

Gas Metal Arc Wire Specially Designed for Out-of-Position Welding

# EnDotec® DO\*345S



## WIRE

- Excellent out of position hardfacing capability
- Good for severe abrasion and moderate impact
- Multi-complexe carbide structure
- Deposits are crack free on most steels



## DESCRIPTION:

Finally a breakthrough in abrasion resistant continuous wires, DO\*345S offers outstanding out-of-position weldability. This unique alloy is engineered to resist severe abrasion under high load, with low to medium impact.

Deposits are crack free on most steels when recommended preheat and interpass temperatures are maintained. The alloy has high hardness, excellent wear resistance, and outstanding weldability over most hard facing alloys.

DO\*345S retains a uniform distribution of small primary carbides in a martensitic matrix for excellent wear resistance.

## TYPICAL APPLICATIONS

- Brick and pug mill augers
- Rock crusher parts
- Cultivator shovels
- Tire shredders
- Concrete augers
- Tamper bars
- Debarker in-feed rolls
- Dredger pumps
- Loader buckets

## TECHNICAL DATA:

Abrasion Resistance:	Excellent
Typical Hardness:	HRC 60 – 65
Impact Resistance:	Good
Deposit Layers:	2 Max
Max. Service Temp:	Up to 1000°F
Wear Data (ASTM G65):	20.0 mm <sup>3</sup> volume loss

## TYPICAL WELDING PARAMETERS

Wire Feed Speed:	150 – 325 ipm
Shielding Gas:	75% Argon/25% Co <sub>2</sub>
Wire Extension (in):	½ - ¾
Welding Polarity:	DCEP(+)

DIAMETER	VOLTAGE	AMPERAGE
.045" (1.2mm)	20-25	150-200

## 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 345S DO is 1 pass, 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 2: When re-building 12-14% Mn steels use DO \*05 as a cushion layer, and for other alloy steels DO\*02 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 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 3: 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 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. 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.

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