

E307T1-1/4 DATA SHEET

Pinnacle Alloys E307T1-1/4

AWS CLASS E307T1-1, E307T1-4

CODE AND SPECIFICATION DATA:

AWS A5.22 ASME SFA 5.22; UNS W30731

DESCRIPTION:

Pinnacle Alloys E307T1-1/4 has a nominal composition (wt.-%) of is 19 Cr, 9.7 Ni, 1.0 Mo, 4 Mn. These electrodes are used primarily for moderate strength welds with good crack resistance between dissimilar steels, such as welding austenitic manganese steel to carbon steel forgings or castings. Pinnacle Alloys E307T1-1/4 is an excellent choice for joining difficult-to-weld steels, such as armor plate and hardenable steels. It delivers superb performance characteristics in all 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% CO₂, 75-80% Ar/ balance CO₂, 35-50 cfh

WELDING POSITIONS: All positions

1/16" is recommended for use in flat and horizontal positions only



TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.13	0.07
Chromium (Cr)	18.0-20.5	19.4
Copper (Cu)	0.75	0.15
Manganese (Mn)	3.30-4.75	4.20
Molybdenum (Mo)	0.5-1.5	1.10
Nickel (Ni)	9.0-10.5	10.0
Phosphorus (P)	0.04	0.028
Silicon (Si)	1.00	0.70
Sulfur (S)	0.03	0.009

*N.S. means Not Specified.

NOTE: Single values are maximums.

www.pinnaclealloys.com

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AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

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	85,000 psi (590 MPa)	90,000 psi (620 MPa)
Yield Strength	Not required	59,000 psi (405 MPa)
Percent Elongation in 2"	30%	39%

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 CO₂ shielding gas - reduce by 2 volts when using 75-80% Ar/ balance CO₂. 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.

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