



# WB4545E M.M.A. WELDING ELECTRODE

## Classifications

AWS A5.4-06 : E2209-16

BS EN ISO 3581:2003 (22 9 3 N L)

## Product Description

All positional, semi-basic coated, duplex stainless steel electrode, Excellent welding characteristics.

## Applications

This electrode finds use in the fabrication and repair of offshore installations and pipework by virtue of its high strength and corrosion resistance, can be used for welding SAF2205, DINI.4662, Avesta 223, Sandvik 223, UNS1803 and ASTM A182 Gr. F51.

WB4545E is extensively used for the repair of "standard" duplex castings, and yields excellent mechanical properties in the as-welded condition.

Duplex structure of ~ 60/40 austenite/ferrite gives a pitting resistance equivalent of ~38.

## All-Weld Metal Composition (Weight %)

	C	Mn	Si	S	P	Mo	Cr	Ni	Cu	N
min.	0.01	0.5	0.50	-	-	2.5	21.5	9.0	-	0.08
max.	0.03	1.2	0.90	0.020	0.025	3.5	23.5	10.5	0.20	2.0

## Typical All-Weld Metal Mechanical Properties

Ultimate Tensile Strength	N/mm <sup>2</sup>	768	**792
Yield Stress/0.2% Proof Stress	N/mm <sup>2</sup>	577	**585
Elongation on 5D	%	32	**32
Impact Energy CV @ -40°C as-welded, **PWHT	Joules	52	**78 (@-50°C)

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	-
Kg Carton	-	-	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

