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Certificate No.: 50040 & 50415

E7018-A1 DATA SHEET

Pinnacle Alloys E7018-A1
AWS CLASS E7018-A1 H4R
CODE AND SPECIFICATION DATA:
AWS A5.5 ASME SFA 5.5; UNS W17018

DESCRIPTION:
Pinnacle Alloys E7018-A1 electrodes are similar to E7018 carbon steel electrodes classified in AWS A5.1/A5.1M, except that 0.5% molybdenum has been added. This addition increases the strength of the weld metal, especially at elevated temperatures, and provides some increase and corrosion resistance; however, it may reduce the notch toughness of the weld metal. It has quick and easy slag removal, which reduces clean up time. The low spatter level improves weld bead appearance and lends itself to higher deposition. Typical applications include welding of carbon-molybdenum steel base metals such as ASTM A204 plate and A335-P1 pipe.

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP) or AC

DIAMETERS: 3/32”, 1/8”, 5/32”

STORAGE & RECONDITIONING: After opening, store in an oven controlled at 220°F to 350°F to ensure a low hydrogen weld deposit. If the electrode has been exposed to the atmosphere for extended periods of time, place in 250°F oven and slowly increase temperature to 600°F; bake for one hour at 600°F.

WELDING POSITIONS: All positions

TYPICAL DIFFUSIBLE HYDROGEN BY GAS CHROMATOGRAPHY: 3.0 ml/100g

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TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.12	0.03
Manganese (Mn)	0.90	0.77
Molybdenum (Mo)	0.40-0.65	0.52
Phosphorus (P)	0.03	0.02
Silicon (Si)	0.80	0.42
Sulfur (S)	0.03	0.01

NOTE: Single values are maximums.

TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	SR 1 HR. @ 1150°F
Ultimate Tensile Strength	70,000 psi (490 MPa)	85,000 psi (587 MPa)
Yield Strength	57,000 psi (390 MPa)	74,000 psi (507 MPa)
Percent Elongation in 2”	22%	28%

TYPICAL WELDING PARAMETERS:

Diameter	Type of Current	Amperage	Deposition Rate (lbs/hr)	Amperage Range	Voltage Range
3/32”	**DCEP or AC**	**100**	**2.65**	70-110	Variable
1/8”	**DCEP or AC**	**135**	**2.90**	90-160	Variable
5/32”	**DCEP or AC**	**170**	**4.16**	130-220	Variable

NOTE: Optimum conditions are in boldface type. For out of position welding, decrease amperage by 15%. These values were calculated using optimum parameters and DCEP polarity. Allowance made for 2” stub loss. Maintaining a proper welding procedure, including pre-heat and interpass temperatures, may be critical depending on the type and thickness of steel 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.