

Premium Metal-Cored, Gas Shielded Build-Up Wire for Low Alloy Steels

EnDotec® DO*14



WIRE

- Crack free deposits
- Good for multi-pass build-ups
- Excellent weldability and high deposition rates
- Exceptional toughness, ductility and strength for low alloy steels



DESCRIPTION:

EnDOTec DO*14 is designed for abrasion and impact resistance for applications on plain carbon steel and ferritic and martensitic low and medium alloy steels. Hard, tough deposits are crack-free. Good heat resistance for tooling applications up to 900°F (482°C). The 0.045" diameter is recommended for superior control on edges and thin gauge base metals.

TYPICAL ANTI-WEAR APPLICATIONS & INDUSTRIES:

APPLICATIONS

- Bucket Arms - Bulldozers - Buckets
- Front End Loaders - Bucket Teeth
- Conveyors - Augers
- Hot Forming Dies - Forging Dies
- Extrusion Tooling
- Shafts - Rams
- Chipper Discs -Knives

INDUSTRY

- Quarries, Mining
- Quarries, Mining
- Cement, Power
- Tool & Die, Stamping
- Extrusion
- Extrusion
- Pulp & Paper

PROCEDURE FOR USE:

Caution: Although a 2-roll wire drive assembly will work the optimum for maintaining arc voltage stability and consistent and 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*14 is unlimited build up, 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

Step 3: Preheat the part to be built-up depending on its air hardenability potential and/or carbon level. For most constructional steels a nominal preheat of 150°F (65°C) is suggested and for medium alloy steels, ~250°F (120°C).

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 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 10° lagging angle from top dead center. Using this technique will assure a smooth and regular weld deposit profile with the optimum level of fusion.

TECHNICAL DATA:

Hardness 1/2/3 Pass / Work Hardened: HRC20 / HRC38 / HRC45 / HRC50

Power Source Type: Constant voltage & Integrated Wire Drive

Current & Polarity: DCEP (electrode positive)

Shielding Gas: 1st.) Argon 98% + 2% Oxygen 2nd.) Argon 75% +Carbon Dioxide 25%

Typical Tensile Strength: NA

Diameter (in) (mm)	CURRENT RANGE (A)		VOLTAGE RANGE (V)		WIRE EXTENSION (CONTACT TIP)	
	Low Range	Spray Arc	Low Range	Spray Arc	Low (a) Range	Spray (b) Arc
0.045" (1.2)	90-160	150-250	21-26	23-29	9/16" ± 1/8"	5/8" ± 1/8"
1/16" (1.6)	120-180	175-280	22-26	24-29	9/16" ± 1/8"	5/8" ± 1/8"

(a) Use of long nozzle is recommended

(b) Use of short nozzle is recommended

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