



E309LMo-16 DATA SHEET

Pinnacle Alloys E309LMo-16

AWS CLASS E309LMo-16

CODE AND SPECIFICATION DATA:

AWS A5.4 ASME SFA 5.4; UNS W30923

DESCRIPTION:

Pinnacle Alloys E309LMo-16 has a nominal composition (wt.-%) of 23.5 Cr, 13 Ni, a maximum allowable carbon content of 0.04, and a small addition of molybdenum. The restricted carbon content of the weld metal reduces the possibility of intergranular corrosion and increases the ferrite content. This in turn reduces the potential for solidification cracking when deposited on to carbon or low-alloy steels. Pinnacle Alloys E309LMo-16 is designed for welding stainless steels to other types of steel, for dissimilar welds between stainless steels and mild or low alloys, and for depositing buffer layers when welding acid-resisting clad steels. This electrode joins stainless Types 304L, 316L, and 410 to mild or low alloy steels, such as brackets and stiffeners. This electrode also welds hardenable steels and provides a buffer layer prior to hardsurfacing.

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)	22.0-25.0	23.5
Copper (Cu)	0.75	0.06
Manganese (Mn)	0.5-2.5	1.10
Molybdenum (Mo)	2.0-3.0	2.60
Nickel (Ni)	12.0-14.0	13.8
Phosphorus (P)	0.04	0.003
Silicon (Si)	1.00	0.64



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Sulfur (S)	0.03	0.004
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NOTE: Single values are maximums.

FERRITE NUMBER AND PITTING RESISTANCE EQUIVALENT NUMBER:

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

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	75,000 psi (520 MPa)	98,000 psi (675 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	80-110	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 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.