



ISO 9001:2015 REGISTERED
Certificate No.: 50040 & 50415

ER5183 DATA SHEET

Pinnacle Alloys ER5183

AWS CLASS ER5183

CODE AND SPECIFICATION DATA:

AWS A5.10, ASME SFA 5.10; UNS A95183

DESCRIPTION:

Pinnacle Alloys ER5183 has a nominal composition (wt.-%) of 5 Magnesium, .75 Manganese, 0.1 Chromium. It is formulated to provide the highest possible "as-welded" strength in high magnesium alloys. Er5183 typically has high fracture and impact toughness, and is resistant to corrosive environments. This material is available in spools and cut lengths for the GTAW and GMAW processes. Pinnacle Alloys ER5183 typical applications include marine components, drilling rigs, and cryogenic components. This filler material is not recommended for elevated service conditions (150°F or above), and it is non-heat treatable. After anodizing, the color typically appears white.

DIAMETERS: .030", .035", .045", 3/64", 1/16", 3/32", 1/8", 5/32"

WELDING POSITIONS: All positions



TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Aluminum (Al)	balance	balance
Beryllium (Be)	0.0003	0.0004
Chromium (Cr)	0.05-0.25	0.08
Copper (Cu)	0.10	0.01
Iron (Fe)	0.40	0.17
Magnesium (Mg)	4.3-5.2	4.89
Manganese (Mn)	0.50-1.0	0.68
Silicon (Si)	0.40	0.09
Titanium (Ti)	0.15	0.078
Zinc (Zn)	0.25	0.007

NOTE: Single values are maximums.

www.pinnaclealloys.com

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TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	Not required	39,900 psi (275 MPa)
Yield Strength	Not required	18,100 psi (125 MPa)
Percent Elongation in 2"	Not required	17%
Density	Not required	0.096 lbs/in ³
Melting Range	Not required	1,075 - 1,180°F

TYPICAL WELDING PARAMETERS:

	Diameter	Amperage	Volts	WFS (ipm)	Shielding Gas
GTAW	1/16"	60-80	Variable		100% Ar (AC – HF)
	3/32"	125-160			
	1/8"	190-220			
	5/32"	200-300			
GMAW	.030"	60-175	15-24	480-625	100% Ar (DCEP)
	.035"	70-185	15-27	450-750	
	3/64"	125-260	20-29	330-500	
	1/16"	170-300	24-30	250-450	

NOTE: Maintaining a proper welding procedure, including pre-heat and interpass temperatures, may be critical depending on the type and thickness of material being welded.

NOTICE: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for the use in the field. The manufacturer disclaims any warranty of merchantability of fitness for any particular purpose with respect to its products.

CAUTION: Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standards A49.1, "Safety in Welding and Cutting," published by the American Welding Society, 8669 NW 36 Street, #130, Miami, FL 33126: OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210.

Pinnacle Alloys SDS sheets may be obtained on the website below.

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