



E7014 DATA SHEET

Pinnacle Alloys E7014

AWS CLASS E7014

CODE AND SPECIFICATION DATA:

AWS A5.1 ASME SFA 5.1; UNS W07014

DESCRIPTION:

Pinnacle Alloys E7014 electrode coverings are similar to those of E6013 electrodes, but with the addition of iron powder to obtain higher deposition efficiency. The iron powder also permits the use of higher amperages than are used for E6013 electrodes. The amount and character of its slag permit E7014 electrodes to be used in all positions. Pinnacle Alloys E7014 electrodes are suitable for welding carbon and low alloy steels. Typical weld beads are smooth with fine ripples. This electrode has joint penetration characteristics that are advantageous when welding over a wide root opening due to poor fit. The face of fillet welds tend to be flat to slightly convex. The slag is easy to remove and, in many cases, it separates during cooling. Pinnacle Alloys E7014 is an excellent choice for frames, heavy sheet metal, and machine bases.

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

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

STORAGE & RECONDITIONING: After opening, store at 60°F to 100°F and below 50% relative humidity or in a holding oven at 100°F to 120°F. Reconditioning should be for one hour at 250°F to 300°F.

WELDING POSITIONS: All positions

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





TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Carbon (C)	0.15	0.063
Chromium (Cr)	0.20	0.06
Manganese (Mn)	1.25	0.42
Molybdenum (Mo)	0.30	<0.01
Nickel (Ni)	0.30	0.07
Phosphorus (P)	0.035	0.013
Silicon (Si)	0.90	0.22
Sulfur (S)	0.035	0.014
Vanadium (V)	0.08	0.02

NOTE: Single values are maximums.

TYPICAL MECHANICAL PROPERTIES:

Hermetically Sealed Cans (50#)	AWS Spec (min)	As Welded
Ultimate Tensile Strength	70,000 psi (490 MPa)	81,000 psi (561 MPa)
Yield Strength	58,000 psi (400 MPa)	73,000 psi (504 MPa)
Percent Elongation in 2"	17%	26%

Plastic Packaging (5# & 10#)	AWS Spec (min)	As Welded
Ultimate Tensile Strength	70,000 psi (490 MPa)	80,000 psi (550 MPa)
Yield Strength	58,000 psi (400 MPa)	68,000 psi (470 MPa)
Percent Elongation in 2"	17%	30%
CVN @ 32°F (0°C)	Not required	37 ft•lb _f (50 Joules)

TYPICAL WELDING PARAMETERS:

Diameter	Type of Current	Amperage	Deposition Rate (lbs/hr)	Amperage Range	Voltage Range
3/32"	DCEP, AC, or DCEN	80	1.49	70-90	26-29
1/8"	DCEP, AC, or DCEN	130	2.39	120-145	26-27
5/32"	DCEP, AC, or DCEN	200	3.91	150-210	26-28
3/16"	DCEP, AC, or DCEN	240	5.29	200-275	26-28

NOTE: Optimum conditions are in boldface type. For out of position welding, decrease amperage by 15%. These values were calculated using optimum parameters and AC 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.



REV925

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CERTIFICATE NO.: C755336

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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