PRODUCT DATA SHEET

WCD 6404

SOLID MIG WIRES - LOW ALLOY STEEL

AUSTMIG ESD2

SUMMARY

- Copper Coated, High Manganese-Molybdenum Gas Metal Arc (MIG) Welding Wire
- For the all positional Welding of creep-resistant, low alloy and medium to high strength steels

CLASSIFICATION

- AS/NZS 14341-B-G 55A 5U M21 S4M31
- AS/NZS 14341-B-G 57A 5U M21 S4M31
- AWS A5.28 ER80S-D2
- AWS A5.28 ER90S-D2

DESCRIPTION AND APPLICATION

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 Argon based gas mixtures (i.e. Ar/CO_2, Ar/O_2, Ar/CO_2/O_2). 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 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 “H5”, weld metal diffusible hydrogen levels, for excellent resistance to HAZ or hydrogen induced cracking.

OPERATIONAL DATA

WIRE SIZE (MM)	WELDING CURRENT RANGE (A)	ARC VOLTAGE RANGE *(V)
0.9	70 - 230	15 - 26
1.2	120 - 350	18 -32

Welding Current DC +
*Voltage is determined by arc current and electrode arc length.
Welding currents and voltage shown are operational guides only.

TYPICAL ALL WELD METAL CHEMICAL ANALYSIS

C	Mn	Si	Cu	Mo	Ni	Cr
0.085	1.825	0.70	0.30	0.50	0.10	0.15

TYPICAL ALL WELD METAL MECHANICAL ANALYSIS

Gas Type	Ar+18% CO_2	CO_2
Yield Stress	680 MPa	631 MPa
Tensile Strength	712 MPa	694 MPa
Elongation	27%	24%
CVN Impact Values	110J @ -50°C	35J @ -50°C

In as welded condition.

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

WIRE SIZE (MM)	PACK SIZE AND TYPE	PART NO.
0.9	15kg spool	ESD209S
1.2	15kg spool	ESD212S

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