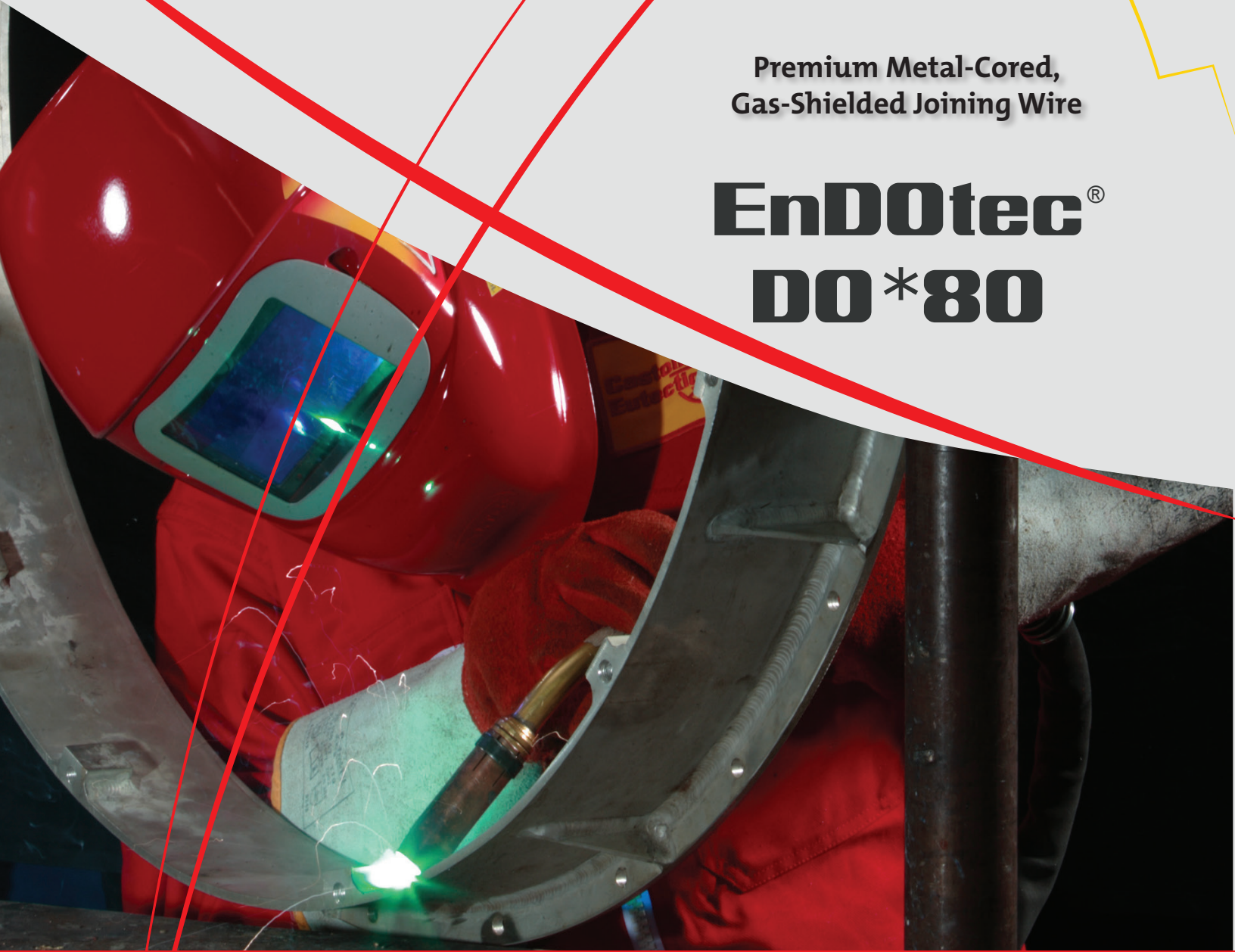




Premium Metal-Cored,  
Gas-Shielded Joining Wire

**EnD0tec®**  
**D0\*80**



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

# EnDotec® DO\*80

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.

## TECHNICAL DATA

Typical Values	
Hardness (2 passes):	HRC 26-28
Current & Polarity:	DC (+) electrode positive
Power Source Type:	Constant voltage & Integrated Wire Drive
Shielding Gases:	Argon (1st) Tri Mix® (90% Helium + 7.5% Ar + 2.5% CO <sub>2</sub> (2nd)
Hot Hardness: (1600°F)	HRC 18, Work Hardened HRC 40-45

0.045" (1.2MM)	VOLTS	AMPS	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 & 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 hardfaced depending on its air harden potential and/or carbon level. For most constructional steels, a nominal preheat of 150°F is suggested and for medium alloy steels, ~250°F.

**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.

**Step 5:** For hardenable steels, slow cool using silicone blankets, vermiculite, or other environmentally suitable heat-retardant material.

Note: If welding is interrupted and the part being welded cools to room temperature, make sure to reheat to the original preheat temperature.

## TYPICAL APPLICATIONS

### 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

