

High Performance Seamless Cored Wire for Joining Applications

# EnDOTec DO\*271S



## WIRE

- Excellent weldability in all positions
- Enhanced arc stability and less spatter
- Low heat input, low fume emission
- Higher strength 1% nickel alloy
- Fast freezing, easy to remove slag



## DESCRIPTION:

EnDOTec® DO\*271S is a high performance all position nickel alloyed seamless flux cored wire for single or multipass welding of carbon, carbon-manganese and high strength steels with Ar/CO<sub>2</sub> shielding gas or pure CO<sub>2</sub>.

Excellent weldability in all positions, excellent bead appearance, no spatter; fast freezing and easy to remove slag. The exceptional mechanical properties of this wire, even at the lowest temperatures (-50°C ; -58°F), make it especially suitable for off-shore applications.

## TECHNICAL DATA:

Specifications: AWS/ASME A5.36 E81T1-M21A8-Ni1-H4

Certified by the CWB to CSA W48-14 A5.29:  
E551T1-Ni1C-JH4 / E551T1-Ni1M-JH4  
Ar/CO<sub>2</sub> - CO<sub>2</sub> shielding gas

Typical Tensile Strength: 95,000 psi / 655 MPa

Yield Strength: 72,500 psi / 500 MPa

Elongation: 25%

Charpy V Notch: Ar/CO<sub>2</sub>: KV (-50°C) >47J (80J)  
CO<sub>2</sub>: KV (-50°C) >47J (60J)

Polarity: DC+

## TYPICAL APPLICATIONS:

Shipbuilding, earth moving equipment, mining equipment, steels to API standards, boiler steel, unalloyed structural steels, fine grained steels, pressure vessels, pipe work, off shore structures, high strength steel structures.

## PROCEDURE FOR USE:

### Preparation

Oxide, dirt or oil should be completely removed prior to welding in order to prevent porosity in the weld metal.

### Preheating Steels

Carbon steels less than 1" (25.4 mm) thick and with less than .30% carbon generally do not require preheat. Welding on highly restrained joints is an exception. These joints should be preheated to 50°–100°F (10°–38°C) to minimize shrinkage cracks in the base metal and the weld deposit. Low-alloy steels, such as the chrome-moly steels, have hard heat-affected zones after welding if the preheat temperature is too low. The hard heat-affected zones are caused by the rapid cooling rate of the base material and the formation of martensitic grain structures. A 200°–400°F (93°–204°C) preheat temperature slows down the cooling rate and prevents the formation of a martensitic structure.

TYPICAL ANALYSIS	C	Mn	Si	P	S	Ni	Fe
Ar + 20% to 25% CO <sub>2</sub>	0.07	1.30	0.45	<0.025	<0.025	0.85	Base
100% CO <sub>2</sub>		1.10	0.35				

WELDING PARAMETERS	SHIELDING GAS	AMPERAGE	VOLTAGE	FLOW RATE
1.2 mm (0.045")	Ar/CO <sub>2</sub> - CO <sub>2</sub>	190-320	22-35	14-20 l/min
1.6 mm (1/16")		210-380	23-37	30-42 cfh

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