

WESTBROOK

WELDING ALLOYS LTD.

ALLOY 5183 WELD DATA SHEET

TYPICAL APPLICATIONS

- Welding Filler Wire

GENERAL INFORMATION

- Non-Heat treatable
- Similar to AlMg4.5Mn (Germany)
- ISO designation: AlMg4.5Mn0.7(A)
- Principle alloying elements: Magnesium, Manganese, Chromium
- Applicable specifications: ANSI/AWS A5.10 (ER & R)

WELDING APPROVALS

- Lloyd's Register

TYPICAL PROPERTIES

Melting range: 1075 - 1180°F
Density: 0.096 lbs./cu. in.

Resistance to corrosion: A(Gen) A(SCC)
Anodize Color: White

CHEMISTRY

<u>SILICON</u>	<u>IRON</u>	<u>COPPER</u>	<u>MANGANESE</u>	<u>MAGNESIUM</u>	<u>CHROMIUM</u>	<u>ZINC</u>	<u>TITANIUM</u>	<u>BERYLLIUM</u>	<u>OTHERS</u>		<u>ALUM</u>
0.40	0.40	0.10	0.50-1.0	4.3-5.2	0.05-0.25	0.25	0.15	0.0003	<u>EACH</u>	<u>TOTAL</u>	<u>REM</u>
									0.05	0.15	

NOTE: SINGLE VALUES ARE MAXIMUM UNLESS OTHERWISE NOTED.

ALLOY CHARACTERISTICS

ALLOY 5183 WAS ORIGINALLY DEVELOPED IN 1957 TO PROVIDE THE HIGHEST STRENGTHS POSSIBLE IN THE AS-WELDED CONDITION OF ALLOY 5083 AND OTHER SIMILAR HIGH MAGNESIUM ALLOYS. THE MORE COMMON FILLER ALLOY 5356 WILL TYPICALLY FAIL TO MEET THE AS-WELDED TENSILE SPECIFICATION REQUIREMENTS OF ALLOY 5083.

THE ALLOY IS TYPICALLY UTILIZED IN MARINE AND STRUCTURAL APPLICATIONS WHERE HIGH STRENGTHS, HIGH FRACTURE TOUGHNESS FOR IMPACT RESISTANCE, AND EXPOSURE TO CORROSIVE ELEMENTS ARE IMPORTANT. THE ALLOY IS NOT RECOMMENDED FOR ELEVATED TEMPERATURE APPLICATIONS DUE TO ITS SUSCEPTIBILITY TO STRESS CORROSION CRACKING.



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