



# WB4445E M.M.A. WELDING ELECTRODE

## Classifications

BS EN ISO 3581 : 2012 : E2594 N L

AWS A5.4-06 : E2595-16

## Product Description

All positional, semi-basic coated, super duplex stainless steel electrodes. Excellent deslag, bead profile and outstanding welding properties.

## Applications

Used mainly for welding and repairing of duplex (Austenitic/Ferritic) alloys such as UNS S32760(wrought), UNS J99680(cast), Sandvik SAF 2507, UR52N and WMS ZERON 100R©.

Used extensively in the oil & gas industry and process pipework, risers, manifolds and the repair of matching castings.

30-60% ferrite with a PRE<sub>N</sub> of >40

## All-Weld Metal Composition (Weight %)

|      | C    | Mn   | Si   | S     | P     | Mo  | Cr   | Ni   | Cu  | W   |
|------|------|------|------|-------|-------|-----|------|------|-----|-----|
| min. | 0.01 | 0.50 | 0.50 | -     | -     | 3.5 | 24.5 | 9.0  | 0.5 | 0.5 |
| max. | 0.03 | 1.00 | 1.00 | 0.020 | 0.025 | 4.0 | 26.0 | 10.0 | 1.0 | 1.0 |
| min. | N    |      |      |       |       |     |      |      |     |     |
| max. | 0.20 |      |      |       |       |     |      |      |     |     |
|      | 0.30 |      |      |       |       |     |      |      |     |     |

## Typical All-Weld Metal Mechanical Properties

|                                    |                   |     |
|------------------------------------|-------------------|-----|
| Ultimate Tensile Strength          | N/mm <sup>2</sup> | 873 |
| Yield Stress/0.2% Proof Stress     | N/mm <sup>2</sup> | 703 |
| Elongation on 5D                   | %                 | 30  |
| Impact Energy CV @ -50°C as-welded | Joules            | >29 |

| Electrode Dia (mm)    | 1.6mm | 2.0mm | 2.5mm | 3.2mm | 4.0mm | 5.0mm | 6.0mm |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|
| Electrode Length (mm) | -     | -     | 350   | 350   | 350   | 350   | -     |
|                       | -     | -     | -     | -     | -     | -     | -     |
| Current Range (Amps)  |       |       |       |       |       |       |       |
| min.                  | -     | -     | 60    | 80    | 100   | 130   | -     |
| max.                  | -     | -     | 90    | 120   | 150   | 210   | -     |

## Packaging Information

|                       |   |   |    |    |    |    |   |
|-----------------------|---|---|----|----|----|----|---|
| Kg Per Vac-Pac Packet | - | - | 2  | 2  | 2  | 2  | - |
| Approx. Pieces Per Kg | - | - | 50 | 30 | 19 | 12 | - |
| Carton Size           |   |   | 20 | 20 | 20 | 20 |   |

## Storage and Re-baking

### Storage

It is recommended that the WB range of electrodes are stored in a dry heated store at a minimum temperature of 18°C, and a maximum relative humidity of 60%. To avoid damage to the coatings no more than 6 cartons should be staked on top of another.

### Re-drying

Re-dry @ 350°C for 2 hours and then transfer to holding oven and hold @ 100 - 200°C, or 50-100°C in heated quiver.

## Current Conditions AC OCV70 DC +/- and Welding Positions

