

MATERIAL DATA SHEET				MDS S02	Rev. 4																															
TYPE OF MATERIAL: Austenitic Stainless Steel Castings																																				
PRODUCT	STANDARD	GRADE	ACCEPT. CLASS	SUPPL. REQ.																																
Castings	ASTM A 351	CF8M CF3M	- -	S6 S6																																
1. SCOPE	This MDS specifies the selected options in the referred standard and additional requirements which shall be added or supersede the corresponding requirements in the referred standard.																																			
2. EXTENT OF TESTING	Tensile testing is required for each heat and heat treatment load including any PWHT.																																			
3. TEST SAMPLING	Samples for mechanical testing shall realistically reflect the properties in the actual components. For castings with weight 250 kg and above the test blocks shall be integrally cast with the casting. The test blocks shall be heat treated together with the castings they represents. During any PWHT the test block shall be tack welded onto the casting.																																			
4. NON DESTRUCTIVE TESTING	<p>NDT operators shall be qualified in accordance with EN 473 or equivalent.</p> <p><i>Liquid penetrant testing:</i> Supplementary requirement S6 shall apply to all surfaces (including internal surfaces) of all castings. The testing shall be carried out after final machining. Non-machined surfaces shall be pickled prior to the testing.</p> <p>The acceptance criteria shall be to ASME VIII, Div. 1, Appendix 7.</p> <p><i>Radiographic testing (RT):</i></p> <ul style="list-style-type: none">- Castings shall be tested in accordance with ASME VIII div.1 Appendix 7.- The extent of RT shall be according to table below. <table><tr><th colspan="8">Extent of RT based on pressure class and nominal size:</th></tr><tr><th colspan="2">Pressure Class:</th><th>≤ 150</th><th>300</th><th>600</th><th>900</th><th>1500</th><th>≥ 2500</th></tr><tr><td rowspan="2">Extent of RT</td><td>10%</td><td>≥ 10"</td><td>≥ 10"</td><td>≥ 2"</td><td>≥ 2"</td><td>≥ 2"</td><td>≥ 2"</td></tr><tr><td>100%</td><td>Not applicable</td><td>Not applicable</td><td>≥ 20"</td><td>≥ 16"</td><td>≥ 6"</td><td>≥ 6"</td></tr></table> <ul style="list-style-type: none">- Pilot cast of each pattern shall be 100% RT.- Castings shall be tested in the critical areas as defined by ANSI B16.34, abrupt changes in sections and at the junctions of risers, gates or feeders to the casting.- When spot examination (10%) is specified, minimum one casting in any order shall be examined. If one test fails two more components shall be tested, and if any of these two fails all items shall be tested.					Extent of RT based on pressure class and nominal size:								Pressure Class:		≤ 150	300	600	900	1500	≥ 2500	Extent of RT	10%	≥ 10"	≥ 10"	≥ 2"	≥ 2"	≥ 2"	≥ 2"	100%	Not applicable	Not applicable	≥ 20"	≥ 16"	≥ 6"	≥ 6"
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5. REPAIR OF DEFECTS	The repair welding procedure shall be qualified in accordance with A 488 or ISO 11970 and this MDS.																																			
6. SURFACE FINISH	White pickled. Machined surfaces do not require pickling.																																			
7. CERTIFICATION	<p>The material manufacturer shall have a quality system certified in accordance with ISO 9001 and the system shall have undergone a specific assessment for the relevant materials.</p> <p>The material certificate shall be issued in accordance with EN 10204 Type 3.1, and shall include the following information:</p> <ul style="list-style-type: none">- Heat treatment condition																																			