mentrode WELDING ELECTRODES SINCE 1990

E6013

Rutile, all-position mild steel electrode – smooth arc, easy slag removal, works on low-OCV transformers.

TECHNICAL DATA SHEET
Rev. 10/2026

AWS A5.1 / ASME SFA-5.1	IS 814	COATING	CURRENT
E6013	ER4211	Rutile (titania)	AC (OCV ≥ 50 V) / DC±

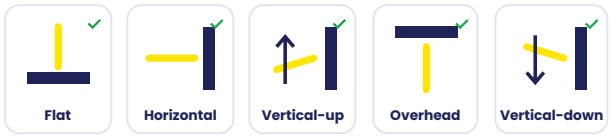
DESCRIPTION

Mentrode 6013 is a medium-coated rutile electrode for general fabrication and repair. It strikes easily, runs with a quiet, stable arc and leaves a smooth, fine-rippled bead with self-releasing slag – on AC transformers and DC machines alike.

FEATURES

- Easy striking and re-striking, even on low-OCV transformers
- Very low spatter and a smooth, fine-rippled bead
- Self-releasing slag – less chipping, faster work
- All-position welding, including vertical-up and overhead
- Good gap bridging for imperfect fit-up

WELDING POSITIONS



5.0 mm: flat and horizontal only.

Polarity: AC DC+ DC-

APPLICATIONS

- Mild steel structures
- Gates, grills & sheet metal
- Automobile bodies & wagons
- Storage tanks
- Ship building
- Repair & maintenance

TYPICAL BASE MATERIALS

- Mild steel plates, sections and pipes – IS 2062 E250, ASTM A36
- Thin sheet and light fabrication
- Galvanised sheet (after removing zinc at the joint)

STORAGE & RE-DRYING

- Store in a dry place, ideally below 60% humidity.
- If electrodes have absorbed moisture, re-dry at 100–150 °C for 1 hour.
- Keep opened packets dry and use within a few days.

SIZES & RECOMMENDED CURRENT

Size	Length	Current (flat)	Market	Positions
2.5 / 2.6 mm	350 mm	**60 – 90 A**	India / Export	All
3.15 / 3.2 mm	350 mm	**90 – 130 A**	India / Export	All
4.0 mm	450 mm	**130 – 170 A**	India & Export	All
5.0 mm	450 mm	**170 – 220 A**	India & Export	Flat & horizontal

Use the lower end of the range for vertical and overhead welding. 300 mm lengths available on request.

MECHANICAL PROPERTIES – ALL-WELD METAL

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Property	Result	AWS A5.1
Tensile strength	**512 MPa**	≥ 430 MPa
Yield strength	**416 MPa**	≥ 330 MPa
Elongation	**22 %**	≥ 17 %
Impact (Charpy V) at -30 °C	**86 J**	Not required

Tested on export production to AWS A5.1 – all values passed.

CHEMICAL COMPOSITION – ALL-WELD METAL (%)

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Element	Result	AWS max
C	0.09	0.20
Si	0.30	1.00
Mn	0.64	1.20
P	0.036	–
S	0.020	–

WELDING TECHNIQUE

- Hold the electrode at 70–80° to the work with a slight drag angle.
- Use a medium arc length; the arc is soft and easy to control.
- For vertical-up, use a small triangular weave and lower current.
- Vertical-down is possible with 2.5–3.2 mm for thin sheet.
- Slag is largely self-releasing – chip after each pass.

PACKING

Size	India	Export
2.5 mm	135 / 125 / 50 pcs per packet	5 kg × 4
3.15 / 3.2 mm	90 / 85 pcs per packet	5 kg × 4
4.0 mm	60 pcs per packet	5 kg × 4
5.0 mm	3 kg packet	5 kg × 4

India: packets by piece count, 8 per box. Export: 20 kg carton.

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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