

Select 90C-D2

Low Alloy / Gas Shielded / Metal Cored

PRODUCT DATA SHEET

FEATURES

- Designed for welding certain high strength, low alloy (HSLA) steels where a minimum tensile strength of 90 ksi is required.
- Can be used in place of ER90S-D2 solid wire, resulting in less sensitivity to subsurface porosity, elimination of lack of fusion ("cold lap"), and increased travel speeds.
- Can be used to weld pressure vessel steels such as ASTM A 302 Gr B, and castings such as A49, A291, and A735.

CONFORMANCES

AWS A5.28

E90C-D2

DIAMETERS [in (mm)]

0.035 (0.9), 0.045 (1.2), 0.052 (1.3), 1/16 (1.6)

POSITIONS



SHIELDING GAS

75% Ar / 25% CO₂, 98% Ar / 2% CO₂

Flow Rate: 40 - 50 CFH

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY [WT%]

Shielding Gas	C	Cu	Mn	Mo	P	S	Si	V
98%Ar / 2%CO ₂	0.07	0.06	1.41	0.46	0.011	0.012	0.48	0.005

TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ -20°F (-30°C) ft-lb (J)
75%Ar / 25%CO ₂	100 (690)	88 (608)	25.0	As-Welded	-	40 (54)
98%Ar / 2%CO ₂	106 (728)	97 (669)	23.4	As-Welded	-	41 (56)



Revision: 1/17/2025

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)	98% Ar/2% CO2	Flat & Horizontal	315 (8.0)	150	20	1/2 (13)
		Flat & Horizontal	500 (12.7)	195	22	1/2 (13)
		Flat & Horizontal	650 (16.5)	235	23	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	780 (19.8)	255	25	5/8 - 3/4 (16 - 19)
0.045 (1.2 mm)	98% Ar/2% CO2	Flat & Horizontal	280 (7.1)	200	20	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	350 (8.9)	220	21	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	400 (10.2)	250	23	5/8 (16)
		Flat & Horizontal	475 (12.1)	275	25	5/8 (16)
0.052 (1.3 mm)	98% Ar/2% CO2	Flat & Horizontal	225 (5.7)	215	20	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	290 (7.4)	250	21	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	350 (8.9)	280	23	3/4 (19)
		Flat & Horizontal	425 (10.8)	300	25	3/4 (19)
1/16 (1.6 mm)	98% Ar/2% CO2	Flat & Horizontal	225 (5.7)	260	21	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	265 (6.7)	285	22	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	300 (7.6)	310	23	3/4 - 1 (19 - 25)
		Flat & Horizontal	350 (8.9)	335	25	3/4 - 1 (19 - 25)

* 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 welding in 75% Ar / Balance CO2, increase by 3 - 5 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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