

Premium Metal Cored, Gas Shielded, Joining Wire

EnDotec® DO*80



WIRE

- Excellent against combined wear involving hot impact, erosion, cavitation and hot abrasion
- Excellent high temperature hardness
- Easy-to-use wire with low fuming and minimal spatter
- Deposits combat corrosion and oxidization



DESCRIPTION:

EnDOTec DO*80 is designed for exacting applications involving elevated temperature service. Excellent broad-based mechanical and thermal properties with superior machinability, position this alloy for critical surfacing and repairs across a wide range of applications. Weld deposits resist steam erosion and contact erosion from liquid metals.

TYPICAL ANTI-WEAR APPLICATIONS & INDUSTRIES:

APPLICATIONS

Valve Plugs and Seats
Hot Work Dies - Upset Dies
Furnace Retorts
Hot Forming/Forging Dies
Hot Punches - Trim Dies
Coke Pusher Shoes

INDUSTRY

Thermal Power
Stamping, Forging
Cement, Power
Forging Steel Works
Stamping
Steel Works, Foundry

TECHNICAL DATA:

Typical Hardness 2 Passes: HRC 26 - 28
Power Source Type: Constant voltage & Integrated Wire Drive
Current & Polarity: DC (+) electrode positive
Shielding Gas: 1st.) Argon
2nd.) Tri Mix® (90% Helium + 7.5% Argon + 2.5% CO₂)
Hot Hardness: (1600°F) HRC 18 Work Hardened HRC 40 - 45

WELDING PARAMETERS

0.045" (1.2MM)	VOLTAGE	AMPERAGE	STICK-OUT	SHIELD GAS	GAS FLOW
Spray Arc	27-30	220-240 (Large parts)	1/2" ± 1/16" (Short nozzle)	Argon	35-40 scfh
Short Arc	17-20	140-175 (Lighter parts)	1/2" ± 1/16" (Long nozzle)	Tri-Gas	35-45 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.

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*80 is for hardfacing, 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 is suggested and for medium alloy steels, ~250°F.

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.

Note: If welding is interrupted and the part being welded cools to room temperature, make sure to reheat to the original preheat temperature. Slow cooling is advised using silicone blankets, vermiculite, or other environmentally suitable heat-retardant material.

YOUR RESOURCE FOR PROTECTION, REPAIR AND JOINING SOLUTIONS



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