

Select 70S-3

Carbon Steel / Gas Shielded / Solid

PRODUCT DATA SHEET

FEATURES

- A carbon steel, solid "MIG wire" electrode with copper coating, for gas shielded arc welding.
- Moderate levels of manganese and silicon compared to 70S-6 electrodes reduces silicate slag on weld deposit which minimizes postweld cleanup.
- Excellent feedability and welding.
- Intended for welding carbon steels, such as ASTM A36, A515, A516, and A572.
- Smaller diameters (1/16" or smaller) can be pulse welded in all positions.

CONFORMANCES

AWS A5.18

ER70S-3

DIAMETERS [in (mm)]

0.035 (0.9), 0.045 (1.2)

POSITIONS



SHIELDING GAS

100% CO₂, 75-95% Ar/Balance CO₂, 95-98% Ar/Balance O₂

Flow Rate: 40 - 50 CFH

POLARITY

DCEP

TYPICAL WIRE CHEMISTRY [WT%]

Shielding Gas	C	Cr	Cu	Mn	Mo	Ni	P	S	Si	V
N/A	0.07	0.02	0.17	1.30	<0.01	0.01	0.01	0.02	0.70	<0.01

TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ 0°F (-20°C) ft-lb (J)
100%CO ₂	74 (510)	61 (421)	30	As-Welded	-	66 (89)



Revision: 3/14/2025

Notice: Be sure to follow all your employers safety practices, policies and procedures when using this product. Refer to CSA W117.2 and ANSI Z49.1 Safety in Welding, Cutting and Allied Processes for further information and the manufactures SDS sheet. The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

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RECOMMENDED WELDING PARAMETERS **

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
0.035 (0.9 mm)	90% Ar/10% CO2	Flat & Horizontal	380 (9.7)	175	25	3/8 - 5/8 (10 - 16)
		Flat & Horizontal	450 (11.4)	230	27	3/8 - 5/8 (10 - 16)
		Flat & Horizontal	550 (14.0)	250	29	1/2 - 3/4 (13 - 19)
		Flat & Horizontal	625 (15.9)	275	30	1/2 - 3/4 (13 - 19)
0.045 (1.2 mm)	90% Ar/10% CO2	Flat & Horizontal	310 (7.9)	240	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	375 (9.5)	275	28	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	450 (11.4)	325	29	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	550 (14.0)	375	30	5/8 - 3/4 (16 - 19)

* WFS = Wire Feed Speed, CTWD = Contact Tip To Work Distance

**The parameters listed are recommended starting points of operation and the ranges for amperage, wfs, and voltage could be extended based on fitness for application. For products with "all-position" capability, as determined and listed in classification, the position recommendation can be determined based on operator skill and material thickness and isn't limited to the listing.

*For higher argon blends such as 98%Ar/2%O2, decrease the voltage by 1 - 3 volts. For higher levels of CO2, increase voltage by 1-3 volts.

PACKAGING (lbs (kgs))

33 (15) Spools, 60 (27.2) Coils, 500 (226.8) Round Drum, 800 (362.9) Hex Drum, 900 (408.2) Hex Drum

*Some packaging options may not be available depending on diameter and product. Special package options may be available upon request.

STORAGE AND HANDLING

All products should be stored in original packaging, in dry conditions and handled with care. For more information refer to our website.



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