



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

ER4043 DATA SHEET

Pinnacle Alloys ER4043

AWS CLASS ER4043

CODE AND SPECIFICATION DATA:

AWS A5.10 ASME SFA 5.10; UNS A94043

DESCRIPTION:

Pinnacle Alloys ER4043 has a nominal composition (wt.-%) of 5 Si, balance Al. The silicon gives improved wetting action and lowers the crack sensitivity. It is preferred by most welders because it “wets and flows better” and it also makes brighter looking GMAW welds. This filler metal is used to weld heat treatable alloys, such as the 6XXX base metals and cast alloys. It has a lower melting point and more fluidity than the 5XXX series filler metals. Pinnacle Alloys ER4043 typical applications include bicycles, trucks, trailers, and automotive parts and equipment. This filler metal is not well suited for welding aluminum-magnesium alloys (5XXX alloys). After anodizing, the color typically appears gray.

DIAMETERS: .030”, .035”, .040”, .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	94.95
Beryllium (Be)	0.0003	<0.0001
Copper (Cu)	0.30	0.03
Iron (Fe)	0.80	0.11
Magnesium (Mg)	0.05	0.01
Manganese (Mn)	0.05	0.006
Silicon (Si)	4.50-6.00	4.91
Titanium (Ti)	0.20	0.014
Zinc (Zn)	0.10	0.006

NOTE: Single values are maximums.

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TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	Not required	21,000 - 33,000 psi (144-227 MPa)
Yield Strength	Not required	10,000 - 27,500 psi (69-190 MPa)
Percent Elongation in 2"	Not required	5 - 12%
Density	Not required	0.097 lbs/in ³
Melting Range	Not required	1,065 - 1,170°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 CRF 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.