

# Select 80C-D2

Low Alloy / Gas Shielded / Metal Cored

PRODUCT DATA SHEET

## FEATURES

- Intended for welding of certain high strength, low alloy steels where a minimum tensile strength of 90 ksi is required in the deposited metal.
- Can be used to substitute ER80S-D2 or ER90S-D2 solid wire.
- Ideal for applications requiring weld metal which matches the mechanical properties of HSLA pressure vessel steels such as ASTM A302 Grade B, HSLA steels, and manganese-molybdenum castings such as ASTM A49, A291, and A735.
- Offers many advantages over solid wires including less sensitivity to subsurface porosity, elimination of lack of fusion or "cold lap", and 30-50% faster travels speeds for a given weldment size.
- The recommended shielding gas is 75%Ar/balance CO<sub>2</sub>, as higher argon blends increase the strength of the weld deposit.

## CONFORMANCES

AWS A5.28

E90C-D2

## DIAMETERS (in (mm))

0.045 (1.2), 0.052 (1.3)

## POSITIONS



## SHIELDING GAS

75-80% Ar/Balance CO<sub>2</sub>, 98% Ar/Balance O<sub>2</sub>  
Flow Rate: 40 - 50 CFM

## POLARITY

Direct Current Electrode Positive (DCEP)

## TYPICAL WELD DEPOSIT CHEMISTRY (WT%)

Shielding Gas	C	Cu	Mn	Mo	P	S	Si	V
75%Ar / 25%CO <sub>2</sub>	0.06	0.05	1.39	0.47	0.009	0.011	0.48	0.004
98%Ar / 2%O <sub>2</sub>	0.07	0.10	1.52	0.49	0.008	0.010	0.55	0.003

## 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 <sub>2</sub>	100 (690)	88 (608)	25	As-Welded	-	40 (54)
98%Ar / 2%O <sub>2</sub>	106 (731)	97 (669)	23	As-Welded	-	41 (56)



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.

## RECOMMENDED WELDING PARAMETERS

Diameter in (mm)	Shielding Gas	Position	WFS* in/min (m/min)	Amps	Volts	CTWD* in (mm)
0.045 (1.2 mm)	75% Ar/25% CO2	Flat & Horizontal	260 (6.6)	200	25	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	305 (7.7)	220	26	1/2 - 5/8 (13 - 16)
		Flat & Horizontal	360 (9.1)	240	27.5	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	405 (10.3)	255	29	5/8 - 3/4 (16 - 19)
0.052 (1.3 mm)	75% Ar/25% CO2	Flat & Horizontal	235 (6.0)	215	25	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	315 (8.0)	260	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	330 (8.4)	275	27.5	3/4 - 1 (19 - 25)
		Flat & Horizontal	345 (8.8)	295	29	3/4 - 1 (19 - 25)

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

Welding parameters are for 75% Ar /25% CO2, at higher levels of argon the voltage should be gradually decreased: 1-2 volts for 98% Ar/2% O2.

## 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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