Pinnacle Alloys

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

E309LT0-1/4 DATA SHEET

Pinnacle Alloys E309LT0-1/4
AWS CLASS E309LT0-1, E309LT0-4, E309T0-1, E309T0-4
CODE AND SPECIFICATION DATA:
AWS A5.22 ASME SFA 5.22; UNS W30935

DESCRIPTION:
Pinnacle Alloys E309LT0-1/4 has a nominal composition (wt.-%) of 23.5 Cr, 13 Ni, with a maximum carbon content of 0.04. With this low carbon content, it is possible to obtain resistance to intergranular corrosion due to carbide precipitation without the use of stabilizers such as niobium and titanium. A primary application of this alloy is the first layer cladding of carbon steel when no niobium additions are required. Pinnacle Alloys E309LT0-1/14 is utilized in welding refinery and chemical processing equipment, as well as furnace and auto exhaust parts. It welds Type 309 stainless steel, joins carbon and low alloy steels, welds 304 clad sheets, and the first layer cladding of carbon steel. It delivers superb performance characteristics in the flat and horizontal positions, has little spatter, and easy-to-remove slag. Minimal weaving is required to achieve a flat, well-washed bead.

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)

DIAMETERS: .035”, .045”, 1/16”

SHIELDING GAS: 100% CO_2, 75-80% Ar/ balance CO_2, 35-50 cfh

WELDING POSITIONS: Flat and horizontal positions only

FERRITE NUMBER AND PITTING RESISTANCE EQUIVALENT NUMBER:
To obtain Ferrite Numbers or PRE_N, please contact PINNACLE ALLOYS technical support at the number below.

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TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.04	0.038
Chromium (Cr)	22.0-25.0	23.93
Copper (Cu)	0.75	0.18
Manganese (Mn)	0.5-2.5	1.19
Molybdenum (Mo)	0.75	0.30
Nickel (Ni)	12.0-14.0	12.88
Nitrogen (N)	N.S.*	0.05
Phosphorus (P)	0.04	0.023
Silicon (Si)	1.00	0.66
Sulfur (S)	0.03	0.015

*N.S. means Not Specified.
NOTE: Single values are maximums.

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	75,000 psi (520 MPa)	89,000 psi (610 MPa)
Yield Strength	Not required	69,200 psi (480 MPa)
Percent Elongation in 2”	30%	32%

TYPICAL WELDING PARAMETERS:

Diameter	WFS (ipm)	Amperage	Volts	ESO (in.)	Deposition Rate (lbs/hr)
.035”	300	110	25	5/8-3/4”	3.3
	500	**150**	**26**	**5/8-3/4”**	**5.4**
	600	**165**	**27**	**5/8-3/4”**	**6.3**
	700	175	28	5/8-3/4”	7.7
.045”	250	130	24	5/8-3/4”	5.4
	300	**160**	**26**	**5/8-3/4”**	**6.3**
	425	**200**	**28**	**5/8-3/4”**	**9.2**
	780	270	34	5/8-3/4”	16.2
1/16”	150	170	25	3/4-1”	5.4
	195	**215**	**27**	**3/4-1”**	**7.0**
	240	**250**	**28**	**3/4-1”**	**8.6**
	320	305	29	3/4-1”	11.5

Note: Optimum conditions are in boldface type. Parameters reflect CO_2 shielding gas - reduce by 2 volts when using 75-80% Ar/ balance CO_2. Maintaining a proper welding procedure, including pre-

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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.