



Pinnacle Alloys are products of SOWESCO

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

ER385 DATA SHEET

Pinnacle Alloys ER385

AWS CLASS ER385

CODE AND SPECIFICATION DATA:

AWS A5.9 ASME SFA 5.9; UNS N08904

DESCRIPTION:

Pinnacle Alloys ER385 has a nominal composition (wt.-%) of 20.5 Cr, 25 Ni, 4.7 Mo, 1.5 Cu. ER385 filler metal is used primarily for welding of ASTM B625, B673, B674, and B677 (UNS N08904) materials for the handling of sulfuric acid and many chloride containing media. ER385 filler metal may also be used to join Type 317L material where improved corrosion resistance in specific media is needed. It can be used for joining UNS N08904 base metals to other grades of stainless steel. The elements C, S, P, and Si are specified at lower maximum levels to minimize weld metal hot cracking and fissuring (while maintaining corrosion resistance) frequently encountered in fully austenitic weld metals. Pinnacle Alloys ER385 is typically used in the chemical industry, sea water applications, pharmaceuticals, as well as in the pulp and paper industries.

DIAMETERS: .030", .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)	0.025	0.008
Chromium (Cr)	19.5-21.5	20.01
Copper (Cu)	1.20-2.00	1.40
Manganese (Mn)	1.00-2.50	1.79
Molybdenum (Mo)	4.20-5.20	4.33
Nickel (Ni)	24.0-26.0	25.03
Nitrogen (N)	N.S.*	0.050
Phosphorus (P)	0.02	0.015
Silicon (Si)	0.50	0.33
Sulfur (S)	0.03	0.001

*N.S. means Not Specified.

NOTE: Single values are maximums.

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FERRITE NUMBER AND PITTING RESISTANCE EQUIVALENT NUMBER:

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

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.