Gas Shielded, Peripheric Continuous Electrode for Semi-Automatic and Automatic Robotic Welding

EnDOtec® DO *10

WIRE

- Exceptional resistance to severe abrasion under high pressure
- Excellent out-of-position weldability
- Higher deposition rates for reduced labor costs
- More versatile welding parameters than the competition

Castolin Eutectic®
Eutectic Castolin

DESCRIPTION:

EnDOtec DO*10 is engineered to resist severe abrasion under high pressure, with low to moderate impact. It offers excellent out-of-position weldability. Its low fuming and minimal spatter make it exceptionally user friendly, producing smooth weld deposits at a rapid rate.

TYPICAL APPLICATIONS

APPLICATIONS	INUDUSTRY
Dragline Buckets - Shovel Buckets	Cement, Mining
Cutter Heads - Brick Augers	Quarries
Muller Plows - Tamper Bar Ends	Quarries, Mining
Feed Rolls - Conveyor Chains	Material Processing
Gyratory Crushers	Power, Cement
Extruder Screws - Pug Mill Augers	Cement, Power

TECHNICAL DATA:

Typical Hardness 2 Passes: HRC 52 - 56
Power Source: Constant voltage & Integrated Wire Drive
Current & Polarity: DC (+) electrode positive
Shielding Gas: 1st.) Argon 98% + 2% Oxygen
2nd.) Argon 90% + 10% Carbon Dioxide
Shielding Gas Flow Rate: 30-40 SCFH 16-19 L/min.

PROCEDURE FOR USE:

Caution: Although a 2-roll wire drive assembly will work the optimum for maintaining arc voltage stability and consistent & smooth wire feeding is a serrated 4-roll drive assembly. Smooth drive rolls are not recommended!
Step 1: Remove all "old" cracked or spalled weld metal down to a sound base.

Step 2: EnDOtec DO*10 is 2 pass maximum. It is often field practice to deposit a base-coat depending on the type of wear, severity, and the total amount of build-up required.
*Note: When re-building 12-14% Mn steels use EnDOtec DO*05 as a cushion layer, and for other alloy steels, EnDOtec DO*685 is recommended. A 2-pass minimum is advised when less-thick deposits are required.*

Step 3: Preheat the part to be hardfaced depending on its air hardenabilty potential and/or carbon level. For most constructional steels a nominal preheat of 150°F is suggested and for medium alloy steels, ~250°F.
Note: Do not heat high manganese steels such as Hadfield Castings!

Step 4: After checking that the welding conditions are optimal by testing on scrap metal, position the gun head at a 70-80° angle and use a "push" technique for downhand welding. For fully automated welding such as hardfacing cylindrical parts, the wire should exit at about a 10º lagging angle from top dead center. Using this technique will assure a smooth and regular weld deposit profile with the optimum level of fusion.
Note: If welding is interrupted and the part being welded cools to room temperature, make sure to reheat to the original preheat temperature. For hardenable steels slow cooling is advised using silicone blankets, vermiculite, or other environmentally suitable heat-retardant material.

Step 5: For most applications, other than a superficial grind, finishing is not required. If some level of profiling is needed, grinding can be used for more precise shaping.

TYPICAL WELDING PARAMETERS

0.045" (1.2MM)	VOLTS	AMPS	STICK-OUT	SHIELD GAS	GAS FLOW
Spray Arc	28-31	175-200 (Large parts)	5/8" ± 1/8" (Short nozzle)	98% Ar + 2% O_2	30-40 SCFH
Short Arc	25-29	100-175 (Lighter parts)	5/8" ± 1/8" (Long nozzle)	100% CO_2	30-40 SCFH
1/16" (1.6MM)	**VOLTS**	**AMPS**	**STICK-OUT**	**SHIELD GAS**	**GAS FLOW**
Spray Arc	25-30	230-290 (Large parts)	5/8" ± 1/8" (Short nozzle)	98% Ar + 2% O_2	30-40 SCFH
Short Arc	25-30	185-250 (Lighter parts)	5/8" ± 1/8" (Long nozzle)	100% CO_2	30-40 SCFH

Note: Parameter adjustments will be needed depending on the size, weight, and shape of the part to be welded. For Optimum wear resistance keep to the low end of the amperage & voltage ranges.

YOUR RESOURCE FOR PROTECTION, REPAIR AND JOINING SOLUTIONS

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