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ISO 9001:2008 REGISTERED
Certificate No.: 50040 & 50415

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E316-16/E316L-16 DATA SHEET

Pinnacle Alloys E316-16/E316L-16
AWS CLASS E316-16, E316L-16
CODE AND SPECIFICATION DATA:
AWS A5.4 ASME SFA 5.4; UNS W31610 (316) & UNS W31613 (316L)

DESCRIPTION:
Pinnacle Alloys E316-16/E316L-16 has a nominal composition (wt.-%) of **18.5 Cr, 12.5 Ni, 2.5 Mo, and a maximum carbon content of 0.04**. The weld metal deposited by these electrodes reduce the possibility of intergranular carbide precipitation and thereby increases the resistance to intergranular corrosion without the use of stabilizers, such as niobium or titanium. These electrodes are principally used for welding low-carbon, molybdenum-bearing austenitic alloys. This low-carbon alloys is not as strong at elevated temperatures as Type E316H. This classification with maximum ferrite content of 2 FN has traditionally been the choice for welding Type 304 and 316 stainless steels for cryogenic service at temperatures down to -452°F. Pinnacle Alloys E316-16/E316L-16 is well suited for pipe welding, especially in marine and industrial environments.

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP) or AC

DIAMETERS: 3/32”, 1/8”, 5/32”, 3/16”

WELDING POSITIONS: All positions
3/16” is recommended for use in flat and horizontal positions only

TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.04	0.03
Chromium (Cr)	17.0-20.0	19.0
Copper (Cu)	0.75	0.10
Manganese (Mn)	0.5-2.5	0.80
Molybdenum (Mo)	2.0-3.0	2.70
Nickel (Ni)	11.0-14.0	12.0
Phosphorus (P)	0.04	0.02
Silicon (Si)	1.00	0.49
Sulfur (S)	0.03	0.006

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	75,000 psi (520 MPa)	87,000 psi (600 MPa)
Percent Elongation in 2”	30%	37%

TYPICAL WELDING PARAMETERS:

Diameter	Type of Current	Amperage Range		Voltage Range
		Flat	Out of Position	
3/32”	DCEP or AC	70-90	65-80	20-23
1/8”	DCEP or AC	80-120	75-95	21-24
5/32”	DCEP or AC	120-170	100-120	22-25
3/16”	DCEP or AC	170-205	Not recommended	23-26

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.