



ISO 9001:2015 REGISTERED  
Certificate No.: 50040 & 50415

## E7024 DATA SHEET

### Pinnacle Alloys E7024

AWS CLASS E7024

#### CODE AND SPECIFICATION DATA:

AWS A5.1 ASME SFA 5.1; UNS W07024

#### DESCRIPTION:

Pinnacle Alloys E7024 electrode coverings contain large amounts of iron powder in combination with ingredients similar to those used in E6013 electrodes. The coverings on E7024 are very thin and usually amount to about 50% of the weight of the electrode, resulting in higher deposition efficiency. The E7024 electrodes are well suited for making fillet welds in the flat or horizontal position. Weld face is slightly convex to flat, with a very smooth surface and a very fine ripple. These electrodes are characterized by a smooth, quiet arc, very low spatter, and low arc penetration. They can be used with high travel speeds. Electrodes of this classification can be operated on AC or DCEN. Pinnacle Alloys E7024 is an excellent choice for earthmoving equipment, railroad cars, mining machinery, structurals, plate fabrication, shipbuilding, and mobile trailers.

**TYPE OF CURRENT:** AC or Direct Current Electrode Negative (DCEN)

**DIAMETERS:** 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:** Flat and horizontal positions only



[www.pinnaclealloys.com](http://www.pinnaclealloys.com)

9384 Wallisville Road • Houston, Texas 77013 • **1-800-856-9353** • (713) 688-9353 • Fax (713) 688-6985  
2602 S. 50th Avenue • Phoenix, Arizona 85043 • **1-866-442-9353** • (602) 442-9353 • Fax (602) 442-9354



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#### TYPICAL DEPOSIT COMPOSITION:

|                 | AWS Spec | Weld Metal Analysis (%) |
|-----------------|----------|-------------------------|
| Carbon (C)      | 0.15     | 0.06                    |
| Chromium (Cr)   | 0.20     | 0.05                    |
| Manganese (Mn)  | 1.25     | 0.77                    |
| Molybdenum (Mo) | 0.30     | 0.01                    |
| Nickel (Ni)     | 0.30     | 0.07                    |
| Phosphorus (P)  | 0.035    | 0.008                   |
| Silicon (Si)    | 0.90     | 0.37                    |
| Sulfur (S)      | 0.035    | 0.019                   |
| Vanadium (V)    | 0.08     | 0.03                    |

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) | 79,000 psi (545 MPa)              |
| Yield Strength                 | 58,000 psi (400 MPa) | 71,000 psi (487 MPa)              |
| Percent Elongation in 2"       | 17%                  | 26%                               |
| CVN @ 0°F (-18°C)              | Not required         | 50 ft•lb <sub>f</sub> (68 Joules) |

| 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) | 70,000 psi (480 MPa)              |
| Percent Elongation in 2"     | 17%                  | 28%                               |
| CVN @ 32°F (0°C)             | Not required         | 37 ft•lb <sub>f</sub> (50 Joules) |

#### TYPICAL WELDING PARAMETERS:

| Diameter | Type of Current   | Amperage   | Deposition Rate (lbs/hr) | Amperage Range | Voltage Range |
|----------|-------------------|------------|--------------------------|----------------|---------------|
| 1/8"     | <b>AC or DCEN</b> | <b>140</b> | <b>3.42</b>              | 130-150        | 26-27         |
| 5/32"    | <b>AC or DCEN</b> | <b>200</b> | <b>4.94</b>              | 180-225        | 26-28         |
| 3/16"    | <b>AC or DCEN</b> | <b>240</b> | <b>6.06</b>              | 200-280        | 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.**

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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.

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