

MATERIAL DATA SHEET		MDS K02	Rev. 2															
TYPE OF MATERIAL: ALUMINIUM - BRONZE SAND CASTINGS																		
PRODUCT	STANDARD	GRADE	ACCEPT. CLASS	SUPPL. REQ.														
Castings	ASTM B 148	UNS C95800	-	-														
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. CHEMICAL COMPOSITION	Pb ≤ 0.02 %.																	
3. HEAT TREATMENT	Heat treatment shall be carried out at the discretion of the manufacturer, e.g. approx. 700 °C for 6 hours.																	
4. EXTENT OF TESTING	One tensile test shall be carried out for each lot as defined by the in B 148.																	
5. TEST SAMPLING	Samples for mechanical testing shall realistically reflect the properties in the actual components.																	
6. NON DESTRUCTIVE TESTING	<p>NDT operators shall be qualified in accordance with EN 473 or equivalent.</p> <p><i>Liquid penetration testing:</i> 100 % on all accessible surfaces of all castings shall be tested. The testing shall be carried out after final machining. 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 number of casting to be tested per lot shall be according to table below. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="4"><i>Extent of RT based on pressure class and nominal size:</i></th> </tr> <tr> <th colspan="2"><i>Pressure Class:</i></th> <th><i>≤ 150</i></th> <th><i>300</i></th> </tr> </thead> <tbody> <tr> <td rowspan="2"><i>Extent of RT</i></td> <td><i>10%</i></td> <td><i>≥ 10"</i></td> <td><i>≥ 10"</i></td> </tr> <tr> <td><i>100%</i></td> <td><i>Not applicable</i></td> <td><i>Not applicable</i></td> </tr> </tbody> </table> <ul style="list-style-type: none"> - Pilot cast of each pattern shall be 100% radiographic examined (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 fail two more components shall be tested, and if any of these two fails all items shall be tested. 			<i>Extent of RT based on pressure class and nominal size:</i>				<i>Pressure Class:</i>		<i>≤ 150</i>	<i>300</i>	<i>Extent of RT</i>	<i>10%</i>	<i>≥ 10"</i>	<i>≥ 10"</i>	<i>100%</i>	<i>Not applicable</i>	<i>Not applicable</i>
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7. WELD REPAIR	<p>The repair welding procedure shall be qualified in accordance with ASME IX and this MDS.</p> <ul style="list-style-type: none"> - A cast plate of the same material grade shall be used. - A macro test shall be carried out. - Repairs by peening and impregnation are prohibited. - Change of filler metal brand names requires requalification. 																	
8. 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 (annealing temperature) 																	