

MIDALLOY ER70S-3 WELDING WIRE

CLASSIFICATION

- AWS 5.18 Class ER70S-3 / ASME SFA 5.18 Class ER70S-3
- ASME Section IX F#6 / A#1

DESCRIPTION

- MIDALLOY ER70S-3 welding wire is a mild-steel bare wire used for MIG and TIG welding.

APPLICATION

- MIDALLOY ER70S-3 welding wire is designed for GMAW and GTAW welding of most carbon steel materials.
- Normal applications include structural steel, carbon steel plate, pipe, fittings, castings, and forgings.
- The as-welded filler metal deposit exhibits adequate strength and hardness and may not require PWHT.
- MIDALLOY ER70S-3 provides the industry with a quality filler metal that is capable of making x-ray clear welds.

TYPICAL CHEMISTRY

C	Mn	Si	Cr	Ni	Mo	V	P	S	Cu
0.08	1.05	0.48	0.05	0.05	0.05	0.01	0.012	0.006	.015

TYPICAL MECHANICAL PROPERTIES*

PROCESS / SHIELDING GAS	GMAW 98% Ar / 2% O ₂	GMAW 100% CO ₂	GTAW 100% Ar
TENSILE STRENGTH	75,000 PSI	70,000 PSI	75,000 PSI
YIELD STRENGTH	65,500 PSI	60,000 PSI	63,000 PSI
ELONGATION	25%	27%	28%
IMPACTS	20 FT-LBS @ 0°F	20 FT-LBS @ 0°F	30 FT-LBS @ -20°F

*As-welded

RECOMMENDED WELDING PARAMETERS

PROCESS	DIA. OF WIRE	AMPERAGE	VOLTAGE	GAS/FLUX
GMAW (MIG) SHORT ARC	.035"	90 - 160	14 - 20	100% CO ₂ or 75% Ar / 25% CO ₂
	.045"	120 - 200	16 - 20	100% CO ₂ or 75% Ar / 25% CO ₂
GMAW (MIG) SPRAY TRANSFER	.035"	180 - 230	25 - 28	98% Ar / 2% O ₂
	.045"	250 - 350	25 - 30	75% Ar / 25% CO ₂
	1/16"	280 - 400	26 - 36	75% Ar / 25% CO ₂
GTAW (TIG)	1/16"	50 - 120	7 - 13	100% Ar
	3/32"	120 - 200	10 - 16	100% Ar
	1/8"	150 - 220	12 - 18	100% Ar

STANDARD PACKAGING

- MIG 33 lb. Spool
- TIG 10 lb. Tube / 60 lb. Carton

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