



# PRODUCT DATA SHEET

## WCD 6109

### HYDROGEN CONTROLLED ARC WELDING ELECTRODES

## AUSTARC 16TC



- ▶ Basic / Twin Coated (TC) Manual Arc Electrode
- ▶ Low Hydrogen, "H<sub>10</sub>" Status
- ▶ Versatile / All Positional (especially vertical up) Capabilities
- ▶ Reliable, Low Temperature Impact Toughness
- ▶ Smooth, Stable Performance on Low Voltage AC Welding Machines

### Identification

**Coating** - Light Grey    **Tip** - Bronze    **Imprint** - WIA 4916AU

### Classifications

AS/NZS 1553.1    E4816 Grade 4 (Superseded)  
 AWS A5.1    E7016-1 H8  
 AS/NZS    4855 ISO 2560B E4916 AU H10\*

\*New classification replaces AS/NZS 1553.1

### Description & Applications

Austarc 16TC is a smooth running, basic low hydrogen electrode, developed for all positional (except vertical down) welding, using AC or DC power sources. The electrode gives exceptional arc stability and weldability for its class and produces high quality weld deposits with reliable notch toughness to -40°C. Austarc 16TC is manufactured using a unique twin coating extrusion process, which produces electrodes with two concentric flux coatings. Arc stabilising elements are concentrated in the inner coating of the electrode for significantly improved arc stability on AC welding machines.

Features include, a smooth rippled weld profile with excellent edge wetting and a fluid, easily removed glassy slag. Austarc 16TC deposits X-ray quality weld metal with typical diffusible hydrogen levels of 5-8 mls of hydrogen per 100 gms of deposited weld metal.

Austarc 16TC is the ideal hydrogen controlled electrode for welding carbon, carbon-manganese and low alloy high strength steels used in a multitude of critical and non critical applications. Particularly suitable for welding heavy wall joints subject to high degrees of restraint pipe spooling and for structural applications where notch toughness down to -40°C is a pre-requisite. Austarc 16TC is often used in maintenance situations and as a buffer or build-up layer on agricultural and earth moving equipment prior to hard surfacing.

### Operational Data

ELECTRODE SIZE (mm)	ELECTRODE LENGTH (mm)	WELDING CURRENT RANGE *(amps)	ACT VOLTAGE RANGE (volts)**
2.5	300	60 - 90	20
3.2	380	90 - 135	22
4.0	380	140 - 190	24
5.0	450	190 - 240	26
6.0	450	250 - 310	28

\* Please note, 2.5 and 3.2mm Austarc 16TC are recommended for DC+ or AC (minimum 45 OCV) operation, whereas 4.0, 5.0 and 6.0mm sizes require a minimum of 55 OCV for stable AC operation.

\*\* Voltage is determined by arc current and electrode arc length. Arc voltage shown are typical and are only to be used as a guide.

### Shipping Approvals

**LRS** 3M, 4YM, H10

**ABS** 3H10,

**DNV** 3YH10

### Typical All Weld Metal Chemical Analysis

C	Mn	Si	S	P	Fe
0.06	1.2	0.4	0.010	0.015	Bal

### Typical All Weld Metal Mechanical Properties

Yield Stress	460 Mpa
Tensile Strength	560 Mpa
Elongation	28%
CVN Impact Values	130J @ -20°C 110J @ -40°C

In as welded condition.

### Packaging Data

ELECTRODE SIZE (mm)	PACKAGING (KG)			APPROX NO OF RODS PER KG	PART NUMBER
	Packet	Carton	Mini Pack		
2.5	2.5	12.5	1.0	61	16TC25 16TC25M
3.2	5.0	15	1.0	29	16TC32 16TC32M
4.0	5.0	15	-	19	16TC40
5.0	5.0	15	-	10	16TC50
6.0	5	15	-	7	16TC60

### Storage Information

Products should be stored in dry conditions in original sealed undamaged packaging as supplied. The integrity of consumable products can be adversely affected by time and storage conditions and that the detail shown in the batch certificate is true at the time of packaging and is only valid for a LIMITED time. After that time the product may need to be reconditioned or checked to ensure it is suitable for the purpose it is intended to be used for.\*  
 \*NOTE: Refer to Welding Technology Institute of Australia (WTIA), technical 3. care and conditioning of arc welding consumables.

For electrode reconditioning place electrodes in a vented oven at 100°C, slowly raise temperature to 300°C, and hold for two hours and slowly cool. Thereafter, Austarc 16TC shall be used from a hot box at 100-120°C.