



ENi-1 DATA SHEET

Pinnacle Alloys ENi-1 (141)

AWS CLASS ENi-1

CODE AND SPECIFICATION DATA:

AWS A5.11 ASME SFA 5.11; UNS W82141

DESCRIPTION:

Pinnacle Alloys ENi-1 has a nominal composition (wt.-%) of 95 Ni, 2.5 Ti. Electrodes of this classification are used for welding wrought and cast forms of commercially pure nickel to themselves and to steel (i.e. joining nickel to steel and surfacing steel with nickel). Typical specifications for the nickel base metal are ASTM B 160, B 161, B 162, and B 163, all of which have UNS Number N02200 or N02201. The weld metal has good corrosion resistance, particularly in alkalis. Pinnacle Alloys ENi-1 is well suited for welding chemical industry fabrications used to process vinyl chloride, fatty acids, soda, and sodium metal silicates.

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP)**DIAMETERS:** 3/32", 1/8", 5/32", 3/16"**WELDING POSITIONS:** All positions

5/32" & 3/16" recommended for use in flat & horizontal positions only

**TYPICAL DEPOSIT COMPOSITION:**

	AWS Spec	Weld Metal Analysis (%)
Aluminum (Al)	1.00	0.12
Carbon (C)	0.10	0.01
Copper (Cu)	0.25	0.004
Iron (Fe)	0.75	0.10
Manganese (Mn)	0.75	0.50
Nickel (Ni)	92.0 min	95.0
Phosphorus (P)	0.03	0.003
Silicon (Si)	1.25	0.85
Sulfur (S)	0.02	0.001
Titanium (Ti)	1.0-4.0	1.60

NOTE: Single values are maximums.

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AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	60,000 psi (410 MPa)	72,000 psi (500 MPa)
Percent Elongation in 2"	20%	33%

TYPICAL WELDING PARAMETERS:

Diameter	Type of Current	Amperage Range		Voltage Range
		Flat	Out of Position	
3/32"	DCEP	70-90	65-80	20-23
1/8"	DCEP	80-110	75-95	21-24
5/32"	DCEP	120-160	Not recommended	22-25
3/16"	DCEP	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.