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E10018-D2 DATA SHEET

Pinnacle Alloys E10018-D2

AWS CLASS E10018-D2 H4R

CODE AND SPECIFICATION DATA:

AWS A5.5 ASME SFA 5.5

DESCRIPTION:

Pinnacle Alloys E10018-D2 is a high quality electrode for high tensile steels and manganese-molybdenum steels. The coating is specifically formulated to resist moisture pick-up under conditions of high heat and humidity. Pinnacle Alloys E10018-D2 is an excellent choice for manganese-molybdenum castings, alloy forgings, and structures and pressure vessel applications.

FEATURES:

- Good arc characteristics
- Good ductility
- Quick and easy slag removal
- Low moisture reabsorption
- Low smoke level
- Low hydrogen, less than 4 ml/100 g
- Low spatter level

BENEFITS:

- Stable, easy to control arc
- High impact resistance
- Reduces clean-up time
- Prevents starting porosity
- Welder safety and comfort
- Resistant to hydrogen-induced cracking
- Improves weld bead appearance, higher deposition

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

DIAMETERS: 3/32", 1/8", 5/32", 3/16", 1/4"

RECONDITIONING & STORAGE: If electrode has been exposed to the atmosphere for an extended period of time, recondition for one hour at 600°F. After opening, store in holding oven (250°F to 400°F) until used.

TYPICAL DIFFUSIBLE HYDROGEN BY GAS CHROMATOGRAPHY: 3.2 ml/100g

TYPICAL DEPOSIT COMPOSITION:

	Weld Metal Analysis (%)	AWS Spec
Carbon (C)	0.05	0.15 max
Manganese (Mn)	1.96	1.69-2.00
Molybdenum (Mo)	0.40	0.25-0.45
Nickel (Ni)	0.47	0.90 max
Phosphorous (P)	0.02	0.03 max
Silicon (Si)	0.17	0.80 max
Sulfur (S)	0.01	0.03 max



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TYPICAL MECHANICAL PROPERTIES:

	SR 1 Hr. @ 1150°F	AWS Spec (min)
Ultimate Tensile Strength	109,000 psi (750 MPa)	100,000 psi
Yield Strength	96,000 psi (661 MPa)	87,000 psi
Percent Elongation in 2"	23%	16%
CVN @ -60°F	40 ft•lb _f (54 Joules)	20 ft•lb _f (27 Joules)

TYPICAL WELDING PARAMETERS:

Diameter	Type of Power	Amperage	Deposition Rate (lbs/hr)	Amperage Range
3/32"	DCEP or AC	100	2.35	70-110
1/8"	DCEP or AC	135	2.80	90-160
5/32"	DCEP or AC	170	4.00	130-220
3/16"	DCEP or AC	250	5.55	200-300
1/4"	DCEP or AC	300	7.80	300-400

NOTE: Optimum conditions are in boldface type. For out of position welding, decrease amperage by 15%. 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, 550 NW LeJune Road, 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 MSDS sheet may be obtained at www.pinnaclealloys.com.