



EnDOtec® DO*23

Nickel-Iron alloy, gas shielded, metal cored alloy wire
for welding cast irons.

Description :

Exclusive, gas shielded, metal cored alloy wire, ideal for maintenance and repair applications or batch manufacturing where highest integrity welding, efficiency and productivity are required.

Specifically developed for low heat input semi-automatic joining, rebuilding and anti-wear protective coatings of cast iron. It can also be used to join cast iron to steels.

The innovative composition, with carbon and manganese added to a ferro-nickel base, gives a slag-free deposit with exceptionally good mechanical properties. Its nickel-rich matrix, with spheroidal graphite precipitates, offers exceptional crack resistance under high restraint.

Thanks to its combination of strength and good elongation properties, cast iron can be joined, rebuilt or coated without the use of fixtures

- Low heat input for low dilution
- Maximum weld metal recovery
- Excellent bead appearance, no spatter, high arc stability
- Great flexibility in operation: 100-400 A
- Exceptional all-positional weldability
- High deposition rate for reduced labour costs

Technical data :

Tensile strength Rm (N/mm²): ~ 470

Yield stress Rp0.2 (N/mm²): ~ 350

Elongation A5 (%): ~ 15

Hardness as welded (HB30): ~ 190

The metallurgical structure of the deposit and its mechanical properties can vary, depending on the thermal cycle employed.

Shielding gases :

Recommended gas: 82% Ar, 18% CO₂,
[DIN 32526 M21]

Alternative gases: 100% CO₂,
[DIN 32526 M21]

Flow rate (l/min): 12-16

Applications :

For joining and coating highly restrained spheroidal graphite cast iron, grey cast iron and malleable cast iron workpieces, as well as for joining cast iron to steels.

- Frames
- Casings for pumps and valves
- Crushers
- Machine tool beds
- Turbine scaling rings
- Textile industry machines
- Machining errors on castings.

Complementary products :

2233: manual electrode.

Procedure for use :

Welding Equipment :

EnDOtec continuous electrodes are compatible with most conventional, constant voltage power sources. Models with programmable, pulsed arc, metal transfer modes offer optimal performance. E+C recommends using wire drive systems fitted with 4 feed-rollers - smooth rollers for Ø 1.2 mm and knurled rollers for Ø 1.6 mm - as well as polyamide liners.

Preparation :

Remove old welding deposits and fatigued metal with ChamferTrod 03 (DC) or 04 (AC).

For joining and assembly, bevel edges to a V (45°) or X, especially for parts with a large cross-section.

Areas to be coated and the groove faces of joints should be cleaned or ground to remove any contamination or oxidation (scale).

Preheating :

This is not usually necessary. With difficult-to-weld base metals and with complex-shaped workpieces, slight preheating to about 200°C will minimise any risk of cracking in the transition zone.

Welding parameters :

Welding current: = (+)

Diameter	1,2 mm	
Transfer mode	Short arc	Pulsed-arc mode recommended
Arc voltage (V)	16-28	
Amperage (A)	70-280	

Welding technique :

For multipass flat/downhand joining, best penetration is obtained by pulling the torch at an angle of 70-80° to the axis of the joint.

For fillet and or corner welding, the best bead pattern is obtained by pushing the torch at an angle of 60-70° to the axis of the joint.

Machining :

Machine using normal cutting tools. Arc or plasma cutting equipment may also be used.

Packaging :

EnDOtec continuous electrodes are precision wound on recyclable, wire spools (DIN 8559, K300) to a standard weight of 5kg & 15 kg and specially packed for optimum, storage protection.

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