mentrode WELDING ELECTRODES SINCE 1990 — E7018

Low-hydrogen, iron-powder electrode for high-strength welds on structural work, pressure parts and critical joints.

TECHNICAL DATA SHEET
Rev. 10/2026

AWS A5.1 / ASME SFA-5.1	IS 814	COATING	CURRENT
E7018	EB5426H3JX	Basic, iron powder	AC (OCV ≥ 70 V) / DC+

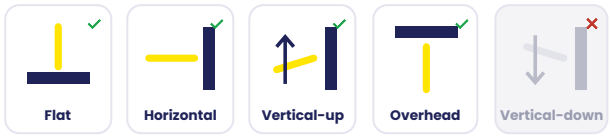
DESCRIPTION

Mentrode 7018 is an iron-powder, low-hydrogen electrode for structural and heavy fabrication. It gives sound, crack-resistant welds with a smooth, low-spatter arc and good deposition rate.

FEATURES

- Low-hydrogen deposit for crack-resistant welds
- Iron powder coating – about 110% metal recovery
- Smooth, stable arc with very low spatter
- Easy slag removal on all passes
- Suitable for medium-to-heavy sections (6–25 mm)

WELDING POSITIONS



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

Polarity: AC DC+

APPLICATIONS

- I-beams, H-beams & heavy structures
- Pressure vessels & boilers
- Storage tanks
- Medium-to-thick plate
- Construction & PEB
- Repair & maintenance

TYPICAL BASE MATERIALS

- Mild and medium-tensile steels – IS 2062 E250 to E350, ASTM A36, A516 Gr 70, A572 Gr 50
- Structural steel, pressure vessel and boiler plate
- Thick and restrained joints, where crack resistance is needed

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	**70 – 110 A**	India / Export	All except vertical-down
3.15 / 3.2 mm	350 / 450 mm	**90 – 140 A**	India / Export	All except vertical-down
4.0 mm	450 mm	**140 – 190 A**	India & Export	All except vertical-down
5.0 mm	450 mm	**190 – 250 A**	India & Export	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

IN-HOUSE TEST · VAM QC LAB · UTM

Property	Result	AWS A5.1
Tensile strength	**518 MPa**	≥ 490 MPa
Yield strength	**414 MPa**	≥ 400 MPa
Elongation	**28 %**	≥ 22 %
Impact (Charpy V) at -29 °C	**≥ 27 J***	≥ 27 J
Metal recovery	**~110 %**	–

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

CHEMICAL COMPOSITION – ALL-WELD METAL (%)

AWS A5.1 LIMITS · TEST RESULTS TO BE UPDATED

Element	Result	AWS max
C	–	0.15
Si	–	0.75
Mn	–	1.60
P	–	0.035
S	–	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.

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.

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