

EnDotec. DO 33*

Gas Shielded Continuous Electrode For Semi-Automatic And Robotic Welding Applications

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. The slag-free deposit features a high density of very hard, complex particles, in a matrix which is reinforced with very fine precipitates formed from additional elements. This gives exceptional resistance to fine-particle abrasion and moderate impact erosion at operating temperatures up to 650°C. Hardness and full quality of deposit obtained with one pass.

A high-performance antidote to abrasion problems which will significantly reduce maintenance costs and extend the life of worn parts. 70% saving in welding time and in filler metal used because 68 HRC hardness is obtained with one pass. Against severe abrasion, EnDotec DO*33 has a better cost/ wear resistance ratio than conventional chromium castings. Good resistance to severe abrasion at high temperatures, as well as erosion in a gaseous environment.

- Smooth bead improves resistance to erosion.
- Low heat input for low dilution.
- Maximized weld metal recovery.
- Exceptional positional weldability.
- Regular bead profile, virtually spatter free.
- Versatile usage over wide parameter range.
- Faster deposition rate for reduced labour costs.

APPLICATIONS

Designed specifically for antiwear protective coatings in: Public works. Iron and steel mills. Brickworks. Quarries. Ceramics works. Dredgers. Mines and cement works: Extruder/press screw segments and pug mill augers. Dust extractors - Hot screens and furnace retorts - Clod crusher hammers - Pump frames - Conveyor chains.

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. Castolin Eutectic recommends using wire drive systems fitted with 4 knurled feed-rollers as well as polyamide liners.

Preparation: Remove old welding deposits and worn metal completely with ExoTrod.

Preheating : Preheating depends on the steel's Carbon Equivalent, and the workpiece size, thickness and geometry. Castolin Eutectic recommends:

CE < 0.2 : preheat not essential

CE 0.2 - 0.4 : preheat 100-200°C

CE 0.4 - 0.8 : preheat 200-350°C.

Note that 12-14% Mn steels should never be preheated and the workpiece temperature, during welding should be kept below 250°C. Buttering layer Deposit a buttering layer of EnDotec DO*02 on austenitic manganese steels, and EnDotec DO*285 on hardening

steels. The use of pulsed arc technology significantly improves semi-automatic welding productivity. A synergic program with continuously variable parameters is incorporated in certain Castolin Eutectic equipments which optimizes welding performance over a wide range of deposition rates with minimum heat input and also facilitates positional work. To obtain additional information, contact your Castolin Eutectic application specialist.

Welding technique : For single pass, downhand coating applications, pull the torch angle of 70-80° to ensure optimal fusion. If required, a maximum second pass should only be executed while the weld is still hot.

Machining: the deposit is machinable by grinding. Arc or plasma cutting equipment may also be used.

TECHNICAL DATA

Typical hardness after welding: 68 HRC

Current polarity: DC (+)

Shielding gases :

Recommended gases: 82% Ar, 18% CO₂

[EN ISO 14175-M21]

Alternative gases: 97,5% Ar, 2,5% CO₂

[EN ISO 14175-M12]

Flow rate (l/min): 14-18

Electrode (mm)	Voltage (V)	Current (A)
2.0mm	17-30	70-300
1.6mm	18-40	80-400