



E7018 DATA SHEET

Pinnacle Alloys E7018

AWS CLASS E7018

CODE AND SPECIFICATION DATA:

AWS A5.1 ASME SFA 5.1; UNS W07018

DESCRIPTION:

Pinnacle Alloys E7018 low-hydrogen electrodes can be used with either AC or DCEP. These electrodes have mineral coverings which are high in limestone and other ingredients that are low in moisture and hence produce weld deposits "low in hydrogen content." As is common with all low-hydrogen electrodes, a short arc length should be maintained at all times. In addition to their use on carbon steel, the E7018 electrodes are used for joints involving high-strength, high-carbon, or low-alloy steels. Electrodes with other than low-hydrogen coverings may produce "hydrogen-induced cracking" in those steels. The fillet welds made in the horizontal and flat welding positions have a slightly convex weld face, with a smooth and finely rippled surface. These electrodes are characterized by a smooth, quiet arc, very low spatter, and medium arc penetration. These electrodes can be used at high travel speeds. Pinnacle Alloys E7018 is an excellent choice for out-of-position tacking, welding low alloy structural, steel structures, field erections, offshore rigs, and power plants.

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP) or AC**DIAMETERS:** 3/32", 1/8", 5/32", 3/16"

STORAGE & RECONDITIONING: After opening, store in an oven controlled at 250°F to 300°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

3/16" is recommended for use in flat and horizontal positions only





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TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.15	0.07
Chromium (Cr)	0.20	0.03
Manganese (Mn)	1.60	0.87
Molybdenum (Mo)	0.30	0.01
Nickel (Ni)	0.30	0.02
Phosphorus (P)	0.035	0.015
Silicon (Si)	0.75	0.61
Sulfur (S)	0.035	0.011
Vanadium (V)	0.08	0.01

NOTE: Single values are maximums.

TYPICAL MECHANICAL PROPERTIES:

Plastic Packaging (5# & 10#)	AWS Spec (min)	As Welded
Ultimate Tensile Strength	70,000 psi (490 MPa)	82,000 psi (570 MPa)
Yield Strength	58,000 psi (400 MPa)	69,000 psi (480 MPa)
Percent Elongation in 2"	22%	30%
CVN @ -20°F (-30°C)	20 ft•lb _f (27 Joules)	52 ft•lb _f (70 Joules)

TYPICAL WELDING PARAMETERS:

Diameter	Type of Current	Amperage	Deposition Rate (lbs/hr)	Amperage Range	Voltage Range
3/32"	DCEP or AC	85	1.8	70-100	20-24
1/8"	DCEP or AC	100	2.6	90-130	24-28
5/32"	DCEP or AC	150	3.9	130-200	26-30
3/16"	DCEP or AC	225	5.2	200-250	27-31

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.



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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.

www.pinnaclealloys.com

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