# mentrode WELDING ELECTRODES SINCE 1990 — E7016

Basic-coated, low-hydrogen electrode for tough, crack-resistant welds on structural steel and machinery.

TECHNICAL DATA SHEET
Rev. 10/2026

| AWS A5.1 / ASME SFA-5.1 | IS 814 | COATING | CURRENT |
|---|---|---|---|
| E7016 | EB5426H3X | Basic, low hydrogen | AC (OCV ≥ 70 V) / DC+ |

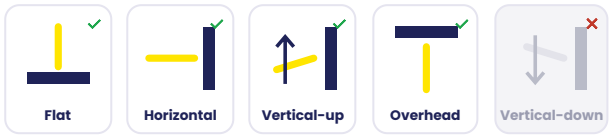
## DESCRIPTION

Mentrode 7016 is a potassium-based, low-hydrogen electrode for welding mild and medium-tensile steels where crack resistance matters. It runs well on AC and DC+, with a fast-freezing puddle that suits root passes and tight joints.

## FEATURES

- Low-hydrogen deposit for crack-resistant welds
- Runs on AC transformers as well as DC+
- Fast-freezing puddle – good for root passes and tight joints
- Medium-to-deep penetration
- Easy slag removal

## WELDING POSITIONS




5.0 mm: flat and horizontal only. Not for vertical-down.

Polarity: AC DC+

## APPLICATIONS

- Structural steel
- Machinery & equipment
- Tanks & vessels
- Boilers & storage tanks
- Medium-to-heavy fabrication
- Repair & maintenance

## TYPICAL BASE MATERIALS

- Mild and medium-tensile steels – IS 2062 E250 to E350, ASTM A36, A283, A516 Gr 60/70
- Steels with higher carbon or sulphur, where crack resistance is needed
- Thick and restrained joints

## STORAGE & RE-DRYING

- Store dry, below 60% humidity, in sealed packets.
- Re-dry at 300–350 °C for 1 hour before use.
- Keep re-dried electrodes in a holding oven at 100–150 °C until use.

## SIZES & RECOMMENDED CURRENT

| Size | Length | Current (flat) | Market | Positions |
|---|---|---|---|---|
| **2.5 / 2.6 mm** | 350 mm | **60 – 90 A** | India / Export | All except vertical-down |
| **3.15 / 3.2 mm** | 350 mm | **90 – 130 A** | India / Export | All except vertical-down |
| **4.0 mm** | 450 mm | **130 – 180 A** | India & Export | All except vertical-down |
| **5.0 mm** | 450 mm | **180 – 240 A** | India & Export (on order) | Flat & horizontal |

Use the lower end of the range for vertical and overhead welding. Not recommended for vertical-down welding.

## MECHANICAL PROPERTIES – ALL-WELD METAL

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| Property | Result | AWS A5.1 |
|---|---|---|
| Tensile strength | **557 MPa** | ≥ 490 MPa |
| Yield strength | **471 MPa** | ≥ 400 MPa |
| Elongation | **23 %** | ≥ 22 % |
| Impact (Charpy V) at -29 °C | **≥ 27 J*** | ≥ 27 J |

* Minimum requirement as per AWS A5.1. Measured impact values will be updated after current testing.

## CHEMICAL COMPOSITION – ALL-WELD METAL (%)

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| Element | Result | AWS max |
|---|---|---|
| **C** | 0.08 | 0.15 |
| **Si** | 0.57 | 0.75 |
| **Mn** | 1.18 | 1.60 |
| **P** | 0.020 | 0.035 |
| **S** | 0.008 | 0.035 |

## WELDING TECHNIQUE

- Use re-dried electrodes (300–350 °C, 1 h) and keep them in a holding oven.
- Keep a short arc – about the core wire diameter or less.
- Use stringer beads or a weave no wider than about 2.5× the core diameter.
- Strike ahead of the joint and move back into it to avoid start porosity.
- Preheat thick sections as your procedure requires; remove slag between passes.

## PACKING

| Size | India | Export |
|---|---|---|
| **2.5 / 2.6 mm** | 2.5 kg × 8 | 5 kg × 4 |
| **3.15 / 3.2 mm** | 2.5 kg × 8 | 5 kg × 4 |
| **4.0 mm** | 2.5 kg × 8 | 5 kg × 4 |
| **5.0 mm*** | 2.5 kg × 8 | 5 kg × 4 |

India: 20 kg box of 8 packets. Export: 20 kg carton of 4 packets. Vacuum packing available on request. *5.0 mm made on order.

Values are typical results for guidance only and may vary with welding conditions, base metal and procedure. Specifications may change without notice. Read the Mentrode Welding Safety Guide and the Safety Data Sheet before use. Batch test certificates are available on request.

**VAM Manufacturing Concerns** · 15/154, Edathara P.O., Palakkad, Kerala 678611, India
(0491) 2856323 · WhatsApp +91 77362 06068 · sales@vamweld.com · **www.vamweld.com**