AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

ENiCrMo4T1-1/4 DATA SHEET

Pinnacle Alloys ENiCrMo4T1-1/4
AWS CLASS ENiCrMo4T1-1, ENiCrMo4T1-4
CODE AND SPECIFICATION DATA:
AWS A5.34 ASME SFA 5.34; UNS W80276

DESCRIPTION:
Pinnacle Alloys ENiCrMo4T1-1/4 has a nominal composition (wt.-%) of 57 Ni, 16 Mo, 15.5 Cr, 5.5 Fe, 4 W, with low carbon. Electrodes of this classification are used for welding low carbon nickel-chromium-molybdenum alloys to steel or other nickel-base alloys, and for clad side of joints in steel clad with low carbon nickel-chromium-molybdenum alloys. Typical specifications for the nickel-chromium-molybdenum base metals are ASTM B574, B575, B619, B622, and B626, all of which have a UNS Number of N10276. Pinnacle Alloys ENiCrMo4T1-1/4 has excellent resistance to crevice corrosion and pitting. It is used in pipelines, pressure vessels, chemical processing plants, offshore oil and gas facilities, and marine environments. 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: .045”, 1/16”

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

WELDING POSITIONS: All positions

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	100,000 psi (690 MPa)	108,000 psi (740 MPa)
Yield Strength	Not required	64,000 psi (440 MPa)
Percent Elongation in 2”	25%	42%
CVN @ -320°F (-195°C)	Not required	31 ft•lb$_f$ (43 Joules)

www.pinnaclealloys.com
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TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.02	0.01
Chromium (Cr)	14.5-16.5	15.5
Cobalt (Co)	2.50	0.13
Copper (Cu)	0.50	0.04
Iron (Fe)	4.0-7.0	6.52
Manganese (Mn)	1.00	0.42
Molybdenum (Mo)	15.0-17.0	16.7
Nickel (Ni)	Balance	56.1
Phosphorus (P)	0.03	0.009
Silicon (Si)	0.20	0.13
Sulfur (S)	0.03	0.003
Tungsten (W)	3.0-4.5	4.14
Vanadium (V)	0.35	0.09

NOTE: Single values are maximums.

TYPICAL WELDING PARAMETERS:

Diameter	Position	Optimum			Amperage Range	Voltage Range
		Amperage	Voltage	WFS (ipm)		
.045”	Flat	180	29	400	125-200	26-32
	Out of Position	140	28	300	120-165	26-29
1/16”	Flat	250	30	300	130-300	24-32
	Out of Position	200	28	200	140-240	24-29

Note: Parameters and properties reflect CO_2 shielding gas - reduce by 2 volts when using 75-80% Ar/ balance CO_2. 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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