



ER310 DATA SHEET

Pinnacle Alloys ER310

AWS CLASS ER310

CODE AND SPECIFICATION DATA:

AWS A5.9 ASME SFA 5.9; UNS S31080

DESCRIPTION:

Pinnacle Alloys ER310 has a nominal composition (wt.-%) of 26.5 Cr, 21 Ni. Filler metals of this classification are commonly used for welding base metals of similar composition. This classification is fully austenitic and therefore sensitive to hot cracking. Pinnacle Alloys ER310 is designed to deliver high temperature oxidation resistance up to 2100°F. The high scaling temperature and excellent oxidation resistance make it ideal for welding in chemical processing as well as for furnace and heat treatment equipment.

DIAMETERS: .035", .045", 1/16", 3/32", 1/8", 5/32"**WELDING POSITIONS:** GTAW & GMAW: All positions**TYPICAL DEPOSIT COMPOSITION:**

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.08-0.15	0.099
Chromium (Cr)	25.0-28.0	25.91
Copper (Cu)	0.75	0.09
Manganese (Mn)	1.00-2.50	1.72
Molybdenum (Mo)	0.75	0.06
Nickel (Ni)	20.0-22.5	20.69
Nitrogen (N)	N.S.*	0.044
Phosphorus (P)	0.03	0.018
Silicon (Si)	0.30-0.65	0.39
Sulfur (S)	0.03	0.001

*N.S. means Not Specified.

NOTE: Single values are maximums.

SOWESCO, LLC

www.pinnaclealloys.com

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**AN ISO 9001:2015 COMPANY**

CERTIFICATE NO.: C755336

FERRITE NUMBER AND PITTING RESISTANCE EQUIVALENT NUMBER:

To obtain Ferrite Numbers or PRE_N, please contact SOWESCO technical support at the number below.

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	Not required	89,000 psi (615 MPa)
Percent Elongation in 2"	Not required	41%

TYPICAL WELDING PARAMETERS:

	Diameter	Amperage	Volts	Shielding Gas
GTAW	1/16"	80-110		100% Ar
	3/32"	90-130		
	1/8"	120-175		
	5/32"	150-220		
GMAW Spray Transfer	.030"	130-200	23-27	98% Ar/ 2% O ₂ (35 cfh)
	.035"	150-225	23-26	
	.045"	200-325	24-28	
	1/16"	300-350	24-27	
GMAW Short-Circuit	.030"	50-150	14-20	90% He/ 7½% Ar/ 2½% CO ₂ (25 cfh)
	.035"	60-200	14-22	
	.045"	75-225	15-23	
	1/16"	100-250	16-23	
SAW	3/32"	275-350	28-30	Suitable Flux
	1/8"	350-450	29-32	

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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