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ISO 9001:2008 REGISTERED
Certificate No.: 50040 & 50415

ENiCrCoMo-1 DATA SHEET

Pinnacle Alloys ENiCrCoMo-1 (117)
AWS CLASS ENiCrCoMo-1
CODE AND SPECIFICATION DATA:
AWS A5.11 ASME SFA 5.11; UNS W86117

DESCRIPTION:
Pinnacle Alloys ENiCrCoMo-1 has a nominal composition (wt.-%) of 52 Ni, 23 Cr, 12 Co, 9 Mo, 2 Fe, 1.5 Mn. Electrodes of this classification are used for welding nickel-chromium-cobalt-molybdenum alloys (UNS Number N06617) to themselves and to steel and for surfacing steel with nickel-chromium-cobalt-molybdenum weld metal. The electrodes are also used for applications where optimum strength and oxidation resistance are required above 1500°F up to 2100°F, especially when welding on base metals of nickel-iron-chromium alloys. Pinnacle Alloys ENiCrCoMo-1 resists corrosion, pitting, and stress-corrosion cracking. It offers superb strength and high temperature oxidation resistance. Typical applications include furnace equipment, heat exchangers, pipelines, and industrial plants.

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 (%)
Carbon (C)	0.05-0.15	0.09
Chromium (Cr)	21.0-26.0	24.7
Cobalt (Co)	9.0-15.0	11.4
Copper (Cu)	0.50	0.01
Iron (Fe)	5.00	0.90
Manganese (Mn)	0.3-2.5	1.10
Molybdenum (Mo)	8.0-10.0	9.40
Nickel (Ni)	Balance	50.7
Phosphorus (P)	0.03	0.02
Silicon (Si)	0.75	0.47
Sulfur (S)	0.015	0.008

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Niobium (Nb) + Tantalum (Ta)	1.00	0.90

NOTE: Single values are maximums.

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	90,000 psi (620 MPa)	110,000 psi (760 MPa)
Percent Elongation in 2”	25%	40%

TYPICAL WELDING PARAMETERS:

Diameter	Type of Current	Amperage Range		Voltage Range
		Flat	Out of Position	
3/32”	DCEP	70-85	65-75	20-23
1/8”	DCEP	85-110	80-90	21-24
5/32”	DCEP	110-140	Not recommended	22-25
3/16”	DCEP	120-160	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 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.

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