



Pinnacle Alloys are products of SOWESCO

ER309LMo Modified DATA SHEET

Pinnacle Alloys ER309LMo Modified
No AWS CLASS – ER309LMo Modified

DESCRIPTION:

Pinnacle Alloys ER309LMo Modified is designed for welding stainless steels to other types of steel, dissimilar welds between stainless steels and mild or low alloys, and for depositing buffer layers when doing overlay or joining of clad steels. Pinnacle Alloys ER309LMo Modified joins stainless Types 304L, 316L, and 410 to mild or low alloy steels. This electrode also welds hardenable steels and provides a buffer layer prior to hardsurfacing.

DIAMETERS: .035", .045", 1/16", 3/32", 1/8"

TYPICAL CHEMICAL COMPOSITION (Wt %):

Carbon (C)	0.012
Chromium (Cr)	21.3
Copper (Cu)	0.09
Iron (Fe)	Balance
Manganese (Mn)	1.40
Molybdenum (Mo)	2.60
Nickel (Ni)	14.8
Phosphorous (P)	0.02
Silicon (Si)	0.34
Sulfur (S)	0.002

TYPICAL MECHANICAL PROPERTIES:

Tensile Strength (psi) 88,000 psi (610 MPa)
Percent Elongation 37%

TYPICAL GMAW PARAMETERS (Spray Transfer Welding with Bare Stainless Wire):

Diameter	Type of Power	Amperage	Volts	Stickout	98% Ar/ 2% O ₂ (cfh)
.035"	DCEP	150-225	23-26	1/2"-3/4"	35
.045"	DCEP	200-325	24-28	1/2"-3/4"	35
1/16"	DCEP	300-350	24-27	1/2"-3/4"	35



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TYPICAL GMAW PARAMETERS (Short-Circuiting Welding with Bare Stainless Wire):

Diameter	Type of Power	Amperage	Volts	Stickout	90% He/ 7½% Ar/ 2½% CO ₂ (cfh)
.035"	DCEP	60-200	14-22	3/8"-1/2"	25
.045"	DCEP	75-225	15-23	3/8"-1/2"	25
1/16"	DCEP	100-250	16-23	3/8"-1/2"	25

TYPICAL GTAW PARAMETERS (Welding with Stainless Cut-Lengths*):

Diameter	Metal Thickness	Number of Passes	Tungsten Size	Amperage	Travel Speed (in/min)
1/16"	1/16"	1	1/6"	35-60	12
3/32"	3/32"	1	1/16"	45-85	12
3/32"	1/8"	1	1/16"	55-100	12
1/8"	3/16"	1	3/32"	65-130	10

*DCEN, Argon Shield, Tungsten Electrode

TYPICAL SAW PARAMETERS:

Diameter	Amperage	Volts	Flux
1/16"			Call SOWESCO
3/32"	275-350	28-33	
1/8"	350-450	29-32	

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, 550 NW LeJune Road, 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 MSDS sheet may be obtained at www.pinnaclealloys.com.