



Pinnacle Alloys are products of SOWESCO

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

## E316-16/E316H-16 DATA SHEET

### Pinnacle Alloys E316-16/E316H-16

AWS CLASS E316-16, E316H-16

#### CODE AND SPECIFICATION DATA:

AWS A5.4 ASME SFA 5.4; UNS W31610

#### DESCRIPTION:

Pinnacle Alloys E316-16/E316H-16 has a nominal composition (wt.-%) of 18.5 Cr, 12.5 Ni, 2.5 Mo, and a carbon content between 0.04 and 0.08. Carbon contents in this range provide higher tensile and creep strengths at elevated temperatures. This electrode is often utilized for welding Type 316H and similar chemical composition alloys in wrought or cast form. The presence of molybdenum provides creep resistance at higher temperature levels. Pinnacle Alloys E316-16/E316H-16 is well suited for power facilities and the petrochemical industry. It welds furnace parts, turbine components, and superheater headers.

**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)	0.04-0.08	0.05
Chromium (Cr)	17.0-20.0	18.0
Copper (Cu)	0.75	0.14
Manganese (Mn)	0.5-2.5	1.20
Molybdenum (Mo)	2.0-3.0	2.12
Nickel (Ni)	11.0-14.0	12.0
Phosphorus (P)	0.04	0.03
Silicon (Si)	1.00	0.63
Sulfur (S)	0.03	0.006

NOTE: Single values are maximums.

SOWESCO, LLC

www.pinnaclealloys.com

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#### FERRITE NUMBER AND PITTING RESISTANCE EQUIVALENT NUMBER:

To obtain Ferrite Numbers or PRE<sub>N</sub>, 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)	83,000 psi (570 MPa)
Percent Elongation in 2"	30%	35%

#### 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	80-110	75-95	21-24
5/32"	DCEP or AC	120-160	100-120	22-25
3/16"	DCEP or AC	170-190	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.

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