AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

ER347 DATA SHEET

Pinnacle Alloys ER347
AWS CLASS ER347
CODE AND SPECIFICATION DATA:
AWS A5.9 ASME SFA 5.9; UNS S34780

DESCRIPTION:
Pinnacle Alloys ER347 has a nominal composition (wt.-%) of 20 Cr, 10 Ni, with Nb added to provide resistance to intergranular corrosion. Although niobium (Nb) is the stabilizing element usually specified in Type 347 alloys, it should be recognized that tantalum (Ta) is also present. Ta and Nb are almost equally effective in stabilizing carbon (C) and in providing high-temperature strength. If dilution by the base metal produces a low ferrite or fully austenitic weld metal, the crack sensitivity of the weld may increase substantially. Pinnacle Alloys ER347 is usually used for welding chromium-nickel stainless steel base metals of similar composition stabilized with either niobium or titanium. Some applications may include uses in the chemical industry, particularly at high temperatures, or in the food processing, dairy, or textile industries. Although there is no AWS classification as ER347H, the higher carbon range (0.04-0.08) can be specified if required.

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)	0.08	0.048
Chromium (Cr)	19.0-21.5	19.34
Copper (Cu)	0.75	0.11
Manganese (Mn)	1.00-2.50	1.56
Molybdenum (Mo)	0.75	0.12
Nickel (Ni)	9.00-11.0	9.42
Nitrogen (N)	N.S.*	0.048
Phosphorus (P)	0.03	0.019
Silicon (Si)	0.30-0.65	0.41
Sulfur (S)	0.03	0.010
Niobium (Nb) + Tantalum (Ta)	(10 x C) min – 1.0 max	0.64

*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 MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	Not required	96,000 psi (660 MPa)
Percent Elongation in 2”	Not required	42%

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 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.