAL SPOT SIZE	SFD	SOD	TIME	FILM PROCESSING	FILM TYPE	FILM TECHNIQUE	PB SCREENS
IR-192	.118x.094	32.5	.151"	15 3/8"	15"	3:45	Auto	Kodak m	Double	10/10

WELD PROCESS	MATERIAL SPEC.	MATERIAL DIAMETER	MATERIAL THICKNESS	PENETRAMETER	SHIM	ACCEPTANCE STANDARD
	Inconel 625	N/A	3/8"	ASTM 1B	N/A	ASME VIII, DIV 1, UW-51

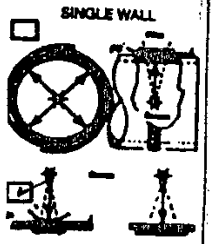
DESCRIPTION: L5678/2.0/6/400/818
SE120-003 30L

REMARKS: PS 1 of 3

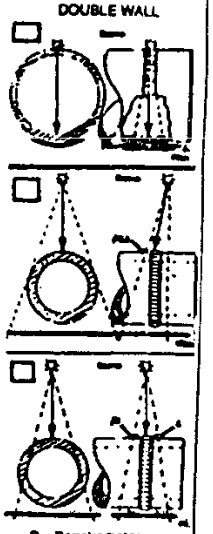
FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRAMETER SIZE	PENETRAMETER QUALITY LEVEL	SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT-THROUGH	BURN-THROUGH	CRATER-PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
Shot 4	0-14		1B	.010																							✓	
3	0-14																										✓	
14	0-14																										✓	
15	0-14																										✓	
5	0-14																										✓	
2	0-14																										✓	
16	0-14																										✓	
17	0-14																										✓	
7	0-14																										✓	
6	0-14																										✓	
13	0-14					✓																					✓	
9	0-14					✓																					✓	

End View | Side View

SINGLE WALL



DOUBLE WALL



P Penetrameter
S Shim
L Location Marker
( ) OTHER

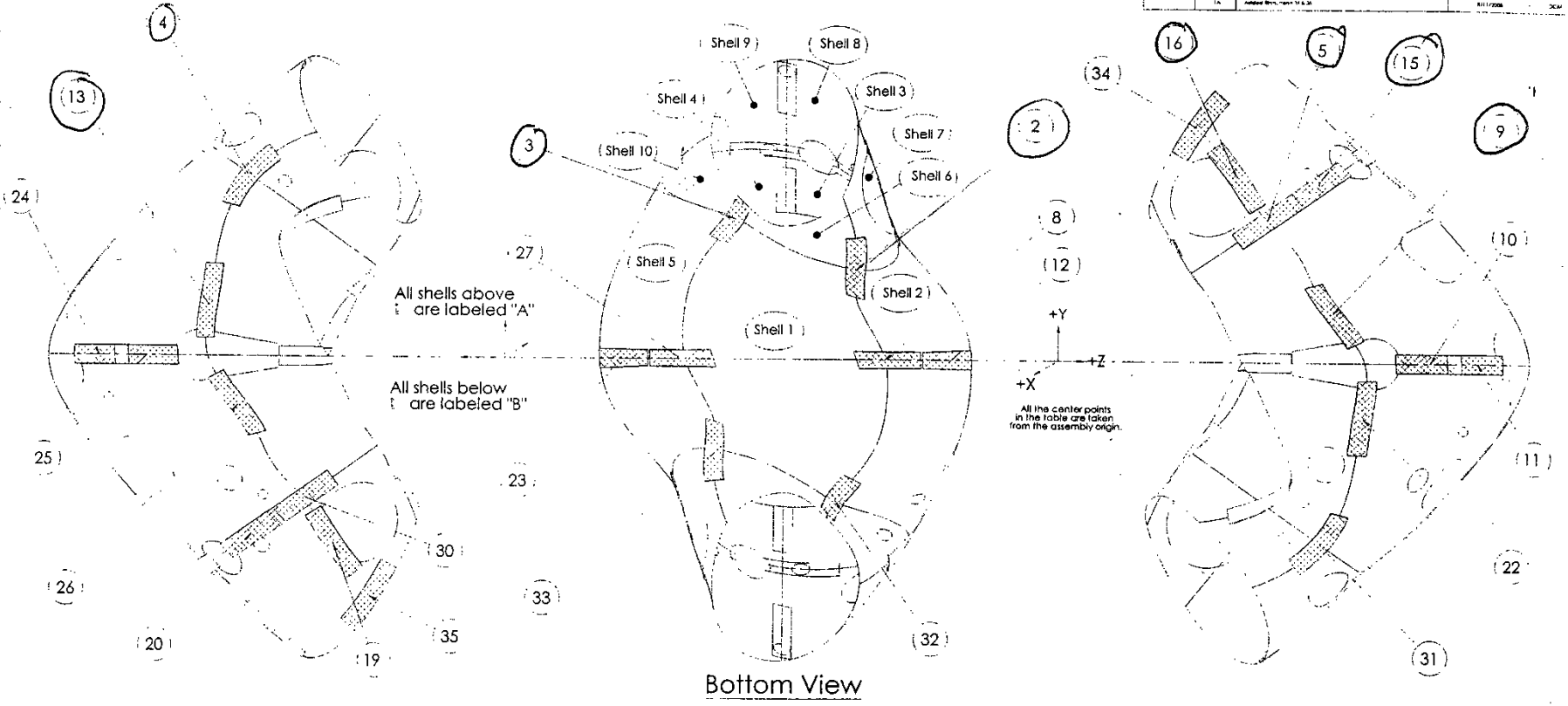
John Ballard II
Cooperheat-MQS Signature

Douglas D. Edwards
Customer Representative Signature

9/12/05
Date

mc111823.tif (1636x2172x2 tiff)

Pg 2 of 3



65678120/6/400/818

SE120-003 30L

9/12/05

CDCP inc

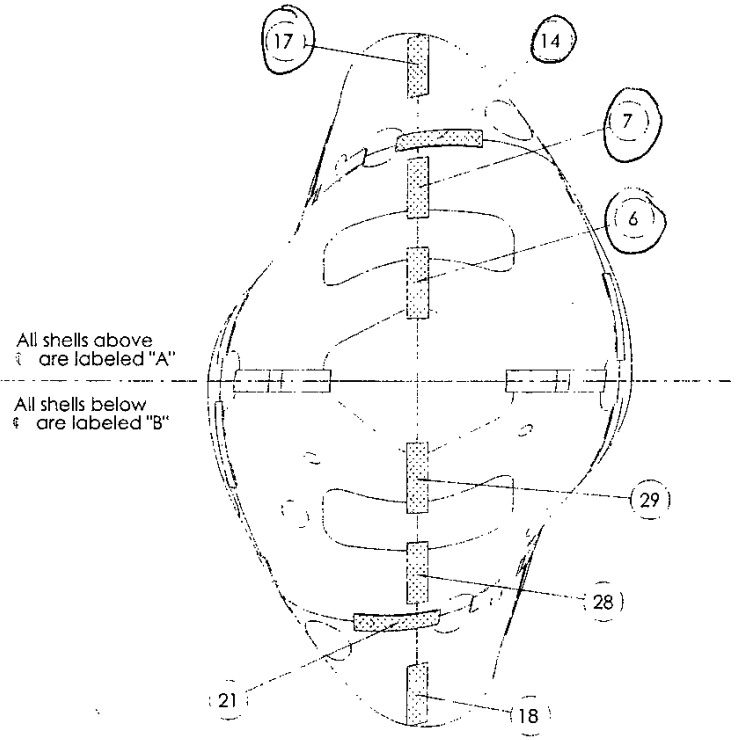
120° Segment X-Ray Film Layout

D SE120-002-1-XMTM 1A

SCALE 1:1 WEIGHT: SHEET 1 OF 1

mc111823.tif (1532x2156x2 tiff) [2]

Pg 3 of 3



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)		

CDCFINC

TITLE: 120° Segment X-Ray Film Layout

SITE DWG. NO. D SE120-002-1-XMTM REV 1A

SCALE: 1:10 WEIGHT: SHEET 2 OF 2

mc111823.tif (1540x2148x2 tiff) [3]

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 40

Workorder: 65678/2-0 Sub:94 Op:70

Part: SE120-003 30L SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD 2-3		MFG CWI		VISUAL	ACCEPT	683-K.M 09-19-05	933-D.L 09-19-05		A
* (20)		VWI ROOT PASS WELD 4-5		MFG CWI		VISUAL	ACCEPT	683-K.M 09-19-05	933-D.L 09-19-05		A

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 41

Workorder: 65678/2-0 Sub:94 Op:170

Part: SE120-003 30L SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 2-3		CWI				09-21-05	09-21-05		
*				MFG		VISUAL	ACCEPT	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 4-5		CWI				09-21-05	09-21-05		

Quality Assurance Documentation for Part ID: SE120-003 30L SUB-ASSY - Item: 42

Workorder: 65678/2-0 Sub:94 Op:190

Part: SE120-003 30L SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 2-3		CWI				09-22-05	09-22-05		
*				MFG		VISUAL	ACCEPT	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 4-5		CWI				09-22-05	09-22-05		

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 45

Workorder: 65678/2-0 Sub:95 Op:60

Part: SE120-003 30U SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD 7-8		MFG CWI			ROOT PASS WELD OK	763-R.M 08-16-05	840-G.M		A
* (20)		VWI ROOT PASS WELD 9-10		MFG CWI			VISUALLY INSPECTE NO DEFECTS NOTED	840-G.M 08-16-05	840-G.M		A

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 46

Workorder: 65678/2-0 Sub:95 Op:160

Part: SE120-003 30U SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	NO DEFECTS	197-T.FI	581-D.E		A
(20)		VWI INTERIOR COVER PASS WELD 7-8		CWI				08-17-05	08-18-05		
*				MFG		VISUAL	NO DEFECTS	197-T.FI	581-D.E		A
(20)		VWI INTERIOR COVER PASS WELD 9-10		CWI				08-17-05	08-18-05		

Quality Assurance Documentation for Part ID: SE120-003 30U SUB-ASSY - Item: 47

Workorder: 65678/2-0 Sub:95 Op:180

Part: SE120-003 30U SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	NO DEFECTS	197-T.FI	581-D.E		A
(20)		VWI EXTERIOR COVER PASS WELD 7-8		CWI				08-17-05	08-18-05		
*				MFG		VISUAL	NO DEFECTS	197-T.FI	581-D.E		A
(20)		VWI EXTERIOR COVER PASS WELD 9-1		CWI				08-17-05	08-18-05		

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

Workorder: 65678/2-0 Sub:109 Op:60

Part: SE120-003 30U SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD 7-8		MFG CWI		VISUAL	OK	197-T.FI 09-14-05	933-D.L 09-14-05		A
* (20)		VWI ROOT PASS WELD 9-10		MFG CWI		VISUAL	OK	197-T.FI 09-14-05	933-D.L 09-14-05		A

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

Workorder: 65678/2-0 Sub:109 Op:160

Part: SE120-003 30U SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	197-T.FI	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 7-8		CWI				09-15-05	09-15-05		
*				MFG		VISUAL	GOOD	197-T.FI	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 9-10		CWI				09-15-05	09-15-05		

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

Workorder: 65678/2-0 Sub:109 Op:180

Part: SE120-003 30U SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	197-T.FI	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 7-8		CWI				09-15-05	09-15-05		
*				MFG		VISUAL	GOOD	197-T.FI	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 9-1		CWI				09-15-05	09-15-05		

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 51

Workorder: 65678/2-0 Sub:11 Op:30

Part: SE120-003 3-4 SUB-SET - - VVSA 120 DEGREE VESSEL

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	093-M.S	840-G.M		A
(10)		VWI ROOT PASS WELD 3-4		CWI				08-17-05	08-17-05		

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 52

Workorder: 65678/2-0 Sub:11 Op:130

Part: SE120-003 3-4 SUB-SET - - VVSA 120 DEGREE VESSEL

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	683-K.M	581-D.E		A
(20)		VWI INTERIOR COVER PASS WELD 3-4		CWI				08-18-05	08-18-05		

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 53

Workorder: 65678/2-0 Sub:11 Op:150

Part: SE120-003 3-4 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	581-D.E		A
(20)		VWI EXTERIOR COVER PASS WELD 3-4		CWI				08-19-05	08-19-05		

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 54

Workorder: 65678/2-0 Sub:106 Op:30

Part: SE120-003 3-4 SUB-SET - - VVSA 120 DEGREE VESSEL

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	933-D.L	933-D.L		A
(10)		VWI ROOT PASS WELD 3-4		CWI				09-15-05	09-15-05		

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 55

Workorder: 65678/2-0 Sub:106 Op:130

Part: SE120-003 3-4 SUB-SET - - VVSA 120 DEGREE VESSEL

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	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 3-4		CWI				09-16-05	09-16-05		

Quality Assurance Documentation for Part ID: SE120-003 3-4 SUB-SET - Item: 56

Workorder: 65678/2-0 Sub:106 Op:150

Part: SE120-003 3-4 SUB-SET - - VVSA 120 DEGREE VESSEL

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	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 3-4		CWI				09-19-05	09-19-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 57

Workorder: 65678/2-0 Sub:8 Op:30

Part: SE120-003 5-1 SUB-SET - - VVSA 120 DEGREE VESSEL

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 DRAWING AND SPECI	709-K.A	933-D.L		A
(10)		VWI ROOT PASS WELD 5-1		CWI			ICATIONS	08-23-05	08-23-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 58

Workorder: 65678/2-0 Sub:8 Op:130

Part: SE120-003 5-1 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 5-1		CWI				08-24-05	08-24-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 59

Workorder: 65678/2-0 Sub:8 Op:150

Part: SE120-003 5-1 SUB-SET - - VVSA 120 DEGREE VESSEL

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			OK	358-D.M	840-G.M		A
(20)		VWI EXTERIOR COVER PASS WELD 5-1		CWI				08-25-05	08-25-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 60

Workorder: 65678/2-0 Sub:103 Op:30

Part: SE120-003 5-1 SUB-SET - - VVSA 120 DEGREE VESSEL

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	ROOT PASS WELD OK	763-R.M	933-D.L		A
(10)		VWI ROOT PASS WELD 5-1		CWI				08-31-05	08-31-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 61

Workorder: 65678/2-0 Sub:103 Op:130

Part: SE120-003 5-1 SUB-SET - - VVSA 120 DEGREE VESSEL

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 TO SPE	197-T.FI	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 5-1		CWI			FACATOINS	09-01-05	09-01-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1 SUB-SET - Item: 62

Workorder: 65678/2-0 Sub:103 Op:150

Part: SE120-003 5-1 SUB-SET - - VVSA 120 DEGREE VESSEL

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 5-1		MFG CWI		VISUAL	MEETS THE REQUIRE ENTS	197-T.FI 09-01-05	933-D.L 09-01-05		A

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 63

Workorder: 65678/2-0 Sub:7 Op:30

Part: SE120-003 5-1-2 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(10)		VWI ROOT PASS WELD 1-2		CWI				08-23-05	08-23-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 64

Workorder: 65678/2-0 Sub:7 Op:130

Part: SE120-003 5-1-2 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 1-2		CWI				08-24-05	08-24-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 65

Workorder: 65678/2-0 Sub:7 Op:150

Part: SE120-003 5-1-2 SUB-SET - - VVSA 120 DEGREE VESSEL

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			OK	358-D.M	840-G.M		A
(20)		VWI EXTERIOR COVER PASS WELD 1-2		CWI				08-25-05			

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 66

Workorder: 65678/2-0 Sub:102 Op:30

Part: SE120-003 5-1-2 SUB-SET - - VVSA 120 DEGREE VESSEL

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	ROOT PASS WELD OK	763-R.M	933-D.L		A
(10)		VWI ROOT PASS WELD 1-2		CWI				08-31-05	08-31-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 67

Workorder: 65678/2-0 Sub:102 Op:130

Part: SE120-003 5-1-2 SUB-SET - - VVSA 120 DEGREE VESSEL

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 TO SPE	197-T.FI	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 1-2		CWI			FACTIONS	09-01-05	09-01-05		

Quality Assurance Documentation for Part ID: SE120-003 5-1-2 SUB-SET - Item: 68

Workorder: 65678/2-0 Sub:102 Op:150

Part: SE120-003 5-1-2 SUB-SET - - VVSA 120 DEGREE VESSEL

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 1-2		MFG CWI		VISUAL	MEETS THE REQUIRE ENTS	197-T.FI 09-01-05	933-D.L 09-01-05		A

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 69

Workorder: 65678/2-0 Sub:6 Op:250

Part: SE120-003 60D SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(10)		VWI ROOT PASS WELD 30D		CWI				09-06-05	09-06-05		

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 70

Workorder: 65678/2-0 Sub:6 Op:350

Part: SE120-003 60D SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 30		CWI				09-07-05	09-07-05		

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 71

Workorder: 65678/2-0 Sub:6 Op:370

Part: SE120-003 60D SUB-ASSY - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	OK	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 30D		CWI				09-12-05	09-12-05		

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 72

Workorder: 65678/2-0 Sub:94 Op:250

Part: SE120-003 60D SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	683-K.M	933-D.L		A
(10)		VWI ROOT PASS WELD 30D		CWI				09-27-05	09-27-05		

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 73

Workorder: 65678/2-0 Sub:94 Op:350

Part: SE120-003 60D SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	358-D.M	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 30		CWI				09-28-05	09-28-05		

Quality Assurance Documentation for Part ID: SE120-003 60D SUB-ASSY - Item: 74

Workorder: 65678/2-0 Sub:94 Op:370

Part: SE120-003 60D SUB-ASSY - - VVSA 120 DEGREE VESSEL

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	358-D.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 30D		CWI				09-30-05	09-30-05		

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 75

Workorder: 65678/2-0 Sub:97 Op:30

Part: SE120-003 8-9 SUB-SET - - VVSA 120 DEGREE VESSEL

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 DRAWING AND SPECI	709-K.A	933-D.L		A
(10)		VWI ROOT PASS WELD 8-9		CWI			ICATIONS.	08-12-05	08-12-05		

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 76

Workorder: 65678/2-0 Sub:97 Op:130

Part: SE120-003 8-9 SUB-SET - - VVSA 120 DEGREE VESSEL

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	683-K.M	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 8-9		CWI				08-12-05	08-12-05		

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 77

Workorder: 65678/2-0 Sub:97 Op:150

Part: SE120-003 8-9 SUB-SET - - VVSA 120 DEGREE VESSEL

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	709-K.A	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 8-9		CWI				08-16-05	08-12-05		

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 78

Workorder: 65678/2-0 Sub:114 Op:30

Part: SE120-003 8-9 SUB-SET - - VVSA 120 DEGREE VESSEL

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	093-M.S	933-D.L		A
(10)		VWI ROOT PASS WELD 8-9		CWI				09-09-05	09-09-05		

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 79

Workorder: 65678/2-0 Sub:114 Op:130

Part: SE120-003 8-9 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE	709-K.A	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD 8-9		CWI			FICATIONS	09-12-05	09-12-05		

Quality Assurance Documentation for Part ID: SE120-003 8-9 SUB-SET - Item: 80

Workorder: 65678/2-0 Sub:114 Op:150

Part: SE120-003 8-9 SUB-SET - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE	709-K.A	933-D.L		A
(20)		VWI EXTERIOR COVER PASS WELD 8-9		CWI			FICATIONS	09-12-05	09-12-05		

Quality Assurance Documentation for Part ID: SE120-003-11 - Item: 83

Workorder: 65678/2-0 Sub:131 Op:10

Part: SE120-003-11 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE TO CUS	197-T.FI	053-M.D		A
		VISUAL INSPECT PORT 7A WELDS					MER REQUIREMENTS				
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-06-06	06-13-06		
*				MFG		VISUAL	ACCEPT	837-J.D	053-M.D		A
		VISUAL INSPECT PORT 7B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-06-06	06-06-06		

Quality Assurance Documentation for Part ID: SE120-003-11 - Item: 84

Workorder: 65678/2-0 Sub:131 Op:20

Part: SE120-003-11 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 7A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.063 FACE -0.0 38 / +0.021	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 7B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.036 FACE -0.0 57 / 0.055	522-R.D 04-18-06			A

Quality Assurance Documentation for Part ID: SE120-003-11 - Item: 85

Workorder: 65678/2-0 Sub:131 Op:30

Part: SE120-003-11 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D 06-26-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D 06-26-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1308	6 TO 28 MICRO-INCH	261-T.D 06-26-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.188 +0.045/-0.010"	UT THICKNESS GA	QA		J-1009-NDT	.179 TO .222	261-T.D 06-26-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL INSPEC	CLEANLINESS COMPL S WITH PS483	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPONEN COMPLETION	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-12A - Item: 86

Workorder: 65678/2-0 Sub:120 Op:10

Part: SE120-003-12A - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD P12AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS SPECIFIC TIONS	683-K.M 02-02-06	933-D.L		A
* (60)		VWI - COVER PASS WELD P12AV	RADIUS GAGE	MFG CWI		VISUAL P-5153	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-04-06	933-D.L 02-06-06		A
* (80)		VWI - ROOT PASS WELD P12BV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS SPECIFIC TIONS	683-K.M 02-02-06	933-D.L 02-02-06		A
* (120)		VWI - COVER PASS WELD P12BV	RADIUS GAGE	MFG CWI		VISUAL P-5153	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-04-06	933-D.L 02-06-06		A

Quality Assurance Documentation for Part ID: SE120-003-12A - Item: 87

Workorder: 65678/2-0 Sub:120 Op:20

Part: SE120-003-12A - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
2* (50)	F2	// .1 A PORT 12A FLANGE FACE	LASER	QA		1444	0.042	522-R.D 02-07-06			**A**
2* (60)	G2	⌓ .375 A B C PORT 12A SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		1444	FLA -0.132 / +0.147 PS -0.096 / +0.255 VS -0.171 / +0.098 [N/C:19218]	522-R.D 02-07-06			**R**
2* (70)	F2	// .1 A PORT 12B FLANGE FACE	LASER	QA		1444	0.026	522-R.D 02-07-06			**A**
2* (80)	G2	⌓ .375 A B C PORT 12B SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		1444	FLA -0.147 / +0.142 PS -0.123 / +0.259 VS -0.150 / +0.179 [N/C:19218]	522-R.D 02-07-06			**R**

Quality Assurance Documentation for Part ID: SE120-003-13 - Item: 88

Workorder: 65678/2-0 Sub:132 Op:10

Part: SE120-003-13 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE	197-T.FI	053-M.D		A
		VISUAL INSPECT PORT 8A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-06-06	06-06-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D		A
		VISUAL INSPECT PORT 8B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-09-06	06-13-06		

Quality Assurance Documentation for Part ID: SE120-003-13 - Item: 89

Workorder: 65678/2-0 Sub:132 Op:20

Part: SE120-003-13 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 8A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.035 FACE -0.025 / +0.032	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 8B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.052 FACE -0.042 / +0.018	522-R.D 06-26-06			A

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

Quality Assurance Documentation for Part ID: SE120-003-13 - Item: 90

Workorder: 65678/2-0 Sub:132 Op:30

Part: SE120-003-13 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	503-B.H 06-27-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	503-B.H 06-27-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	ACCEPT	503-B.H 06-27-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.226 +0.045/0.010"	UT THICKNESS GA	QA		J-770-NDT	.260	503-B.H 06-27-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED COMPONEN CLEANLINESS WITH P 483	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPLETIO	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-15 - Item: 91

Workorder: 65678/2-0 Sub:133 Op:10

Part: SE120-003-15 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPTABLE	197-T.FI	053-M.D		A
		VISUAL INSPECT PORT 9A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-08-06	06-13-06		
*				MFG		VISUAL	MEETS REQUIREMEN	197-T.FI	053-M.D		A
		VISUAL INSPECT PORT 9B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-07-06	06-07-06		

Quality Assurance Documentation for Part ID: SE120-003-15 - Item: 92

Workorder: 65678/2-0 Sub:133 Op:20

Part: SE120-003-15 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 9A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.179 FACE -0.0 36 / +0.014	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 9B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.084 FACE -0.0 81 / +0.010	522-R.D 06-26-06			A

Quality Assurance Documentation for Part ID: SE120-003-15 - Item: 93

Workorder: 65678/2-0 Sub:133 Op:30

Part: SE120-003-15 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D 06-26-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D 06-26-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1308	13 TO 30 MICRO-INCH	261-T.D 06-26-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.188 +0.045/-0.010"	UT THICKNESS GA	QA		J-1009-NDT	.181 TO .213"	261-T.D 06-26-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL INSPEC	COMPLIES WITH PS48	261-T.D 06-26-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPLETIO	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-17 - Item: 94

Workorder: 65678/2-0 Sub:134 Op:10

Part: SE120-003-17 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			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		A
		VISUAL INSPECT PORT 10A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-07-06	06-07-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D		A
		VISUAL INSPECT PORT 10B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-07-06	06-07-06		

Quality Assurance Documentation for Part ID: SE120-003-17 - Item: 95

Workorder: 65678/2-0 Sub:134 Op:20

Part: SE120-003-17 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 10A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.124 FACE -0.070 / +0.027	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 10B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.091 FACE -0.063 / +0.049	522-R.D 06-26-06			A

Quality Assurance Documentation for Part ID: SE120-003-17 - Item: 96

Workorder: 65678/2-0 Sub:134 Op:30

Part: SE120-003-17 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D 06-26-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D 06-26-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1308	6 TO 30 MICRO-INCH RA	261-T.D 06-26-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.250 +0.045/-0.010"	UT THICKNESS GA	QA		J-1009-NDT	.256 TO .276"	261-T.D 06-26-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED COMPONEN CLEANLINESS	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPONEN COMPLETION	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-19 - Item: 97

Workorder: 65678/2-0 Sub:135 Op:10

Part: SE120-003-19 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT	837-J.D	053-M.D		A
		VISUAL INSPECT PORT 11A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-21-06	06-21-06		
*				MFG		VISUAL	ACCEPT	709-K.A	933-D.L		A
		VISUAL INSPECT PORT 11B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-20-06	06-21-06		

Quality Assurance Documentation for Part ID: SE120-003-19 - Item: 98

Workorder: 65678/2-0 Sub:135 Op:20

Part: SE120-003-19 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 11A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.049 FACE -0.054 / -0.124	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 11B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.044 FACE -0.105 / -0.059	522-R.D 06-26-06			A

Quality Assurance Documentation for Part ID: SE120-003-19 - Item: 99

Workorder: 65678/2-0 Sub:135 Op:30

Part: SE120-003-19 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	503-B.H 06-27-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	503-B.H 06-27-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	ACCEPT	503-B.H 06-27-06			A
* (40)		PORT EXTENSION WALL THICKNESS: 0.120 +/-.015	UT THICKNESS GA	QA		J-770-NDT	.110	503-B.H 06-27-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED COMPONEN CLEANLINESS	840-G.M 06-28-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPONEN COMPLETION	840-G.M 06-28-06			A

Quality Assurance Documentation for Part ID: SE120-003-21 - Item: 100

Workorder: 65678/2-0 Sub:136 Op:10

Part: SE120-003-21 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			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
		VISUAL INSPECT PORT 15A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-08-06	06-13-06		
*				MFG		VISUAL	ACCEPTABLE	299-M.G	053-M.D		A
		VISUAL INSPECT PORT 15B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-06-06	06-07-06		

Quality Assurance Documentation for Part ID: SE120-003-21 - Item: 101

Workorder: 65678/2-0 Sub:136 Op:20

Part: SE120-003-21 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 15A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.052 FACE -0.0 .17 / +0.028	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 15B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.047 FACE -0.0 21 / +0.013	522-R.D 06-26-06			A

Quality Assurance Documentation for Part ID: SE120-003-21 - Item: 102

Workorder: 65678/2-0 Sub:136 Op:30

Part: SE120-003-21 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	503-B.H 06-27-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	503-B.H 06-27-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	ACCEPT	503-B.H 06-27-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.226 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.260	503-B.H 06-27-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	VERIFIED COMPONEN CLEANLINESS	840-G.M 06-28-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPONEN COMPLETED	840-G.M 06-28-06			A

Quality Assurance Documentation for Part ID: SE120-003-23 - Item: 103

Workorder: 65678/2-0 Sub:137 Op:10

Part: SE120-003-23 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*				MFG		VISUAL	ACCEPT	197-T.FI	053-M.D		A
		VISUAL INSPECT PORT DOME A WELD BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-22-06	06-23-06		
*				MFG		VISUAL	OK PER SPEC.	093-M.S	933-D.L		A
		VISUAL INSPECT PORT DOME B WELD BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-21-06	06-21-06		

Quality Assurance Documentation for Part ID: SE120-003-23 - Item: 104

Workorder: 65678/2-0 Sub:137 Op:20

Part: SE120-003-23 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⌖ Ø.25Ⓜ A B C	LASER	QA		J-1280	POS 0.017 FACE -0.2	522-R.D			R
							08 / -0.234 [N/C:20				
(10)		PORT 17A POSITION (REINSTALLED)					069-Doc:N/C 20069]	06-26-06			
*		⌖ Ø.25Ⓜ A B C	LASER	QA		J-1280	POS 0.247 FACE +0.0	522-R.D			A
(20)		PORT 17B POSITION (REINSTALLED)					28 / +0.071	06-26-06			

Quality Assurance Documentation for Part ID: SE120-003-23 - Item: 106

Workorder: 65678/2-0 Sub:137 Op:30

Part: SE120-003-23 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D 06-28-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D 06-28-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1308	10 TO 17 MICRO-INCH	261-T.D 06-28-06			A
* (40)		DOME WALL THICKNESS 0.375 +0.045/-0.010"	UT THICKNESS GA	QA		J-1009-NDT	.366 TO .402	261-T.D 06-28-06			A
* (50)		PORT EXTENSION WALL THICKNESS 0.226 +0.045/-0.010" (17 & 18)	UT THICKNESS GA	QA		J-1009-NDT	.245 TO .267	261-T.D 06-28-06			A
Drawing ID: SE122-007 Rev: 2			**INSPECTION INSTRUCTIONS**			**RESULTS**		**INSPECTED BY**			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (60)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL INSPEC	VERIFIED CLEANLINES COMPLIES WITH PS483	840-G.M 06-30-06			A
* (70)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA			VERIFIED COMPONEN COMPLETION	840-G.M 06-30-06			A

Quality Assurance Documentation for Part ID: SE120-003-3 - Item: 110

Workorder: 65678/2-0 Sub:127 Op:10

Part: SE120-003-3 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			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
		VISUAL INSPECT PORT 2A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-12-06	06-13-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D		A
		VISUAL INSPECT PORT 2B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-06-06	06-07-06		

Quality Assurance Documentation for Part ID: SE120-003-3 - Item: 111

Workorder: 65678/2-0 Sub:127 Op:20

Part: SE120-003-3 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 2A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.098 FACE +0.021 / -0.018	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 2B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.171 FACE -0.002 / +0.056	522-R.D 06-26-06			A

Quality Assurance Documentation for Part ID: SE120-003-3 - Item: 112

Workorder: 65678/2-0 Sub:127 Op:30

Part: SE120-003-3 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	503-B.H 06-27-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	503-B.H 06-27-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	ACCEPT	503-B.H 06-27-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.226 +0.045/0.010"	UT THICKNESS GA	QA		J-770-NDT	.260	503-B.H 06-27-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS COMPL S WITH PS483	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPLETIO	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-5 - Item: 113

Workorder: 65678/2-0 Sub:128 Op:10

Part: SE120-003-5 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			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
		VISUAL INSPECT PORT 4A WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-21-06	06-21-06		
*				MFG		VISUAL	OK PER SPEC.	093-M.S	933-D.L		A
		VISUAL INSPECT PORT 4B WELDS BACK STRIP TO PORT TUBE BLOCK TO BACK STRIP 1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-21-06	06-21-06		

Quality Assurance Documentation for Part ID: SE120-003-5 - Item: 114

Workorder: 65678/2-0 Sub:128 Op:20

Part: SE120-003-5 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
*		⌖ Ø.25Ⓜ A B C	LASER	QA		J-1280	POS 0.122 FACE -0.0	522-R.D			R
							91 / +0.112 [N/C:20				
(10)		PORT 4A POSITION (REINSTALLED)					069-Doc:N/C 20069]	06-26-06			
*		⌖ Ø.25Ⓜ A B C	LASER	QA		J-1280	POS 0.139 FACE -0.0	522-R.D			R
							90 / +0.121 [N/C:20				
(20)		PORT 4B POSITION (REINSTALLED)					069-Doc:N/C 20069]	06-26-06			

Quality Assurance Documentation for Part ID: SE120-003-5 - Item: 115

Workorder: 65678/2-0 Sub:128 Op:30

Part: SE120-003-5 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	261-T.D 06-28-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	261-T.D 06-28-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1308	6 TO 29 MICRO INCH	261-T.D 06-28-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.500 +0.055/-0.010"	UT THICKNESS GA	QA		J-1009-NDT	.510 TO .535	261-T.D 06-28-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL INSPEC	CLEANLINESS COMPL S WITH PS483	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPONEN COMPLETION	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-7 - Item: 116

Workorder: 65678/2-0 Sub:129 Op:10

Part: SE120-003-7 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			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
		VISUAL INSPECT PORT 5A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-14-06	06-15-06		
*				MFG		VISUAL	ACCEPTABLE	197-T.FI	053-M.D		A
		VISUAL INSPECT PORT 5B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-06-06	06-06-06		

Quality Assurance Documentation for Part ID: SE120-003-7 - Item: 117

Workorder: 65678/2-0 Sub:129 Op:20

Part: SE120-003-7 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 5A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.156 FACE -0.0 28 / +0.017	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 5B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.031 FACE -0.0 41 / -0.019	522-R.D 06-26-06			A

Quality Assurance Documentation for Part ID: SE120-003-7 - Item: 118

Workorder: 65678/2-0 Sub:129 Op:30

Part: SE120-003-7 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	503-B.H 06-27-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	503-B.H 06-27-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	ACCEPT	503-B.H 06-27-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.188 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.200	503-B.H 06-27-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS COMPL S WITH PS483	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA			VERIFIED COMPLETIO	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-9 - Item: 119

Workorder: 65678/2-0 Sub:130 Op:10

Part: SE120-003-9 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-005 Rev: 0C			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
		VISUAL INSPECT PORT 6A WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(10)		TIE STRAP SPOT WELDS		CWI				06-13-06	06-14-06		
*				MFG		VISUAL	ACCEPTABLE	728-R.D	053-M.D		A
		VISUAL INSPECT PORT 6B WELDS									
		BACK STRIP TO PORT TUBE									
		BLOCK TO BACK STRIP									
		1/8" TUBE TO BLOCK									
(20)		TIE STRAP SPOT WELDS		CWI				06-13-06	06-14-06		

Quality Assurance Documentation for Part ID: SE120-003-9 - Item: 120

Workorder: 65678/2-0 Sub:130 Op:20

Part: SE120-003-9 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌖ Ø.25Ⓜ A B C PORT 6A POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.113 FACE -0.022 / +0.035	522-R.D 06-26-06			A
* (20)		⌖ Ø.25Ⓜ A B C PORT 6B POSITION (REINSTALLED)	LASER	QA		J-1280	POS 0.048 FACE -0.066 / +0.047	522-R.D 06-26-06			A

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

Quality Assurance Documentation for Part ID: SE120-003-9 - Item: 121

Workorder: 65678/2-0 Sub:130 Op:30

Part: SE120-003-9 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		MAGNETIC PERMEABILITY 1.02 MAX (ENTIRE PORT LESS FLANGE WELD ZO	MASTER GAGE	QA		J-1165	LESS THAN 1.02	503-B.H 06-27-06			A
* (20)		MAGNETIC PERMEABILITY 1.2 MAX (PORT WALL TO FLANGE WELD ZONE)	MASTER GAGE	QA		J-1165	LESS THAN 1.2	503-B.H 06-27-06			A
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA	PROFILOMETER	QA		J-1152	ACCEPT	503-B.H 06-27-06			A
* (40)		PORT EXTENSION WALL THICKNESS 0.250 +0.045/-0.010"	UT THICKNESS GA	QA		J-770-NDT	.260/.270	503-B.H 06-27-06			A
* (50)		CLEANLINESS COMPLIES WITH PS483		QA		VISUAL	CLEANLINESS COMPL S WITH PS483	840-G.M 06-29-06			A
* (60)		Q/A MANAGER / CFT VERIFY SUB-ASSY COMPLETION		QA		VISUAL	VERIFIED COMPLETIO	840-G.M 06-29-06			A

Quality Assurance Documentation for Part ID: SE120-003-DOME A - Item: 122

Workorder: 65678/2-0 Sub:122 Op:10

Part: SE120-003-DOME A - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD PDAV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-07-06	933-D.L 02-08-06		A
* (60)		VWI - COVER PASS WELD PDAV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-08-06	933-D.L 02-08-06		A
* (80)		VWI - ROOT PASS WELD PDBV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-07-06	933-D.L 02-08-06		A
* (120)		VWI - COVER PASS WELD PDBV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-08-06	933-D.L 02-08-06		A

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

Workorder: 65678/2-0 Sub:122 Op:20

Part: SE120-003-DOME A - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
2* (30)	G2	⌓ .375 A B C PORT DOME A SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		1444	DOME -0.107 / -0.030 VESSEL -0.033 / +0.337 [N/C:19231]	522-R.D 02-08-06			R
2* (40)	G2	⌓ .375 A B C PORT DOME B SIDEWALL AND ADJACENT VESSEL WALL	LASER	QA		1444	DOME -0.130 / +0.056 VESSEL -0.168 / +0.179	522-R.D 02-08-06			A

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

Workorder: 65678/2-0 Sub:119 Op:10

Part: SE120-003-NB - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD PNBV		MFG CWI		VISUAL	ACCEPT	683-K.M 01-18-06	933-D.L 01-18-06		A
* (60)		VWI - COVER PASS WELD PNBV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 01-20-06	933-D.L 01-20-06		A

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

Workorder: 65678/2-0 Sub:1 Op:20

Part: SE120-004 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2D			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌓ 0.375 A B C FINAL VESSEL PROFILE	LASER	QA		J-1280	-0.421 / +0.451 [N/C:20175]	522-R.D 07-21-06			R
3* (20)	D3	▱ 0.05 ⌓ 0.25 A B C HALF A RFD 12-016	LASER	QA		J-1280	0.048 +0.080 / +0.001	522-R.D 07-21-06			A
3* (30)	D3	▱ 0.05 ⌓ 0.25 A B C HALF B RFD 12-016	LASER	QA		J-1280	0.035 +0.015 / +0.104	522-R.D 07-21-06			A
* (40)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS A FINAL	LASER	QA		J-1280	0.320 [N/C:20175]	522-R.D 07-21-06			R
* (50)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS B FINAL	LASER	QA		J-1280	0.906 [N/C:20175]	522-R.D 07-21-06			R
* (60)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS C FINAL	LASER	QA		J-1280	0.686 [N/C:20175]	522-R.D 07-21-06			R
* (70)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS D FINAL	LASER	QA		J-1280	0.344 [N/C:20175]	522-R.D 07-21-06			R
* (80)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS A FINAL	LASER	QA		J-1280	0.200	522-R.D 07-21-06			A
*		⌖ .25 A B C	LASER	QA		J-1280	0.382 [N/C:20175]	522-R.D			R

(90)		Ⓟ 17" HALF -B- BOSS B FINAL						07-21-06			
* (100)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS C FINAL	LASER	QA		J-1280	0.789 [N/C:20175]	522-R.D 07-21-06			R
* (110)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS D FINAL	LASER	QA		J-1280	0.593 [N/C:20175]	522-R.D 07-21-06			R
15* (120)		98.641 +/-0.125"	LASER	QA		J-1280	98.388 / 98.482 [N/C:20175]	522-R.D 07-21-06			R
13* (130)	F3	// .1 A	LASER	QA		J-1280	0.084	522-R.D 07-21-06			A
13* (140)	A3	// .1 A	LASER	QA		J-1280	0.100	522-R.D 07-21-06			A
Drawing ID: SE120-002 Rev: 1			**INSPECTION INSTRUCTIONS**			**RESULTS**		**INSPECTED BY**			
SHEET	**ZONE**	**CHARACTERISTIC**	**GAGE/EQUIP**	**BY**	**SAMPLE**	**SER#**	**DATA/REMARKS**	**INSP**	**VERFD**	**AUDIT**	
* (150)		⌓ .375 A B C Port 12A profile	LASER	QA		J-1280	-0.254 / +0.359 [N/C:20175]	522-R.D 07-21-06			R
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* (160)	E2	81.370 +/-0.125"	LASER	QA		J-1280	81.290 / 81.374	522-R.D 07-21-06			A
13* (170)	B2	81.370 +/-0.125"	LASER	QA		J-1280	81.220 / 81.320 [N/C:20175]	522-R.D 07-21-06			R
Drawing ID: SE120-002 Rev: 1			**INSPECTION INSTRUCTIONS**			**RESULTS**		**INSPECTED BY**			
SHEET	**ZONE**	**CHARACTERISTIC**	**GAGE/EQUIP**	**BY**	**SAMPLE**	**SER#**	**DATA/REMARKS**	**INSP**	**VERFD**	**AUDIT**	
* (180)		⌓ .375 A B C Port 12B profile	LASER	QA		J-1280	-0.248 / +0.306 [N/C:20175]	522-R.D 07-21-06			R
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* (190)		⌓ .375 A B C Port NB profile	LASER	QA		J-1280	-0.329 / +0.145 [N/C:20175]	522-R.D 07-21-06			R

Quality Assurance Documentation for Part ID: SE120-004 - Item: 126

Workorder: 65678/2-0 Sub:1 Op:30

Part: SE120-004 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-002 Rev: 1			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
* (10)		VESSEL WALL MATERIAL THICKNESS 10% MAX POLOIDAL THINNING BELO STK (0.375 +.040"/-.010") .338 MINIMUM WALL THICKNESS		QA						
* (20)		MAGNETIC PERMEABILITY 1.02 MAX		QA						
* (30)		INTERIOR SURFACE FINISH: 32 MICRO-INCH RA		QA						

Quality Assurance Documentation for Part ID: SE120-004 - Item: 127

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

Part: SE120-004 - - VVSA 120 DEGREE VESSEL

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	INDICATOR	MFG QA		P-3363	.005	216-J.SA 07-07-06	576-J.G 07-07-06		A
3* (20)	D3	⌓ 0.25 A B C	INDICATOR	MFG QA		P-2126	.056	216-J.SA 07-07-06	576-J.G 07-07-06		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"	CALIPER	MFG QA		P-1834	.186 - .187	216-J.SA 07-07-06	576-J.G 07-07-06		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	.600 - .750	216-J.SA 07-07-06	576-J.G 07-07-06		R
* (50)		0.469 +/-0.005" NOTE: DIMENSION WILL LIKELY BE S OUT OF TOLERANCE, HOLES CUT AS D	CALIPER	MFG QA		P-1834	.645 - .810	216-J.SA 07-07-06	576-J.G 07-07-06		R
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 19868	CALIPER	MFG QA		P-4076	TOOK FACE TO CLEA UP . THICKNESS 1.2 20-1.240INSIDE 1.28 5OUTSIDE	557-P.W 07-08-06	313-R.B 07-10-06		R

Quality Assurance Documentation for Part ID: SE120-004-17A - Item: 128

Workorder: 65678/2-0 Sub:125 Op:10

Part: SE120-004-17A - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD P17AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 02-16-06	933-D.L 02-16-06		A
* (40)		VWI - COVER PASS WELD P17AV		MFG CWI		VISUAL	ACCEPT	053-M.D 02-17-06	053-M.D 02-17-06		A
* (60)		VWI - ROOT PASS WELD P17BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-15-06	053-M.D 02-15-06		A
* (80)		VWI - COVER PASS WELD P17BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-16-06	933-D.L 02-16-06		A

Quality Assurance Documentation for Part ID: SE120-004-17A - Item: 129

Workorder: 65678/2-0 Sub:125 Op:20

Part: SE120-004-17A - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
16* (30)	D8	⌖ Ø.25Ⓜ A B C PORT 17A POSITION	LASER	QA		1444	POS 0.214 / TOP -0. 084 / -0.075	522-R.D 02-20-06			A
16* (40)	D8	⌖ Ø.25Ⓜ A B C PORT 17B POSITION	LASER	QA		1444	POS 0.189 / TOP +0. 018 / +0.052	522-R.D 02-20-06			A

Quality Assurance Documentation for Part ID: SE120-004-18A - Item: 130

Workorder: 65678/2-0 Sub:126 Op:10

Part: SE120-004-18A - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD P18AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 02-16-06	933-D.L 02-16-06		A
* (40)		VWI - COVER PASS WELD P18AV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-17-06	053-M.D 02-17-06		A
* (60)		VWI - ROOT PASS WELD P18BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-15-06	053-M.D 02-15-06		A
* (80)		VWI - COVER PASS WELD P18BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-16-06	933-D.L 02-16-06		A

Quality Assurance Documentation for Part ID: SE120-004-18A - Item: 131

Workorder: 65678/2-0 Sub:126 Op:20

Part: SE120-004-18A - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
17* (30)	B5	⌖ Ø.25Ⓜ A B C PORT 18A POSITION	LASER	QA		1444	POS 0.219 / TOP -0. 028 / -0.018	522-R.D 02-20-06			A
17* (40)	B5	⌖ Ø.25Ⓜ A B C PORT 18B POSITION	LASER	QA		1444	POS 0.156 / TOP +0. 018 / +0.034	522-R.D 02-18-06			A

Quality Assurance Documentation for Part ID: SE120-004-2A - Item: 132

Workorder: 65678/2-0 Sub:123 Op:10

Part: SE120-004-2A - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD P2AV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		A
* (40)		VWI - COVER PASS WELD P2AV		MFG CWI		VISUAL	ACCEPT	837-J.D 02-15-06	053-M.D 02-15-06		A
* (60)		VWI - ROOT PASS WELD P2BV		MFG CWI		VISUAL	ACCEPTABLE PER CU OMER DRAWINGS AN PECIFICATIONS	728-R.D 02-14-06	053-M.D 02-14-06		A
* (80)		VWI - COVER PASS WELD P2BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-15-06	053-M.D 02-15-06		A
* (100)		VWI - ROOT PASS WELD P5AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-10-06	053-M.D 02-10-06		A
* (120)		VWI - COVER PASS WELD P5AV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-13-06	933-D.L 02-13-06		A
* (140)		VWI - ROOT PASS WELD P5BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		A
* (160)		VWI - COVER PASS WELD P5BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-15-06	053-M.D 02-15-06		A
* (180)		VWI - ROOT PASS WELD P6AV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-09-06	053-M.D 02-09-06		A
* (200)		VWI - COVER PASS WELD P6AV		MFG CWI		VISUAL	ACCEPTED	299-M.G 02-10-06	053-M.D 02-10-06		A
* (220)		VWI - ROOT PASS WELD P6BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		A
* (240)		VWI - COVER PASS WELD P6BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-14-06	053-M.D 02-15-06		A
* (260)		VWI - ROOT PASS WELD P7AV		MFG CWI		VISUAL	ACCEPT	728-R.D 02-09-06	053-M.D 02-09-06		A
* (280)		VWI - COVER PASS WELD P7AV		MFG CWI		VISUAL	ACCEPTED	299-M.G 02-10-06	053-M.D 02-10-06		A
*				MFG		VISUAL	ACCEPT PER CUSTOM	709-K.A	053-M.D		A

(300)		VWI - ROOT PASS WELD P7BV		CWI			DRAWINGS AND SPE FICATIONS	02-10-06	02-10-06		
* (320)		VWI - COVER PASS WELD P7BV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	299-M.G 02-13-06	933-D.L 02-13-06		A
* (340)		VWI - ROOT PASS WELD P8AV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		A
* (360)		VWI - COVER PASS WELD P8AV		MFG CWI		VISUAL	ACCEPT	837-J.D 02-15-06	053-M.D 02-15-06		A
* (380)		VWI - ROOT PASS WELD P8BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-14-06	053-M.D 02-14-06		A
* (400)		VWI - COVER PASS WELD P8BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-15-06	053-M.D 02-15-06		A
* (420)		VWI - ROOT PASS WELD P9AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-10-06	053-M.D 02-10-06		A
* (440)		VWI - COVER PASS WELD P9AV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-13-06	933-D.L 02-13-06		A
* (460)		VWI - ROOT PASS WELD P9BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-14-06	053-M.D 02-14-06		A
* (480)		VWI - COVER PASS WELD P9BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-15-06	933-D.L 02-16-06		A
* (500)		VWI - ROOT PASS WELD P10AV		MFG CWI		VISUAL	ACCEPTABLE	933-D.L 02-08-06	933-D.L 02-08-06		A
* (520)		VWI - COVER PASS WELD P10AV	RADIUS GAGE	MFG CWI		VISUAL P-5153	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	299-M.G 02-09-06	053-M.D 02-09-06		A
* (540)		VWI - ROOT PASS WELD P10BV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	728-R.D 02-09-06	933-D.L 02-08-06		A
* (560)		VWI - COVER PASS WELD P10BV	RADIUS GAGE	MFG CWI		VISUAL P-5153	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	299-M.G 02-09-06	053-M.D 02-09-06		A
* (580)		VWI - ROOT PASS WELD P11AV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		A
* (600)		VWI - COVER PASS WELD P11AV		MFG CWI		VISUAL	ACCEPT	837-J.D 02-15-06	053-M.D 02-15-06		A

* (620)		VWI - ROOT PASS WELD P11BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		**A**
* (640)		VWI - COVER PASS WELD P11BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-15-06	053-M.D 02-15-06		**A**
* (660)		VWI - ROOT PASS WELD P15AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 02-10-06	053-M.D 02-10-06		**A**
* (680)		VWI - COVER PASS WELD P15AV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-13-06	933-D.L 02-13-06		**A**
* (700)		VWI - ROOT PASS WELD P15BV		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 02-13-06	053-M.D 02-13-06		**A**
* (720)		VWI - COVER PASS WELD P15BV		MFG CWI		VISUAL	ACCEPT	299-M.G 02-14-06	053-M.D 02-15-06		**A**

Quality Assurance Documentation for Part ID: SE120-004-2A - Item: 133

Workorder: 65678/2-0 Sub:123 Op:20

Part: SE120-004-2A - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
4* (30)	D5	⌖ Ø.25Ⓜ A B C PORT 2A POSITION	LASER	QA		1444	POS 0.198 / TOP 0.050 / -0.020	522-R.D 02-20-06			A
4* (40)	D5	⌖ Ø.25Ⓜ A B C PORT 2B POSITION	LASER	QA		1444	POS 0.215 / TOP -0.239 / -0.268	522-R.D 02-18-06			A
6* (70)	A5	⌖ Ø.25Ⓜ A B C PORT 5A POSITION	LASER	QA		1444	POS 0.141 / TOP -0.400 / -0.371	522-R.D 02-18-06			A
6* (80)	A5	⌖ Ø.25Ⓜ A B C PORT 5B POSITION	LASER	QA		1444	POS 0.089 / TOP -0.221 / -0.169	522-R.D 02-20-06			A
7* (110)	A5	⌖ Ø.25Ⓜ A B C PORT 6A POSITION	LASER	QA		1444	POS 0.210 / TOP -0.103 / +0.005	522-R.D 02-18-06			A
7* (120)	A5	⌖ Ø.25Ⓜ A B C PORT 6B POSITION	LASER	QA		1444	POS 0.095 / TOP -0.283 / -0.262	522-R.D 02-20-06			A
8* (150)	A5	⌖ Ø.25Ⓜ A B C PORT 7A POSITION	LASER	QA		1444	POS 0.216 / TOP -0.343 / -0.277	522-R.D 02-18-06			A
8* (160)	A5	⌖ Ø.25Ⓜ A B C PORT 7B POSITION	LASER	QA		1444	POS 0.117 / TOP -0.236 / -0.215	522-R.D 02-20-06			A
9* (190)	B5	⌖ Ø.25Ⓜ A B C PORT 8A POSITION	LASER	QA		1444	POS 0.063 / TOP -0.338 / -0.330	522-R.D 02-18-06			A
9* (200)	B5	⌖ Ø.25Ⓜ A B C PORT 8B POSITION	LASER	QA		1444	POS 0.247 / TOP -0.178 / -0.158	522-R.D 02-18-06			A
10* (230)	B5	⌖ Ø.25Ⓜ A B C PORT 9A POSITION	LASER	QA		1444	POS 0.205 / TOP -0.315 / -0.274	522-R.D 02-20-06			A
10* (240)	B5	⌖ Ø.25Ⓜ A B C PORT 9B POSITION	LASER	QA		1444	POS 0.211 / TOP -0.064 / -0.023	522-R.D 02-18-06			A
11* (270)	C5	⌖ Ø.25Ⓜ A B C PORT 10A POSITION	LASER	QA		1444	POS 0.171 / TOP -0.128 / -0.091	522-R.D 02-20-06			A
11* (280)	C5	⌖ Ø.25Ⓜ A B C PORT 10B POSITION	LASER	QA		1444	POS 0.257 / TOP -0.331 / -0.272 [N/C:1 9284]	522-R.D 02-20-06			R
12* (310)	A7	⌖ Ø.25Ⓜ A B C PORT 11A POSITION	LASER	QA		1444	POS 0.234 / TOP 0.049 / -0.024	522-R.D 02-18-06			A

12* (320)	A7	⌖ Ø.25Ⓜ A B C PORT 11B POSITION	LASER	QA		1444	POS 0.156 / TOP -0. 359 / -0.334	522-R.D 02-20-06			**A**
14* (350)	B5	⌖ Ø.25Ⓜ A B C PORT 15A POSITION	LASER	QA		1444	POS 0.119 / TOP -0. 158 / -0.129	522-R.D 02-18-06			**A**
14* (360)	B5	⌖ Ø.25Ⓜ A B C PORT 15B POSITION	LASER	QA		1444	POS 0.152 / TOP -0. 546 / -0.532	522-R.D 02-20-06			**A**

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

Quality Assurance Documentation for Part ID: SE120-004-4A - Item: 134

Workorder: 65678/2-0 Sub:121 Op:10

Part: SE120-004-4A - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD P4AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 01-27-06	933-D.L 01-27-06		A
* (60)		VWI - COVER PASS WELD P4AV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 01-31-06	933-D.L 02-01-06		A
* (80)		VWI - ROOT PASS WELD P4BV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 01-27-06	933-D.L 01-27-06		A
* (120)		VWI - COVER PASS WELD P4BV		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	709-K.A 01-31-06	933-D.L 02-01-06		A

Quality Assurance Documentation for Part ID: SE120-004-4A - Item: 135

Workorder: 65678/2-0 Sub:121 Op:20

Part: SE120-004-4A - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
5* (30)	B5	⌖ Ø.25Ⓜ A B C PORT 4A POSITION	LASER	QA		1444	0.594 TOP -0.269 / -0.027 [N/C:19178]	522-R.D 02-01-06			R
5* (40)	B5	⌖ Ø.25Ⓜ A B C PORT 4B POSITION	LASER	QA		1444	0.361 TOP -0.206 / +0.020 [N/C:19178]	522-R.D 02-01-06			R

mc109194.tif (1786x2301x2 tiff)

GTC
GREENVILLE TUBE ™

GREENVILLE TUBE
P.O. Box 30 Greenville, PA 16125

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

REPORT OF TESTS

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. P05-03220
REF # 1010873

Each Tube on this order has been spectrographically Checked for Mo

manufactured and shipped from

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

Chemical Analysis

	%C	%Mn	%P	%S	%Si	%Ni	%Gr	%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

lardness	Bend	Reverse Bend	Flange	Reverse Flat	Flare	Flat	Grain Size	Other Tests
RB 73/76					PASSED	PASSED		JUN 22 2005

ASTM-A-262, Practice Corrosion Test

A B C D E 97361 AM

EREBY CERTIFY THAT THE HEAT NUMBERS, ANALYSIS AND TESTS DETAILED HEREON, ARE CORRECT AS CONTAINED IN THE RECORDS THIS CORPORATION"

ortant 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

line 1

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
nverted from 15-T Scale

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

MTM 016

JUN 24 2005

TEST REPORTS
JUN 09 2005
ACCEPTED BY

mc109089.tif (1706x2153x2 tiff)

ESM

1565 FLBETWOOD DRIVE
ELGIN, IL 60123
CERTIFICATE OF ANALYSIS

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

ORDER(S) : T36726
SALES ORDER 78524-1
QUANTITY : 2,310 00

SPEC. 4749 AMS 5599 F I625 ANNEALED 3891 ASTM B443 93 I625 GRADE 1
APPR. GE S400, S1000 D,
DESC. ALLOY 625 2B ANNEALED COIL
Gauge: .010+/-.001(.009/.011)
Width: 36.000+/-.01

Cust.Part #138020136008-01
PAPER INTERLEAVE #3 EDGE
MARK WEIGHT OF PAPER INTERLEAVE

HEAT NO 265096802 MAJOR TOOL PO P05-03219 1pc) 12"x12" CHEMICAL PROPERTIE

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)	8.4300
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 2560
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
T	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 @ F; H/T AT F+/- F HRS+/- HRS COOL

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

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

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

JUN 16 2005
97132

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: 01-06-01

MTM 016

JUN 18 2005

QUALITY MANAGER - RICHARD OMIOTEK

Quality Assurance Documentation for Part ID: SE120-005-40 - Item: 138

Workorder: 65678/2-0 Sub:138 Op:10

Part: SE120-005-40 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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

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PO Box 9013
Kokomo, Indiana, 46902

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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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N+Cb/9	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

Amanda Aguirre

6/28/2005

RECEIVED
JUL 5 2005
97832

Linda 1-3

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mc109510.tif (1705x2193x2 tiff)

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Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
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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 Beshreibung

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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantite Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

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mc109510.tif (1708x2199x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
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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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture				
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs
98 HRB		(1)(A)	7.5						0.0001 IN													

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTW 016

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mc109510.tif (1706x2199x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
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MAJOR TOOL AND MACHINE INC
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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 Beshreibung

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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASTM-B-443, 00e1, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 6/28/2005
Certification Technician

Amanda Aguirre

MTM 016

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109510.tif (1706x2200x2 tiff) [4]

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

MTM 016

Quality Assurance Documentation for Part ID: SE120-005-41 - Item: 140

Workorder: 65678/2-0 Sub:145 Op:10

Part: SE120-005-41 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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

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PO Box 9013
Kokomo, Indiana, 46902

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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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	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

Amanda Aguirre

6/28/2005

MTM 016

RECEIVED
JUL 5 2005
97829

line 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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109512.tif (1708x2212x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdildaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442557001-0	06/03/05	P05-03064	20050628088	2 Of 4

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 Beshreibung
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 / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTM 016

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109512.tif (1707x2173x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442557001-0	06/03/05	P05-03064	20050628088	3 Of 4

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 Beshreibung
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 / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Annealed Hardness / Durette Recuit / Geglueht Haerte	Aged Hardness / Durette Vieilli / Gealtert Haerte		Grain Size / Grosseur De Grain / Korngroesse				ALA	P&W Figure Number	IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture				
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %			Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs
98 HRB		(1)(A)	7.5						0.0001 IN													

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

6/28/2005

(1) 3942629401

Amanda Aguirre

MTM 016

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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109512.tif (1705x2203x2 tiff) [3]

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	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442557001-0	06/03/05	P05-03064	20050628088	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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 6/28/2005
Certification Technician

Amanda Aguirre

MTM 016

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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109512.tif (1708x2212x2 tiff) [4]

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: SE120-005-42 - Item: 142

Workorder: 65678/2-0 Sub:146 Op:10

Part: SE120-005-42 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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

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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	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

Amanda Aguirre

6/28/2005

MTM 016

RECEIVED
JUL 5 2005
97831

Linda 7-9

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109509.tif (1707x2196x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdildaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442680001-0	06/06/05	P05-03064	20050628081	2 Of 4

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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie 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.

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 / %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

ATM J16

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.
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mc109509.tif (1703x2199x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442680001-0	06/06/05	P05-03064	20050628081	3 Of 4

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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture				
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs
98 HRB		(1)(A)	7.5						0.0001 IN													

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTR 016

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109509.tif (1704x2203x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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

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 Beshreibung
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 Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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

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mc109509.tif (1704x2196x2 tiff) [4]

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

MTM 016

Quality Assurance Documentation for Part ID: SE120-005-43 - Item: 144

Workorder: 65678/2-0 Sub:147 Op:10

Part: SE120-005-43 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442681001-0	06/06/05	P05-03064	20050628092	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N+Cb/9	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

Amanda Aguirre

6/28/2005

MTM 016

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JUL 5 2005
97827

Bros 10.12

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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109514.tif (1704x2194x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442681001-0	06/06/05	P05-03064	20050628092	2 Of 4

HAYNES International

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1458 E 19TH ST
INDIANAPOLIS
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Product Description • Description Produit • Material Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTM 016

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mc109514.tif (1705x2199x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442681001-0	06/06/05	P05-03064	20050628092	3 Of 4

HAYNES International

FILE COPY 2

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MAJOR TOOL AND MACHINE INC
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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 Beshreibung
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 / Quantie Commandee / Bestellemenge: 6 PC

Quantity Shipped / Quantitie Expediee / 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 Rupture				
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constraint Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs
98 HRB		(1)(A)	7.5						0.0001 IN													

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

6/28/2005

(1) 3942629401

Amanda Aguirre

MTM 016

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mc109514.tif (1705x2200x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestlldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
442681001-0	06/06/05	P05-03064	20050628092	4 Of 4

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 Beshreibung

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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 6/28/2005
Certification Technician

Amanda Aguirre

ATM 0:5

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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109514.tif (1705x2199x2 tiff) [4]

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: 146

Workorder: 65678/2-0 Sub:148 Op:10

Part: SE120-005-44 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442683001-0	06/06/05	P05-03064	20050628090	1 Of 4

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 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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	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

Amanda Aguirre

6/28/2005

MTM 016

RECEIVED
JUL 5 2005
97828

Lino 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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109513.tif (1705x2195x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdfldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442683001-0	06/06/05	P05-03064	20050628090	2 Of 4

HAYNES International

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

Sold To • Client • Bestellaranschrift
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1458 E 19TH ST
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1458 E 19TH ST
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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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTM 016

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mc109513.tif (1707x2174x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

HAYNES International

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Haynes International
1020 West Park Avenue
PO Box 9013
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Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442683001-0	06/06/05	P05-03064	20050628090	3 Of 4

Sold To • Client • Bestellaranschrift
MAJOR TOOL AND MACHINE INC
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Ship To • Destinataire • Bestellmenge
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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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitle Expediee / Liefermenge
6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	7.5						0.0001 IN														

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTM 016

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mc109513.tif (1704x2205x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
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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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 6/28/2005
Certification Technician

Amanda Aguirre

MTM 016

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mc109513.tif (1704x2205x2 tiff) [4]

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

MTM 016

Quality Assurance Documentation for Part ID: SE120-005-45 - Item: 148

Workorder: 65678/2-0 Sub:149 Op:10

Part: SE120-005-45 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442687001-0	06/06/05	P05-03064	20050628091	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N+Cb/9	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 6/28/2005
Certification Technician

Amanda Aguirre

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97833 HS

Linea 16-18

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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

RKW
7-5-05

mc109562.tif (1609x2195x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

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442687001-0	06/06/05	P05-03064	20050628091	2 Of 4

HAYNES International

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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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 / %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 / %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test / Essai / Versuch / Temp:	Stress / Constrainte / Spannung	Hours / Heures / Stunden	% Elong In / % Allong EN / % Dehnung	% RA / % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

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RCU
7-5-05

mc109562.tif (1706x2196x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442687001-0	06/06/05	P05-03064	20050628091	3 Of 4

HAYNES International

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IN 46218 USA

Product Description • Description Produit • Material Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	7.5						0.0001 IN														

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

Amanda Aguirre

6/28/2005

(1) 3942629401

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AKM
7-5-05

mc109562.tif (1562x2190x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestdldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
442687001-0	06/06/05	P05-03064	20050628091	4 Of 4

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 Beshreibung
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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 6/28/2005
Certification Technician

Amanda Aguirre

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

AKU
7-5-05

mc109562.tif (1709x2207x2 tiff) [4]

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
7-5-05

Quality Assurance Documentation for Part ID: SE120-005-46 - Item: 150

Workorder: 65678/2-0 Sub:150 Op:10

Part: SE120-005-46 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442690001-0	06/06/05	P05-03064	20050628080	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Sc	La	C+N+Cb/9	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

Amanda Aguirre

6/28/2005

RECEIVED
JUL 5 2005
97826

lines 19-21

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mc109515.tif (1704x2203x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442690001-0	06/06/05	P05-03064	20050628080	2 Of 4

HAYNES International

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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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum Temp.

Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Striockgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

Test Essai Versuch Temp:	Ultimate Zugfestigkeit	1% Yield Lim. Elast. A 1% 1% Striockgrenze	0.2% Yield Lim. Elast. A 0.2% 0.2% Strieckgrenze	% Elong In % Allong EN % Dehnung	%RA %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

MTM 016

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S400E,S1000E, EN 10204 3.1.B, AS9100

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ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E

Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	7.5						0.0001 IN														

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Certification Technician

Amanda Aguirre

6/28/2005

(1) 3942629401

016

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mc109515.tif (1704x2202x2 tiff) [3]

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Nadcap CERTIFICATE NUMBER 0089
S400E,S1000E, EN 10204 3.1.B, AS9100

Specification • Specification • Spezifikation	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 • Certific Par • Bescheinigt Durch: Amanda Aguirre 6/28/2005
Certification Technician

Amanda Aguirre

MTM 016

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109515.tif (1704x2178x2 tiff) [4]

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: SE120-005-47 - Item: 152

Workorder: 65678/2-0 Sub:151 Op:10

Part: SE120-005-47 - - VVSA 120 DEGREE VESSEL

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

MC108425.tif (1640x2108x2 tiff)

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	QTY	CONFORMS TO:
Alloy 625 welded pipe	2-1/2" sch 10	20 ft	ASTM-B-705, PS483, PS 489

RM ID: A8519

MAY 24 2005
96410
Line/
B.J

Certified By:
Rodney Bowden

5/24/05

MTM 09

MC108425.tif (1545x2060x2 tiff) [2]

BRISTOL METALS L.P.
BRISTOL TN. U.S.A.
MILL TEST REPORT

TO: EAGLE ALLOYS CORPORATION
117 WEST PARK CT
TALBOTT, TN 37877

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: AB519 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	8.8153	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 PRESSURE	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 50049) 3.1.B.
We certify this report to be true and accurate, according to our records on file
No weld repairs have been performed on the base material.

Bristol Metals L.P.
David Singleton
Representative

MIBR

5/24/05

MTM 09

Quality Assurance Documentation for Part ID: SE120-005-48 - Item: 154

Workorder: 65678/2-0 Sub:152 Op:10

Part: SE120-005-48 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442713001-0	06/06/05	P05-03064	20050628078	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	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

Amanda Aguirre

6/28/2005

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JUL 5 2005
97825

Linx 25.27

MT# 016

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mc109516.tif (1705x2195x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442713001-0	06/06/05	P05-03064	20050628078	2 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie 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.

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 %RA	
137000 PSI		**74000 PSI**	**44 %**		**(1)(A)**

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA % RA	

Certified By • Certifie Par • Bescheinigt Durch: Amanda Aguirre 6/28/2005 (1) 3942629401
Certification Technician

Amanda Aguirre

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109516.tif (1707x2198x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442713001-0	06/06/05	P05-03064	20050628078	3 Of 4

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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	7.5						0.0001 IN														

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

6/28/2005

(1) 3942629401

Amanda Aguirre

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mc109516.tif (1705x2180x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442713001-0	06/06/05	P05-03064	20050628078	4 Of 4

HAYNES International

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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 Beshreibung

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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 6/28/2005
Certification Technician

Amanda Aguirre

MTM 016

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109516.tif (1704x2180x2 tiff) [4]

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: 156

Workorder: 65678/2-0 Sub:144 Op:10

Part: SE120-006-6 - - VVSA 120 DEGREE VESSEL

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

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442715001-0	06/06/05	P05-03064	20050628084	1 Of 4

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PO Box 9013
Kokomo, Indiana, 46902

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MAJOR TOOL AND MACHINE INC
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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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N+Cb/9	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		
2650 5 6801	3.5026	<0.05															BUTT END *03	

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

6/28/2005

Amanda Aguirre

RECEIVED
JUL 5 2005
97834

28-30

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RKU
7-5-05

mc109561.tif (1704x2198x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442715001-0	06/06/05	P05-03064	20050628084	2 Of 4

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PO Box 9013
Kokomo, Indiana, 46902

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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 Beshreibung

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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA % RA	

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

Amanda Aguirre

6/28/2005

(1) 3942629401

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7-5-05
RCH

mc109561.tif (1707x2200x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442715001-0	06/06/05	P05-03064	20050628084	3 Of 4

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Ship To • Destinataire • 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
SE120-004-67MTM 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 / Quantie Commandee / Bestellemenge: 6 PC

Quantity Shipped / Quantitie Expediee / Liefermenge: 6 PC

Annealed Hardness / Durette Recuit / Geglueht Haerte	Aged Hardness / Durette Vieilli / Gealtert Haerte		Grain Size / Grosseur De Grain / Korngroesse				ALA	F&W Figure Number	IGA	Uniformity	Corrosion Rate		Oxidation Rate	Charpy Impact Test				Creep Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %			Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	7.5						0.0001 IN														

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
THE RECORDING OF FALSE, FICTICIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47. THIS DOCUMENT SHALL NOT BE REPORDUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC.
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

RKU
7-5-05

mc109561.tif (1705x2214x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestilldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
442715001-0	06/06/05	P05-03064	20050628084	4 Of 4

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 Beshreibung

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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

RKU
2-5-05

mc109561.tif (1705x2195x2 tiff) [4]

mc109561.tif (1472x2206x2 tiff) [5]

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

RKU 7-5-05

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442718001-0	06/06/05	P05-03064	20050628079	1 Of 4

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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	6 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N+Cb/9	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

MTM 016 JUL 07 2005

RECEIVED JUL 6 2005 97943

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109677.tif (1703x2198x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestdldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
442718001-0	06/06/05	P05-03064	20050628079	2 Of 4

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 Beshreibung
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 Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expedlee Liefermenge
6 PC	6 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Amblante • Zugversuch Bei Raum 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 %RA	
137000 PSI		74000 PSI	44 %		(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA % RA	

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109677.tif (1593x2199x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No / No. De Facture / Rechnungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdlldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
442718001-0	06/06/05	P05-03064	20050628079	3 Of 4

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 Beshreibung
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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
6 PC	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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	7.5						0.0001 IN														

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

6/28/2005

(1) 3942629401

Amanda Aguirre

JUL 07 2005

MTN 016

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.
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mc109677.tif (1707x2205x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Invoice No No. De Facture Rechnungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestelldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
442718001-0	06/06/05	P05-03064	20050628079	4 Of 4

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 Beshreibung
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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
ASME-SB-443, 04, UNS# N06625, Gr. 1; PS-489, E	6 PC	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 • Certific Par • Bescheinigt Durch: Amanda Aguirre 6/28/2005
Certification Technician

Amanda Aguirre

MTN 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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc109677.tif (1703x2202x2 tiff) [4]

mc109677.tif (1704x2236x2 tiff) [5]

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

mc110171.tif (1709x2201x2 tiff)

6327

G.O.CARLSON Inc
Producers of Stainless Steel, Nickel Alloys and Titanium
THORNDALE, PA. 19372

DATE: 07-Dec-95 GOC: 88022

TEST CERTIFICATE

**** SOLD TO: ****

JOSEPH T RYERSON & SON
P O BOX 16445
DENVER CO 80216

**** SHIP TO: ****

EATON METAL PRODUCTS
844 S CHESTNUT
SALT LAKE CITY UT 84104

CUSTOMER ORDER #
25WX903593

CUSTOMER MARK #
25WX9035930101/2016633

****
C 625 BB HOT ROLLED, ANNEALED, DESCALED
UNS N06625; PLATE
ASME SB443, GRADE 1, ASME B&PV CODE SECTION II, 1992 EDITION, 1994 ADDENDA.
****

ITEM DESCRIPTION MARK: 25WX9035930101/2016633
1 1.625 x 58 x 157

	Qty	Heat/Slab	Test Dir	Yield-.2% PSI	Tensile PSI	Elong-2in %
795	1	5L211-1A	TT	76970	141310	42.45

Materials produced under this order have not come into contact with Mercury or its compounds within G.O. Carlson, Inc. facilities.

No welding Performed

100% Melted, Rolled, and Manufactured in the U.S.A.

********** LADLE ANALYSIS **********

HEAT:	C	MN	P	S	SI	CR	NI	MO
5L211	0.036	0.035	0.007	0.000	0.100	22.325	61.160	8.985
	CBTA	FE	AL	TI	CO			
5L211	3.300	3.580	0.100	0.120	0.025			

Heat Treat Practice: 1850°F ± 25°F for 1 hour per inch of material thickness or 30 minutes, whichever is greater. Air cool.

Susan S. Haldeman
Susan S. Haldeman
Certification Administrator
G. O. Carlson, Inc.

I HEREBY CERTIFY THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN RECORDS OF THIS CORPORATION.

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____.

PAGE #

#3637

JUL 27 2005
RECEIVED
JUL 26 2005
MTM 017
98643 JH
Line 3

mc110171.tif (1709x2193x2 tiff) [2]

6327

METALS TECHNOLOGY, INC.
19801 Nordhoff Street
Northridge, California 91324
(818) 882-6414 (323) 873-7144 FAX: (818) 882-4490

CERTIFIED TEST REPORT NO. 329663 (Page 1 of 1) **5/28/2004**

CUSTOMER: HIGH TEMP METALS
P.O.: 1335
MATERIAL: 625
SPECS: SEE REMARKS

HEAT NO.: 5L211
PART NO.: 1.625 X 58 X 157 (1 PLATE)

***** TENSILE TEST RESULTS *****

TEMP	DIA. (in.)	AREA (in.²)	YIELD (lbs)	YIELD (ksi)	ULT (lbs)	ULT (ksi)	ELONG %	R.A. %
RT	.252	.0499	3800	76.0	6495	130	45	49
REQUIREMENTS								
RT				60.0		120.0	30.0	---

YIELD @ 0.2% OFFSET STRAIN RATE: .005 in./in./min GAGE: 1.0

***** CHEMISTRY *****

ELEMENT	VALUE
C	0.02
Mn	0.04
Si	0.10
P	0.006
S	0.001
Cr	21.97
Ni	61.03
Mo	9.50
Co	0.06
Cb	3.54
Ta	0.01
Cb+Ta	3.55
Ti	0.18
Al	0.16
Fe	3.36

NOTES: SPECTROGRAPHIC

***** REMARKS *****

SPECS: AMS 5599F, AMS 5666E, S400E, S1000E, EMS 95377A, ASTM-B-443-00, ASTM-B-446-00, NADCAP 0002, ASME-SB-443, ASME-SB-446

CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

TESTS LISTED ABOVE
MEET SPECIFICATION REQUIREMENTS

MTI VENDOR CODE T5001

RESPECTFULLY SUBMITTED,

J.A. Baxter 5-28-04

J.A. BAXTER, V.P. OF OPERATIONS
METALS TECHNOLOGY, INC.

mc110171.tif (1709x2207x2 tiff) [3]

6327

G.O.CARLSON Inc.
Producers of Stainless Steel, Nickel Alloys and Titanium
THORNDALE, PA. 19372

DATE: 07-Dec-95 GOC: 88022

T E S T C E R T I F I C A T E

**** SOLD TO: ****

JOSEPH T RYERSON & SON
P O BOX 16445
DENVER CO 80216

**** SHIP TO: ****

EATON METAL PRODUCTS
844 S CHESTNUT
SALT LAKE CITY UT 84104

CUSTOMER ORDER #
25WX903593

CUSTOMER MARK #
25WX9035930101/2016633

****

C 625 BB HOT ROLLED, ANNEALED, DESCALED
UNS N06625; PLATE
ASME SB443, GRADE 1, ASME B&PV CODE SECTION II, 1992 EDITION, 1994 ADDENDA.

****

ITEM DESCRIPTION MARK: 25WX9035930101/2016633
1 1.625 x 58 x 157

	Qty	Heat/Slab	Test Dir	Yield-.2% PSI	Tensile PSI	Elong-2in %
795	1	5L211-1A	TT	76970	141310	42.45

Materials produced under this order have not come into contact with Mercury or its compounds within G.O. Carlson, Inc. facilities.

No Weldins Performed

100% Melted, Rolled, and Manufactured in the U.S.A.

********** L A D L E A N A L Y S I S **********

HEAT:	C	MN	P	S	SI	CR	NI	MO
5L211	0.036	0.035	0.007	0.000	0.100	22.325	61.160	8.985
	CBTA	FE	AL	TI	CO			
5L211	3.300	3.580	0.100	0.120	0.025			

Heat Treat Practice: 1850°F ± 25°F for 1 hour per inch of material thickness or 30 minutes, whichever is greater. Air cool.

Susan S. Haldeman
Susan S. Haldeman
Certification Administrator
G. O. Carlson, Inc.

I HEREBY CERTIFY THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN RECORDS OF THIS CORPORATION.

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____.

PAGE # 1

#3637

mc110171.tif (1708x2213x2 tiff) [4]

6327

METALS TECHNOLOGY, INC.
19801 Nordhoff Street
Northridge, California 91324
(818) 882-6414 (323) 873-7144 FAX: (818) 882-4490

CERTIFIED TEST REPORT NO. 329663 (Page 1 of 1) **5/28/2004**

CUSTOMER: HIGH TEMP METALS
P.O.: 1335
MATERIAL: 625
SPECS: SEE REMARKS

HEAT NO.: 5L211
PART NO.: 1.625 X 58 X 157 (1 PLATE)

***** TENSILE TEST RESULTS *****

TEMP	DIA. (in.)	AREA (in.²)	YIELD (lbs)	YIELD (ksi)	ULT (lbs)	ULT (ksi)	ELONG %	R.A. %
RT	.252	.0499	3800	76.0	6495	130	45	49
REQUIREMENTS								
RT				60.0		120.0	30.0	---

YIELD @ 0.2% OFFSET STRAIN RATE: .005 in./in./min GAGE: 1.0

***** CHEMISTRY *****

ELEMENT	VALUE
C	0.02
Mn	0.04
Si	0.10
P	0.006
S	0.001
Cr	21.97
Ni	61.03
Mo	9.50
Co	0.06
Cb	3.54
Ta	0.01
Cb+Ta	3.55
Ti	0.18
Al	0.16
Fe	3.36

NOTES: SPECTROGRAPHIC

***** REMARKS *****

SPECS: AMS 5599F, AMS 5666E, S400E, S1000E, EMS 95377A, ASTM-B-443-00, ASTM-B-446-00, NADCAP 0002, ASME-SB-443, ASME-SB-446

CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE LABORATORY.

TESTS LISTED ABOVE
MEET SPECIFICATION REQUIREMENTS

MTI VENDOR CODE T5001

RESPECTFULLY SUBMITTED,

5-28-04

J.A. BAXTER, V.P. OF OPERATIONS
METALS TECHNOLOGY, INC.

Quality Assurance Documentation for Part ID: SE120-014-FJS - Item: 161

Workorder: 65678/2-0 Sub:193 Op:60

Part: SE120-014-FJS - - VVSA 120 DEGREE VESSEL

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	⌖ Ø.25Ⓜ A B C PORT FJS POSITION	LASER	QA		J-1280	0.230	522-R.D 07-05-06			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)		⌓ 0.375 FINAL SPACER PROFILE	LASER	QA		J-1280	-0.076 / +0.177	522-R.D 07-05-06			A
* (30)		SPACER MAGNETIC PERMEABILITY 1.02 Mu MAX	MASTER GAGE	QA		J-1270	LESS THAN 1.02	522-R.D 07-05-06			A
* (40)		SPACER INTERIOR SURFACE FINISH 32 MICRO-INCH RA	PROFILOMETER	QA		J-1308	8-26	522-R.D 07-05-06			A
* (50)		SPACER WALL THICKNESS 0.375 +0.04/-0	UT THICKNESS GA UT CAL BLOCK	QA		J-1009-NDT J-1157	0.376 / 0.402	522-R.D 07-05-06			A

4959

COOPERHEAT MQS

MQS Inspection

10520 Chester Road
Woodlawn, Ohio 45215

CLIENT	INTERPRETER/LEVEL	RADIOGRAPHER	JOB NO	P.O. NO	DATE
Major Tool + Machine	Robert Weaver / II	Robert Weaver	13850291	N/A	11/7/05

ISOTOPE/X-RAY	DIA. X LEN/KV	CURIES/MA	FOCAL SPOT SIZE	SFD	SOD	TIME	FILM PROCESSING	FILM TYPE	FILM TECHNIQUE	PB SCREENS
IR192	.118"x.079"	72	.142"	15"	13.375"	13:00	Auto	Kodak MX125	Double	.010"

WELD PROCESS	MATERIAL SPEC.	MATERIAL DIAMETER	MATERIAL THICKNESS	PENETRAMETER	SHIM	ACCEPTANCE STANDARD
GTAW	625 Inconel	N/A	1.625"	ASTM 1B	N/A	ASME VIII, Div. 1, UW-51

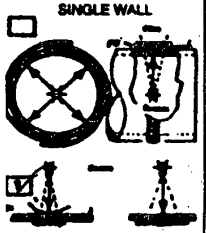
DESCRIPTION
65678/2.0/219/30/818
SE121-013-1
page 1 of 1

REMARKS

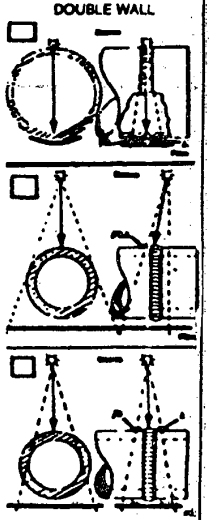
FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRAMETER SIZE	PENETRAMETER QUALITY LEVEL	SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT-THROUGH	BURN-THROUGH	CRATER-PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
W1	A-B	D.J.	1B	.032"																							✓	
W2	A-B	↓	↓	↓																							✓	

End View | Side View

SINGLE WALL



DOUBLE WALL



P Penetrameter
S Shim
L Location Marker
( ) OTHER

Robert Weaver 655514/II
Cooperheat-MQS Signature

Customer Representative Signature

11/7/05
Date

mc113900.tif (2543x3338x2 tiff)

Quality Assurance Documentation for Part ID: SE121-014 PORT - Item: 163

Workorder: 65678/2-0 Sub:193 Op:15

Part: SE121-014 PORT - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (100)		VWI - ROOT PASS WELD PSV		MFG CWI		VISUAL	GOOD	358-D.M 04-04-06	933-D.L 04-04-06		A
* (120)		VWI - COVER PASS WELD PSV		MFG CWI		VISUAL	GOOD	358-D.M 04-06-06	933-D.L 04-06-06		A

Major Tool and Machine, Inc. 1458 East 19th Street, Indianapolis, IN 46218 (317)636-6433 Fax (317)634-9420

Quality Assurance Documentation for Part ID: SE121-014 S10-S6 SUB-SET - Item: 164

Workorder: 65678/2-0 Sub:206 Op:30

Part: SE121-014 S10-S6 SUB-SET - - VVSA 120 DEGREE VESSEL

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 S10-S6		CWI				01-26-06	01-26-06		

Quality Assurance Documentation for Part ID: SE121-014 S10-S6 SUB-SET - Item: 165

Workorder: 65678/2-0 Sub:206 Op:130

Part: SE121-014 S10-S6 SUB-SET - - VVSA 120 DEGREE VESSEL

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 S10		CWI				01-30-06	01-30-06		

Quality Assurance Documentation for Part ID: SE121-014 S10-S6 SUB-SET - Item: 166

Workorder: 65678/2-0 Sub:206 Op:150

Part: SE121-014 S10-S6 SUB-SET - - VVSA 120 DEGREE VESSEL

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 INTERIOR COVER PASS WELD S10-		CWI				01-30-06	01-30-06		

Quality Assurance Documentation for Part ID: SE121-014 S10-S6-S7 SUB-SET - Item: 167

Workorder: 65678/2-0 Sub:205 Op:30

Part: SE121-014 S10-S6-S7 SUB-SET - - VVSA 120 DEGREE VESSEL

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 S6-S7		CWI				01-26-06	01-26-06		

Quality Assurance Documentation for Part ID: SE121-014 S10-S6-S7 SUB-SET - Item: 168

Workorder: 65678/2-0 Sub:205 Op:150

Part: SE121-014 S10-S6-S7 SUB-SET - - VVSA 120 DEGREE VESSEL

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 PEWR SPEC.	093-M.S	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD S6-		CWI				01-30-06	01-30-06		

Quality Assurance Documentation for Part ID: SE121-014 S10-S6-S7 SUB-SET - Item: 169

Workorder: 65678/2-0 Sub:205 Op:130

Part: SE121-014 S10-S6-S7 SUB-SET - - VVSA 120 DEGREE VESSEL

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 S6-		CWI				01-30-06	01-30-06		

Quality Assurance Documentation for Part ID: SE121-014 S8-S9 SUB-SET - Item: 170

Workorder: 65678/2-0 Sub:209 Op:30

Part: SE121-014 S8-S9 SUB-SET - - VVSA 120 DEGREE VESSEL

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 DRAWING & REQUIE	683-K.M	933-D.L		A
(10)		VWI ROOT PASS WELD S8-S9		CWI			ENTS	02-02-06	02-02-06		

Quality Assurance Documentation for Part ID: SE121-014 S8-S9 SUB-SET - Item: 171

Workorder: 65678/2-0 Sub:209 Op:130

Part: SE121-014 S8-S9 SUB-SET - - VVSA 120 DEGREE VESSEL

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		A
(20)		VWI EXTERIOR COVER PASS WELD S8-		CWI				02-02-06	02-03-06		

Quality Assurance Documentation for Part ID: SE121-014 S8-S9 SUB-SET - Item: 172

Workorder: 65678/2-0 Sub:209 Op:150

Part: SE121-014 S8-S9 SUB-SET - - VVSA 120 DEGREE VESSEL

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	933-D.L		A
(20)		VWI INTERIOR COVER PASS WELD S8-		CWI				02-02-06	02-03-06		

Quality Assurance Documentation for Part ID: SE121-014 - Item: 173

Workorder: 65678/2-0 Sub:193 Op:12

Part: SE121-014 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD SFA		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 03-14-06	053-M.D 03-14-06		A
* (20)		VWI ROOT PASS WELD SFB		MFG CWI		VISUAL	ACCEPTABLE	728-R.D 03-14-06	053-M.D 03-15-06		A
* (110)		VWI EXTERIOR COVER PASS WELD SF		MFG CWI		VISUAL	GOOD	358-D.M 03-15-06	933-D.L 03-15-06		A
* (120)		VWI EXTERIOR COVER PASS WELD SF		MFG CWI		VISUAL	GOOD	358-D.M 03-15-06	933-D.L 03-15-06		A

Quality Assurance Documentation for Part ID: SE121-014 - Item: 174

Workorder: 65678/2-0 Sub:193 Op:13

Part: SE121-014 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-014 Rev: 1C			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY		
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT
*		⌓ 0.375		QA						
		SPACER PROFILE								
(10)		(INCL. FLANGES, PARTIALLY WELDED								

Quality Assurance Documentation for Part ID: SE121-014 - Item: 175

Workorder: 65678/2-0 Sub:193 Op:14

Part: SE121-014 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI INTERIOR COVER PASS WELD SFA		MFG CWI		VISUAL	GOOD	358-D.M 03-20-06	933-D.L 03-20-06		A
* (20)		VWI INTERIOR COVER PASS WELD SFB		MFG CWI		VISUAL	GOOD	358-D.M 03-20-06	933-D.L 03-20-06		A
* (30)		VWI INTERIOR COVER PASS WELD S7-		MFG CWI		VISUAL	GOOD	358-D.M 03-20-06	933-D.L 03-20-06		A
* (40)		VWI INTERIOR COVER PASS WELD S9-		MFG CWI		VISUAL	GOOD	358-D.M 03-20-06	933-D.L 03-20-06		A

mc118510.tif (3337x2544x2 tiff)

COOPERHEAT MQS

4959

10520 Chester Road
Woodlawn, Ohio 45215

CLIENT	INTERPRETER/LEVEL	RADIOGRAPHER	JOB NO	P.O. NO	DATE
Major Tool + Machine	Robert Weaver/II	Robert Weaver	13860001	N/A	4/27/06

ISOTOPE/X-RAY	DIA. X LEN/KV	CURIES/MA	FOCAL SPOT SIZE	SFD	SOD	TIME	FILM PROCESSING	FILM TYPE	FILM TECHNIQUE	PB SCREENS
IR192	.118"x.089"	40	.148"	15"	14.625"	2:00	Auto	Kodak AA	Double	~~.005~~ .010"

WELD PROCESS	MATERIAL SPEC.	MATERIAL DIAMETER	MATERIAL THICKNESS	PENETRAMETER	SHIM	ACCEPTANCE STANDARD
GTAW	625 / Inconel	N/A	.375"	ASTM 1B	N/A	ASME VIII, Div. 1, UW-51

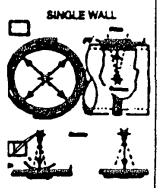
DESCRIPTION
65678/2.0/193/25/818
SE121-014 rev. 1C

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

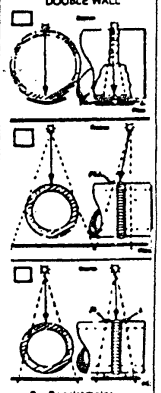
FITTING, SEAM OR FITTING	FILM INTERVAL NUMBER	WELDER IDENTIFICATION	PENETRAMETER SIZE	PENETRAMETER QUALITY LEVEL	SLAG	POROSITY	POROSITY WITH TAIL	CRACK	LACK OF PEN	LACK FUSION	INTERNAL CONVEXITY	INTERNAL CONCAVITY	TUNGSTEN	MELT-THROUGH	BURN-THROUGH	CRATER-PIT	OXIDATION	INTERNAL UNDERCUT	EXTERNAL UNDERCUT	ALIGNED INDICATIONS	WELD CONTOUR	MIS-MATCH	FILM ARTIFACT	VISUAL CONCERNS	FILM DENSITY	SEE REMARKS	ACCEPT	REJECT
1	0-1	N/A	1B	.010"		✓																					✓	
2						✓																					✓	
3																											✓	
4						✓																					✓	

End View | Side View

SINGLE WALL



DOUBLE WALL



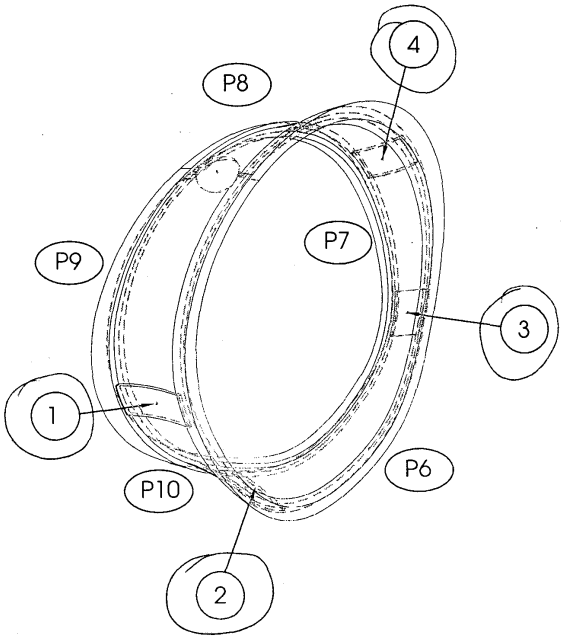
P Penetrameter
S Shim
L Location Marker
( ) OTHER

Robert Weaver 655514/II
Cooperheat-MQS Signature

Douglas D. Edwards
Customer Representative Signature

4/27/06
Date

Rev	By	Date	Description
0A	LAK	8/9/05	for Initial Release
1A	LAK	8/11/05	added flanges and trimmed films



Item No.	Film Number	Center Point	Location	Comment
1	p9-p10	(35.25,47.79,-14.21)		
2	p10-p6	(24.78,33.40,-10.21)		
3	P6-P7	(16.54,38.16,10.21)		
4	p7-p8	23.77,54.42,14.21)		

CDCP, Inc

Spacer X-Ray
Film Layout

Size: Dwg. No: C SE120-002-1-SXMTM Rev: 1A

Scale: 1:6 Weight: Sht 1 of 1

65678/2.0/193/25/818
SE121-014 rev. 1C
4/27/06
page 2 of 2

mc118510.tif (3334x2544x2 tiff) [2]

Quality Assurance Documentation for Part ID: SE121-014 - Item: 178

Workorder: 65678/2-0 Sub:199 Op:10

Part: SE121-014 - - VVSA 120 DEGREE VESSEL

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-4482	.009	231-B.B 05-24-06			A
1* (20)	D8	▱ 0.010	INDICATOR	MFG		P-4482	.0025	231-B.B 05-24-06			A
1* (30)	D7	(6.50) INTERPRET AS MINIMUM	CALIPER	MFG		P-5202	7.035	231-B.B 05-24-06			A

Quality Assurance Documentation for Part ID: SE121-014-1 - Item: 179

Workorder: 65678/2-0 Sub:194 Op:60

Part: SE121-014-1 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE120-004 Rev: 2			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		VWI ROOT PASS WELD S7-S8		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 02-07-06	933-D.L 02-08-06		A
* (20)		VWI ROOT PASS WELD S9-S10		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 02-07-06	933-D.L 02-08-06		A

Quality Assurance Documentation for Part ID: SE121-014-1 - Item: 180

Workorder: 65678/2-0 Sub:194 Op:160

Part: SE121-014-1 - - VVSA 120 DEGREE VESSEL

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 S7-		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 02-07-06	933-D.L 02-07-06		A
* (20)		VWI EXTERIOR COVER PASS WELD S9-		MFG CWI		VISUAL	OK PER SPEC.	093-M.S 02-07-06	933-D.L 02-07-06		A

Quality Assurance Documentation for Part ID: SE121-014-1 - Item: 181

Workorder: 65678/2-0 Sub:194 Op:180

Part: SE121-014-1 - - VVSA 120 DEGREE VESSEL

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 INTERIOR COVER PASS WELD S7-		MFG CWI						
* (20)		VWI INTERIOR COVER PASS WELD S9-		MFG CWI						

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestelldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
438174001-0	04/06/05	1525 REMAKE	20050921020	1 Of 4

HAYNES International

FILE COPY 2

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

Sold To • Client • Bestellaranschrift
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 Beshreibung
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	Quantity Ordered / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
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	1 PC	1 PC

Chemical Analysis • Analyse Chimique • Chemische Analyse

Heat Number / Numero De Coulee / Charge Nr	Al	B	C	Cb+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

	Cb(Nb)	Ta	Zr	Bi	Se	La	C+N-Cb/9	Pb	Mg	Y	Ag	N	Ca	Al+Ti	Ni+Co	Ni+Mo		
2650 5 6861	3.4866	<0.05															BUTT END *01	

Certified By • Certifie Par • Bescheinigt Durch: Penny Powell
Certification Technician

Penny E. Powell

9/21/2005

MTM 016

OCT 06 2005

Rec'd 100957
MB 04/06/05
Line 2

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.
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS

mc112435.TIF (1678x2195x2 tiff)

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestdldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
438174001-0	04/06/05	1525 REMAKE	20050921020	2 Of 4

HAYNES International

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

Sold To • Client • Bestellaranschrift

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 Beshreibung

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 Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
1 PC	1 PC

Tensile Test at Room Temperature • Essai De Traction A Temp. Ambiante • Zugversuch Bei Raum 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 %RA	
128000 PSI	(L)	75000 PSI	45 %	57 %	(1)(A)
126000 PSI	(T)	76000 PSI	44 %	52 %	(1)(A)

Tensile Test at Elevated Temperature • Essai De Traction A Hte.Temp. Warm Zugversuch

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 %RA	

Stress Rupture Temperature • Essai A Charge De Rupture Zeitstandversuch

Test Essai Versuch Temp:	Stress Constrainte Spannung	Hours Heures Stunden	% Elong In % Allong EN % Dehnung	% RA % RA	

Certified By • Certifie Par • Bescheinigt Durch: Penny Powell 9/21/2005 (1) 2743817491
Certification Technician

Penny E. Powell

MTM 016

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 SPECIFICATION(S), MODIFIED BY ANY EXCEPTIONS OR PURCHASE ORDER REQUIREMENTS
THE RECORDING OF FALSE, FICTICIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FEDERAL STATUES INCLUDING FEDERAL LAW, TITLE 18, CHAPTER 47. THIS DOCUMENT SHALL NOT BE REPORDUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN CONSENT OF HAYNES INTERNATIONAL, INC
SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS.

mc112435.TIF (1725x2192x2 tiff) [2]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No / Reference Commande / Bestellungs Nr	Date Entered / Date De Commande / Bestelldatum	Customer Reference / Reference Client / Kundenbestdldaten	Report No. / Rapport No / Zeugnis Nr	Pages of Pages / Page de Pages / Anzahl der Seiten
438174001-0	04/06/05	1525 REMAKE	20050921020	3 Of 4

HAYNES International

FILE COPY 2

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

Sold To • Client • Bestellaranschrift
HIGH TEMP METALS INC
12910 SAN FERNANDO RD
SYLMAR
CA 91342 USA

Ship To • Destinataire • Bestellmenge
MAJOR TOOL AND MACHINE
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Product Description • Description Produit • Material Beshreibung
1.520 x 60 x 160
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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 / Quantie Commandee / Bestellemenge	Quantity Shipped / Quantitie Expediee / Liefermenge
1 PC	1 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 Rupture					
			Grain Size	Predominant Grain Size	Recry. Grain	Unrecry. Grain %	ALA	P&W Figure Number	Attack Depth		Corrosion MPY	Test Method		Toughness Avg Ft. Lbs.	Toughness 1 Ft. Lbs.	Toughness 2 Ft. Lbs.	Toughness 3 Ft. Lbs.	Test Essai Versuch Temp:	Stress Constrainte Spannung PSI	Hours Heures Stunden	% Elong in % Allong EN % Dehnung	% Elong @ 15 Hrs	
98 HRB		(1)(A)	5.5																				

Certified By • Certifie Par • Bescheinigt Durch: Penny Powell
Certification Technician

Penny E. Powell

9/21/2005

(1) 2743817491

MTM 016

OCT 06 2005

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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS

mc112435.TIF (1663x2190x2 tiff) [3]

CERTIFICATION OF TESTS • RAPPORT D'ESSAIS CERTIFIE • WERKSZEUGNIS

Sales Order No Reference Commande Bestellungs Nr	Date Entered Date De Commande Bestelldatum	Customer Reference Reference Client Kundenbestelldaten	Report No. Rapport No Zeugnis Nr	Pages of Pages Page de Pages Anzahl der Seiten
438174001-0	04/06/05	1525 REMAKE	20050921020	4 Of 4

HAYNES International

FILE COPY 2

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

Sold To • Client • Bestellaranschrift

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 Beshreibung

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	Quantity Ordered Quantie Commandee Bestellemenge	Quantity Shipped Quantitie Expediee Liefermenge
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	1 PC	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 9/21/2005
Certification Technician

Penny E. Powell

MTM 016

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
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SPECIFICATION MARKING REQUIREMENTS MAY BE WAIVED ON ORDERS REQUIRING MULTIPLE MATERIAL SPECIFICATIONS

mc112435.TIF (1730x2198x2 tiff) [4]

Quality Assurance Documentation for Part ID: SE121-091 - Item: 184

Workorder: 65678/2-0 Sub:217 Op:25

Part: SE121-091 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-091 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	E6	1.00 +/- 0.01"	OD MICROMETER	QA		P-4933	1.0048	137-G.F 05-08-06			A
* (50)		⌓ 0.03" A B C	CMM	QA		00027	-0.0002 TO -0.0495	137-G.F 05-08-06			R
* (60)		⌓ 0.03" A B C	CMM	QA		00027	0.0001 TO -0.0499	137-G.F 05-08-06			R

Quality Assurance Documentation for Part ID: SE121-091 - Item: 185

Workorder: 65678/2-0 Sub:217 Op:30

Part: SE121-091 - - VVSA 120 DEGREE VESSEL

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 WE	933-D.L			A
							DS ACCEPTABLE PER				
							RAWING AND ROUTE				
(10)		VWI VESSEL BLANK OFF COVER WELD					EQUIREMENTS.	06-27-06			

Quality Assurance Documentation for Part ID: SE121-091 - Item: 186

Workorder: 65678/2-0 Sub:218 Op:25

Part: SE121-091 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-091 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
1* (10)	E6	1.00 +/- 0.01"	OD MICROMETER	QA		P-4933	1.0015	137-G.F 05-08-06			**A**
* (50)		⌓ 0.03" A B C	CMM	QA		00027	-0.0003 TO -0.0496	137-G.F 05-08-06			**R**
* (60)		⌓ 0.03" A B C	CMM	QA		00027	0.0001 TO -0.0498	137-G.F 05-08-06			**R**

Quality Assurance Documentation for Part ID: SE121-091 - Item: 187

Workorder: 65678/2-0 Sub:218 Op:30

Part: SE121-091 - - VVSA 120 DEGREE VESSEL

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 WE	933-D.L			A
							DS ACCEPTABLE PER				
							RAWING AND ROUTIN				
(10)		VWI VESSEL BLANK OFF COVER WELD					REQUIREMENTS.	06-26-06			

Quality Assurance Documentation for Part ID: SE121-095 - Item: 188

Workorder: 65678/2-0 Sub:220 Op:40

Part: SE121-095 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌓ 0.03" A B C	CMM	QA		194	ACCEPT	667-J.B 05-30-06			A
* (20)		⌓ 0.03" A B C	CMM	QA		194	ACCEPT	667-J.B 05-30-06			A

Quality Assurance Documentation for Part ID: SE121-095 - Item: 189

Workorder: 65678/2-0 Sub:232 Op:40

Part: SE121-095 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌓ 0.03" A B C	CMM	QA		194	+ 0.01500 / -0.0039 0 TOTAL RANGE 0.018 90	667-J.B 05-15-06			A
* (20)		⌓ 0.03" A B C	CMM	QA		194	+ 0.01500 / -0.0039 0 TOTAL RANGE 0.018 90	667-J.B 05-15-06			A

Quality Assurance Documentation for Part ID: SE121-099 - Item: 190

Workorder: 65678/2-0 Sub:224 Op:40

Part: SE121-099 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌓ 0.03" A B C	CMM	QA		00064	ID +0.01-0.039	212-J.LE 03-06-06			R
* (20)		⌓ 0.03" A B C	CMM	QA		00064	OD-0.007-0.038	212-J.LE 03-06-06			R

Quality Assurance Documentation for Part ID: SE121-099 - Item: 191

Workorder: 65678/2-0 Sub:226 Op:40

Part: SE121-099 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (10)		⌓ 0.03" A B C	CMM	QA		00064	ID -0.002-0.031	212-J.LE 03-06-06			R
* (20)		⌓ 0.03" A B C	CMM	QA		00064	OD -0.008-0.035	212-J.LE 03-06-06			R

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 192

Workorder: 65678/2-0 Sub:220 Op:10

Part: SE121-099-1 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		0.188 +0.045 / - 0.010" MATERIAL THICK	OD MICROMETER	QA		P-4808	.188/.189	503-B.H 12-28-05			A

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 193

Workorder: 65678/2-0 Sub:224 Op:10

Part: SE121-099-1 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-099 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		0.188 +0.045 / - 0.010" MATERIAL THICK	OD MICROMETER	QA		P-4808	.198/.203	503-B.H 12-19-05			A

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 194

Workorder: 65678/2-0 Sub:226 Op:10

Part: SE121-099-1 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-099 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		0.188 +0.045 / - 0.010" MATERIAL THICK	OD MICROMETER	QA		P-4808	.198/.203	503-B.H 12-19-05			A

Quality Assurance Documentation for Part ID: SE121-099-1 - Item: 195

Workorder: 65678/2-0 Sub:232 Op:10

Part: SE121-099-1 - - VVSA 120 DEGREE VESSEL

Drawing ID: SE121-095 Rev: 0			INSPECTION INSTRUCTIONS			RESULTS		INSPECTED BY			
SHEET	ZONE	CHARACTERISTIC	GAGE/EQUIP	BY	SAMPLE	SER#	DATA/REMARKS	INSP	VERFD	AUDIT	
* (20)		0.188 +0.045 / - 0.010" MATERIAL THICK	OD MICROMETER	QA		P-4808	.186/.187	503-B.H 04-03-06			A

Quality Assurance Documentation for Part ID: SE122-007-3 - Item: 196

Workorder: 65678/2-0 Sub:153 Op:10

Part: SE122-007-3 - - VVSA 120 DEGREE VESSEL

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

Quality Assurance Documentation for Part ID: SE124-047 - Item: 197

Workorder: 65678/2-0 Sub:230 Op:10

Part: SE124-047 - - VVSA 120 DEGREE VESSEL

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 - ROOT PASS WELD HALF -A- BOSS A		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (40)		VWI - COVER PASS WELD HALF -A- BOSS A		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A
* (60)		VWI - ROOT PASS WELD HALF -A- BOSS B		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (80)		VWI - COVER PASS WELD HALF -A- BOSS B		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A
* (100)		VWI - ROOT PASS WELD HALF -A- BOSS C		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (120)		VWI - COVER PASS WELD HALF -A- BOSS C		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A
* (140)		VWI - ROOT PASS WELD HALF -A- BOSS D		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (160)		VWI - COVER PASS WELD HALF -A- BOSS D		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A

* (180)		VWI - ROOT PASS WELD HALF -B- BOSS A		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (200)		VWI - COVER PASS WELD HALF -B- BOSS A		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A
* (220)		VWI - ROOT PASS WELD HALF -B- BOSS B		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (240)		VWI - COVER PASS WELD HALF -B- BOSS B		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A
* (260)		VWI - ROOT PASS WELD HALF -B- BOSS C		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (280)		VWI - COVER PASS WELD HALF -B- BOSS C		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A
* (300)		VWI - ROOT PASS WELD HALF -B- BOSS D		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS AND SPE FICATIONS	683-K.M 03-07-06	053-M.D 03-07-06		A
* (320)		VWI - COVER PASS WELD HALF -B- BOSS D		MFG CWI		VISUAL	ACCEPT PER CUSTOM DRAWINGS & SPECIFI CATIONS	683-K.M 03-14-06	053-M.D 03-14-06		A

Quality Assurance Documentation for Part ID: SE124-047 - Item: 198

Workorder: 65678/2-0 Sub:230 Op:20

Part: SE124-047 - - VVSA 120 DEGREE VESSEL

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)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS A FINAL	LASER	QA		J-1280	.021	339-E.R 04-21-06			A
* (40)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS B FINAL	LASER	QA		J-1280	0.29	339-E.R 04-21-06			R
* (60)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS C FINAL	LASER	QA		J-1280	0.16	339-E.R 04-21-06			A
* (80)		⌖ .25 A B C Ⓟ 17" HALF -A- BOSS D FINAL	LASER	QA		J-1280	0.37	339-E.R 04-21-06			A
* (100)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS A FINAL	LASER	QA		J-1280	0.24	339-E.R 04-21-06			A
* (120)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS B FINAL	LASER	QA		J-1280	0.24	339-E.R 04-21-06			A
* (140)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS C FINAL	LASER	QA		J-1280	0.43	339-E.R 04-21-06			R
* (160)		⌖ .25 A B C Ⓟ 17" HALF -B- BOSS D FINAL	LASER	QA		J-1280	0.68	339-E.R 04-21-06			R

Employees: 053-M.Dunn / 093-M.Stewart / 137-G.Ford / 197-T.Fischer / 212-J.Lehr / 216-J.Sandoval / 231-B.Blankenberger / 261-T.Dunn / 299-M.Gregory / 313-R.Bachek / 339-E.Root / 358-D.Mcnew / 503-B.Houk / 522-R.Durham / 557-P.Wilson / 576-J.Geisinger / 581-D.Edwards / 667-J.Bannister / 683-K.Mcnew / 709-K.Appleby / 728-R.Dalton / 763-R.Miethe / 771-B.Schultz / 789-D.Williams / 791-D.Weidner / 837-J.Deverter / 840-G.Masood / 854-R.Upchurch / 933-D.Leapley

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851

mc095629.pdf

DATE 01/13/04

CERTIFICATION OF TESTS

SOLD TO:
MAJOR TOOL & MACHINE, INC.
1458 EAST 19TH STREET
INDIANAPOLIS, IN 46218

SHIP TO:
SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79698	P04-00127	N/A	1/13/04

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
1	3/32 X 36"	ARCOS 625	CB7996	20#

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
0.04	0.03	0.08	0.004	0.01	21.9	64.9	8.7		3.64
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.21	0.16	0.02	0.12	0.2		<.50		

ADDITIONAL TEST RESULTS

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

2004

82372 Line 1

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

1/20/04

Q.A. MANAGER
QUALITY ASSURANCE DEPARTMENT

mc095872.tif (1596x2164x2 tiff)

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851

DATE 01/08/04

CERTIFICATION OF TESTS

SOLD TO:
MAJOR TOOL & MACHINE, INC.
1458 EAST 19TH STREET
INDIANAPOLIS, IN 46218

SHIP TO:
SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79533	P03-05170	N/A	1/8/04

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
1	3/32 X 36"	ARCOS 625	CB7996	20#

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
0.04	0.03	0.08	0.004	0.01	21.9	64.9	8.7		3.64
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.21	0.16	0.02	0.12	0.2		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____
Magna Gage: _____
X-Ray: _____
Bends: _____
Hardness: _____

TENSILE **As Welded** **Heat Treated**

Yield _____ _____
Tensile _____ _____
Elongation _____ _____
Red.of Area _____ _____

OTHER INFORMATION:

LOT CLASSIFICATION - S1
INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

Eileen Zerby Q.A. CLERK
QUALITY ASSURANCE DEPARTMENT

MTM 016
1-23-04

JAN 14 2004

82755
line 2

mc075605.tif (1551x2059x2 tiff)

ARCOS ALLOYS
A Division of Hoskins Mfg.
Mt. Carmel, PA 17851

DATE 01/10/00

CERTIFICATION OF TESTS

SOLD TO:
MAJOR TOOL & MACHINE
1458 EAST 19TH STREET
INDIANAPOLIS, IN 46216

SHIP TO:
SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
69824	P0000110	N/A	1/10/00

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
1	3/32 X 36"	ARCOS 625	CT7519	20#

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3
ASME SFA 5.14 ASME SECTION II, PART C, 1998
EDITION, AND ALL PARAS AND ADDENDA THRU 1999.

CHEMICAL ANALYSIS: WIRE

C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8.8		3.68
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.35	0.28	0.04	0.05	0.4		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____

Magna Gage: _____

X-Ray: _____

Bends: _____

Hardness: _____

TENSILE	**As Welded**	**Heat Treated**
Yield		
Tensile		
Elongation		
Red.of Area		

OTHER INFORMATION:
LOT CLASSIFICATION - S1
INTENSITY OF TESTING - Schedule F

MTM 014
JAN 14 2000
39771
1-18-00 BC

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos Alloys or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

Eileen Zerby Q.A. CLERK
QUALITY ASSURANCE DEPARTMENT

mc107551.tif (1697x2202x2 tiff)

BRANFORD WIRE & MFG
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: 028788/02
CUSTOMER PART NBR 326504200240000

PROD DESC WELDING / METALLIZING WIRE
SIZE 093X36"

TYPE INC625
QTY LBS 772

SPECIFICATION
AWBA5 14-97/ERNICRMO-3

CHEMICAL ANALYSIS

HEAT NBR	C	MN	P	S	SI	NI	CR	MO	CU
K48859	0 019	0 030	< 005	0006	<0 05	65 00	20 ,82	08 36	0 020

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

MECHANICAL PROPERTIES

TENSILE LBS/SQ INCH	YIELD LBS/SQ INCH	ELONGATION %	HARDNESS		BREAK IRON %
HARD					

WRAP TEST	UNIFORM TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

OTHER TEST(S) AND/OR REQUIREMENTS 4/18/05 95358 Line 2 WA MTM 09

(MATERIAL IS FREE OF MERCURY CONTAMINATION)
THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P O

COUNTRY OF ORIGIN	REPRESENTATIVE	DATE SIGNED
GERMANY		4/06/05

IF INITIALED AND DATED HERE_____THIS IS AN AMENDED CERTIFICATION

mc075552.tif (1566x2068x2 tiff)

ARCOS ALLOYS
A Division of Hoskins Mfg.
Mt. Carmel, PA 17851

DATE 01/10/00

CERTIFICATION OF TESTS

SOLD TO:
MAJOR TOOL & MACHINE
1458 EAST 19TH STREET
INDIANAPOLIS, IN 46216

SHIP TO:
SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
69824	P0000110	N/A	1/10/00

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
1	3/32 X 36"	ARCOS 625	CT7519	20#

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3
ASME SFA 5.14 ASME SECTION II, PART C, 1998
EDITION, AND ALL PARAS AND ADDENDA THRU 1999.

CHEMICAL ANALYSIS: WIRE

C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.0	0.01	0.01	0.002	0.00	22.4	63.9	8.8		3.68
Ta	**Ti**	**Al**	**Co**	**Cu**	**Fe**	**V**	**Total Others**		
	0.35	0.28	0.04	0.05	0.4		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____
Magna Gage: _____
X-Ray: _____
Bends: _____
Hardness: _____

TENSILE	**As Welded**	**Heat Treated**
Yield		
Tensile		
Elongation		
Red.of Area		

OTHER INFORMATION:
LOT CLASSIFICATION - S1
INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos Alloys or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

MTM 014

1-24-00

Eileen Zerby Q.A. CLERK
QUALITY ASSURANCE DEPARTMENT

mc108429.tif (1765x2111x2 tiff)

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	<0.05	65.00	20.82	08.36	0.020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
	0.020	0.019	03.43	0.220		0.130	01.91			

MECHANICAL PROPERTIES

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

WRAP TEST	UNIFORM. TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

MAY 24 2005

OTHER TEST(S) AND/OR REQUIREMENTS:

96405 Line 3 BJ

(MATERIAL IS FREE OF MERCURY CONTAMINATION)
THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P.O.

COUNTRY OF ORIGIN	Q. C. REPRESENTITIVE		DATE SIGNED
GERMANY		MTM 09	3/21/05

IF INITIALED AND DATED HERE

mc106871.tif (1660x2192x2 tiff)

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	<0.05	65.00	20.82	08.36	0.020

Y	TA	TI	NB	AL	N	CO	FE	W	V	B
	0.020	0.019	03.43	0.220		0.130	01.91			

MECHANICAL PROPERTIES

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

WRAP TEST	UNIFORM. TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

04.01.2005

OTHER TEST(S) AND/OR REQUIREMENTS:

94843 ns
Line 1 50 tubes

(MATERIAL IS FREE OF MERCURY CONTAMINATION)
THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P.O.

COUNTRY OF ORIGIN	Q. C. REPRESENTITIVE	DATE SIGNED
GERMANY	Dayle Crang MTM 09 4/4/05	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

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

MTM 023

12/5/03 Eileen Zerby Q.A. CLERK
QUALITY ASSURANCE DEPARTMENT

81506
Line 2 RJ

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851

MC095280

DATE 12/19/03

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
79533	P03-05170	N/A	12/19/03

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
2	3/32 X 36"	ALLOY 625	CV8061	10#

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	0.02	0.13	0.004	0.00	21.5	64.6	9.0		3.75
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.29	0.24	0.02	0.11	0.2		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____
Magna Gage: _____
X-Ray: _____
Bends: _____
Hardness: _____

TENSILE	**As Welded**	**Heat Treated**
Yield		
Tensile		
Elongation		
Red.of Area		

OTHER INFORMATION:
LOT CLASSIFICATION - S1
INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

DEC 23 2003

MTR 023

12/23/03

Q.A. MANAGER
QUALITY ASSURANCE DEPARTMENT

81946
line 2 B.J.

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851

mc094944.pdf

DATE 11/26/03

CERTIFICATION OF TESTS

SOLD TO:
MAJOR TOOL & MACHINE, INC.
1458 EAST 19TH STREET
INDIANAPOLIS, IN 46218

SHIP TO:
SAME

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79388	P03-04749	N/A	11/26/03

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	QUANTITY
1	1/16 X 36"	ARCOS 625	AB8051	30#

SPECIFICATION: AWS A5.14/A5.14M-97. CLASS ERNiCrMo-3
ASME SFA 5.14 ASME SECTION II, PART C, 2001 EDITION.
AND ALL PARAS AND ADDENDA THRU 2002.

CHEMICAL ANALYSIS: WIRE

C	Mn	Si	S	P	Cr	Ni	Mo	Cb	Cb + Ta
0.02	0.01	0.06	0.001	0.01	22.2	64.3	9.1		3.56
Ta	Ti	Al	Co	Cu	Fe	V	Total Others		
	0.22	0.12	0.03	0.01	0.4		<.50		

ADDITIONAL TEST RESULTS

Ferrite - NB2433.1-1: _____

Magna Gage: _____

X-Ray: _____

Bends: _____

Hardness: _____

TENSILE	As Welded	Heat Treated
Yield		
Tensile		
Elongation		
Red.of Area		

OTHER INFORMATION:
LOT CLASSIFICATION - S1
INTENSITY OF TESTING - Schedule F

THIS MATERIAL IS FREE FROM MERCURY, RADIUM OR ALPHA PARTICLE CONTAMINATION.

We hereby affirm that the reported results on this certification are correct and accurate. All test and results and operations performed by Arcos or its subcontractors are in compliance with the applicable material/customer specification.

ARCOS

Eileen Zerby Q.A. CLERK
QUALITY ASSURANCE DEPARTMENT

81505
Line 1
R. 7

12/5/03

ARCOS INDUSTRIES, LLC
ONE ARCOS DRIVE
Mt. Carmel, PA 17851

mc095279

DATE 12/19/03

CERTIFICATION OF TESTS

SOLD TO:
MAJOR TOOL & MACHINE, INC.
1458 EAST 19TH STREET
INDIANAPOLIS, IN 46218

SHIP TO:
MAJOR TOOL & MACHINE
1452 EAST 19th Street
Indianapolis, IN 46218

ARCOS S.O.	CUSTOMER ORDER NO.	CONSIGNEE ORDER NO.	DATE SHIPPED
79533	P03-05170	N/A	12/19/03

ITEM	SIZE	GRADE	LOT NO./ALLOY NO.	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

Q.A. MANAGER
QUALITY ASSURANCE DEPARTMENT

81947
line 61

mc108415.tif (1807x2280x2 tiff)

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/ERNICRMO-3

CHEMICAL ANALYSIS

HEAT NBR.	C	MN	P	S	SI	NI	CR	MO	CU
34932	0.016	0.030	0.004	.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
	03.45	0.230		0.080			0.760			

MECHANICAL PROPERTIES

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

WRAP TEST	UNIFORM. TEST	MANDREL TEST	GRAIN SIZE	PERMEABILITY

RECEIVED MAY 24 2005

OTHER TEST(S) AND/OR REQUIREMENTS:

96430
Line 6 B.1

(MATERIAL IS FREE OF MERCURY CONTAMINATION)
THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P.O.

COUNTRY OF ORIGIN	Q. C. REPRESENTITIVE	DATE SIGNED
USA	MTM 09 5/24/05	4/04/05

IF INITIALED AND DATED HERE_____THIS IS AN AMENDED CERTIFICATION

mc107550.tif (1668x2178x2 tiff)

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/ERNICRMO-3

CHEMICAL ANALYSIS

HEAT NBR.	C	MN	P	S	SI	NI	CR	MO	CU
34932	0.016	0.030	0.004	.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
	03.45	0.230		0.080			0.760			

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:

4/18/05
95355
WA Line 6

MTM 09

(MATERIAL IS FREE OF MERCURY CONTAMINATION)
THIS IS TO CERTIFY THAT MATERIAL SHIPPED COMPLIES WITH SPECIFICATION ON P.O.

COUNTRY OF ORIGIN	Q. C. REPRESENTITIVE	DATE SIGNED
USA	Doyle Craig	4/04/05

IF INITIALED AND DATED HERE_____THIS IS AN AMENDED CERTIFICATION

mc111269.tif (1618x2072x2 tiff)

...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
6810 GUION ROAD
INIDANAPOLIS, IN. 46268-1733

Date: 8/24/2005
P.O #:
Fax No: 1-317-290-0412

Heat #: X01823
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		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			

AUG 30 2005

RECEIVED
AUG 25 2005
100034

MTM 017

Single values are maximum unless otherwise specified.

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

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

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

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...better ways to join metals

www.jwharris.com

J. W. Harris Co., Inc.

4501 Quality Pl., Mason OH 45040

Certificate of Compliance

Attn: WADE
Sold to: MAJOR TOOL

Date: 4/16/2003
P.O.#:
Fax No: 317 290 0412

Heat #: 21010424
Item Number: 309LT50

Description: 309L 3/32 X 36 S/S

Weight:

Specifications:

AWS A5.9 ER309L	ASME SFA 5.9

CHEMICAL COMPOSITION LIMITS

ARSENIC		HYDROGEN		TANTALUM	
ANTIMONY		IRON		TITANIUM	
ALUMINUM		LEAD		TIN	
BISMUTH		LITHIUM		THORIA	
BERYLLIUM		MAGNESIUM		TUNGSTEN	
BORON		MOLYBDENUM	0.75	VANADIUM	
CARBON	0.03	MANGANESE	1.0-2.5	YTTRIUM	
CHROMIUM	23.0-25.0	SILICON	0.30-0.65	ZINC	
COPPER	0.75	PHOSPHORUS	0.03	ZIRCONIUM	
COBALT		SULFER	0.03	REMAINDER	IRON
CADMIUM		NICKEL	12.0-14.0	OTHER	
NIOBIUM		NITROGEN		WRC FN	
		SILVER			
		OXYGEN			

RECEIVED
APR 18 2003
26396 AN Gm #1

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.

MTM 040
4-21-03

Certification Clerk

Alabama	800-852-7485	fax 205-497-6465
California	800-423-4486	fax 626-912-4272
Massachusetts	800-343-0643	fax 617-268-2742
Michigan	800-826-2484	fax 248-634-1910
North Carolina	800-438-6476	fax 704-739-2801
Ohio	800-733-4043	fax 800-754-8778
Texas	800-852-8029	fax 713-644-1807

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Böhler Thyssen
WELDING

CERTIFICATION ACCORDING TO ASME SECT II PART C

COP ORDER #: 076432

FAX CERTS TO #

Bohler Thyssen Welding USA Inc
10401 Greenbough Drive

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/mm 2)

ELONGATION : 35

TENSILE STRENGTH : 81,000
PSI (N/mm 2)

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

Jul 30, 2002

Q & A Department

Bohler 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: custsvc@bowusa.com
(800) 527-0791

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Thyssen WELDING

TEST REPORT

SCHEDULE F
nach / as per: AWS/ASME SFA5.01

Boehler Thyssen Welding USA Inc.

10401 Greenbough Drive
77477 Stafford, Texas
USA

Nr./No.: 1-2003-04-612870
Rev. 0 Seite / page :1 von/of 1

Bestell-Nr.	Order No.	P.O. 4250001072	vom / of 15.10.2003 300017
Auftrags-Nr.	Works order	1001126382	
Lieferschein/Position	Dispatch note/position	2001193284 / 0010	vom / of 15.10.2003
Prüfgegenstand	Test object	Schweißstab / welding rod	35489 X609EW
Handelsname	Trade designation	UTP ER316L	
Normbezeichnung	Standard classification	EN 12072: W 19 12 3 L	AWS A5.9-93: ER316L
Produktkennzeichnung	Marking of product		
Abmessung	Dimension	2,40 x 914 mm	
Serien-/Chargen-Nr.	Lot-/Heat No.	95762	
Liefermenge	Quantity delivered	914.5 KG	
Anforderungen	Requirements		

MTM 09

APR 16 2004

4/16/04

84560
Line 3
B1.

Chemische Zusammensetzung in % / Chemical composition in % — Stab / rod

Serie/Charge Heat No.	C	Si	Mn	P	S	Cr	Mo	Ni	Cu					Bemerkung Remarks
95762	0.014	0.46	1.76	0.019	0.009	18.21	2.61	12.25	0.11					

Zugversuch / Tensile test — nach / according to ASTM E8 — Probenvorbereitung / Specimen preparation

	Prüftemp. T Test temp. °C	Streckgrenze R_{eh} Yield point N/mm²	Dehngrenze R_p Yield strength 0.2% N/mm²	1.0%	Zugfestigkeit R_m Tensile strength N/mm²	Dehnung A Elongation % Lo=4d	Einschnürung Z Reduction %	Bemerkung Remarks
Minimum	20				560	35		
Maximum								

Kerbschlagbiegeversuch / Impact test — nach / according to ASTM E23 — Probenvorbereitung / Specimen preparation

	Prüftemp. T Test temp. °C	Kerbschlagarbeit Mindestwerte KV Absorbed energy minimum values J	Mittelwert Average J	Lat. Breitung Lateral expansion mm	Kristalliner Bruchanteil Shear fracture %	Bemerkung Remarks
	20	47				

Bemerkung / Remarks: The product UTP ER316L meets the requirements of the filler metal specification ASME, sec.II, part C, latest ed., AWS A5.9-93, classification ER316L when tested in accordance with that specification.

Ort / Town: Hamm
Datum / Date: 15.12.2003

Dieses Zeugnis wurde maschinell erstellt und gilt ohne Unterschrift
This certificate was issued by DP-equipment and does not require signature

Werkssachverständiger
Authorized representative

Böhler Thyssen Schweisstechnik Deutschland GmbH
Unionstraße 1, D-59067 Hamm
Postfach 25 51, D-59015 Hamm
Telefon: +49 (0) 23 81-2 71-02
Telefax: +49 (0) 23 81-271-4 02

Geschäftsführer
Dr. Elmar Stracke
Udo Wischer

Währg.	Bankkonten	BIC (SWIFT Code)	IBAN	BLZ	Konto-Nr.
EUR	Commerzbank AG, Hamm	COBADEFF410	DE18	4104 0018	0501 3149 01
	Deutsche Bank AG, Hamm	DEUTDEDE410	DE96	4107 0049	0066 0993 00
	Sal. Oppenheim jr. & Cie., Köln	SOPPDE3KXXX	DE46	3703 0200	0000 0210 32
andere	Sal. Oppenheim jr. & Cie., Düsseldorf	SOPPDEDDXXX	DE46	3703 0200	0000 0210 32

Sitz der Gesellschaft
Hamm HRB 2136
USt-IDNr. DE 812113327

Werkszufahrt Hafenstraße 21

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Bohler Thyssen Welding

Scot Rod

CERTIFICATION ACCORDING TO ASME SECT II PART C

COP ORDER #: 076432

FAX CERTS TO # 317-290-0412

Bohler Thyssen Welding USA Inc
10401 Greenbough Drive

Stafford, TX 77477

PRODUCTION DESCRIPTION : ER316LT

DIAMETER : 3/32 X 36

AWS/ASME SPECIFICATION : A/SFA5.9

WEIGHT :

AWS/ASME CLASSIFICATION: ER316L

HEAT/LOT : 95762

*ACTUAL CHEMICAL ANALYSIS %

C 0.014	Si 0.46	Mn 1.76	P 0.019
S 0.009	Cr 18.21	Mo 2.61	Ni 12.25
Cu 0.11			

MECHANICAL PROPERTIES

YIELD STRENGTH :
0,2 %
PSI (N/mm 2)

ELONGATION :
%

TENSILE STRENGTH :
PSI (N/mm 2)

HARDNESS :

IMPACT-VALUE :
(ISO-V) TEST TEMPERATURE :
FT-LBS (J)

REMARKS

FERRITE CONTENT : 6.2%

ACCORDING TO : SCHAEFFLER

* SFA 5.01 SCHEDULE F

NTM 09

4/16/04

Apr 16, 2004

Q & A Department

Bohler Thyssen Welding USA, Inc.
P.O. Box 721678, Houston, Texas 77272-1678

Tel: (281) 499-1212 · Internet: www.btwusa.com
Fax: (281) 499-4347 · e-mail: custsvc@btwusa.com

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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.

06.20.05
97307 WS
line 1

ARCOS

MTM 040 RKU

GIB GRATTI, QUALITY ASSURANCE MANAGER
QUALITY ASSURANCE DEPARTMENT