



# PRODUCT DATA SHEET

## WCD 6404

# LOW ALLOY STEEL SOLID MIG WIRE

## AUSTMIG ESD2



- ▶ Copper Coated, High Manganese-Molybdenum Gas Metal Arc (MIG) Welding Wire
- ▶ For the All Positional Welding of Medium to Higher Strength Steels

### Classifications

AS/NZS 2717.1 ESD2-GC-W559AH ; ESD2-GM-W559AH  
 AWS A5.28 ER80S-D2

### Description & Applications

AUSTMIG ESD2 is a copper coated, low alloy steel wire used for welding medium to higher strength steels, particularly where service temperatures up to 500°C are encountered. ESD2 gives excellent resistance to porosity using CO<sub>2</sub> or Argon based gas mixtures (i.e. Ar/CO<sub>2</sub>, Ar/O<sub>2</sub>, Ar/CO<sub>2</sub>/O<sub>2</sub>). When porosity is a potential problem due to dirty or rusty surfaces or higher than normal sulphur contents, Austmig ESD2 will provide a consistently sound weld deposit.

Austmig ESD2 is also suitable for out-of-position welding due to its quick freezing weld pool. ESD2 produces high quality welds on plain carbon and C-Mn steels, low alloy steels and higher strength steels used in pressure vessels and boilers, such as petrochemical and power generation industries, operating at elevated temperatures. Austmig ESD2 may also be used for the fillet welding of higher tensile, quenched and tempered steels, such as Bisalloy 70 and 80 where the lower strength weld metal may be compensated by larger fillet sizes. When used with suitable shielding gases, Austmig ESD2 will consistently produce very low "H<sub>2</sub>", weld metal diffusible hydrogen levels, for excellent resistance to HAZ or hydrogen induced cracking.

### Operational Data

WIRE SIZE (mm)	WELDING CURRENT RANGE (amps)	ARC VOLTAGE RANGE (volts)*
0.9	70 - 230	15 - 26
1.2	120 - 350	18 - 32

Welding Current DC+

\* Voltage is determined by arc current and wire arc length. Welding currents and voltage shown are operational guides only.

### Issue AA

The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Welding Industries of Australia expressly disclaims any liability incurred from any reliance thereon. Typical data is obtained when welded and tested in accordance with the AWS and or AS/NZS specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique by Welding Industries of Australia.

### Typical All Weld Metal Chemical Analysis

C	Mn	Si	Mo	Fe
0.1	1.95	0.75	0.5	Bal

### Typical All Weld Metal Mechanical Properties

Gas Type	CO <sub>2</sub>	Ar+18% CO <sub>2</sub>
Yield Stress	560 Mpa	570 Mpa
Tensile Strength	645 Mpa	660 Mpa
Elongation	19%	20%
CVN Impact Values	35J @ -20°C	50J @ -30°C

In as welded position.

NOTE: The use of less oxidizing Argon based gas mixtures will result in higher manganese and silicon weld metal recovery, leading to higher tensile properties, particularly in heavy multi-pass butt welds.

### Packaging Data

PACK SIZE AND TYPE	PART NUMBER
15kg (RW)	ESD209S
15kg (RW)	ESD212S

### 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.

31/10/2006