

Select 70C-6SR

Carbon Steel / Gas Shielded / Metal Cored

PRODUCT DATA SHEET

FEATURES

- Select 70C-6 SR is a premier carbon steel, composite metal cored designed to produce excellent mechanical properties in the as-welded and stress relieved conditions.
- Maintains excellent mechanical properties after extended stress relief up to 8 hours
- Possesses excellent notch toughness at -60°F before and after post weld heat treatment
- Metal cored formula promotes increased travel speed with better sidewall fusion and few silicon islands
- True spray transfer with virtually no spatter
- Very low diffusible hydrogen levels of less than 4.0mL/100g

CONFORMANCES

AWS A5.18	E70C-12M-H4 E70C-6M-H4
ASME SFA 5.18	E70C-6M-H4
AWS A5.36	E70T15-M20A6-CS2-H4 E70T15-M20P6-CS2-H4 E70T15-M21A6-CS2-H4 E70T15-M21P6-CS2-H4

DIAMETERS [in (mm)]

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

POSITIONS



SHIELDING GAS

75% Ar / 25% CO₂, 90% Ar / 10% CO₂, 92% Ar / 8% CO₂
Flow Rate: 40 - 50 CFH

POLARITY

Direct Current Electrode Positive (DCEP)

TYPICAL WELD DEPOSIT CHEMISTRY [WT%]

Shielding Gas	C	Cr	Cu	Mn	Mo	Ni	P	S	Si	V
75%Ar / 25%CO ₂	0.04	0.03	0.05	1.48	0.01	0.42	0.012	0.010	0.69	0.00
90%Ar / 10%CO ₂	0.04	0.04	0.04	1.54	0.01	0.41	0.010	0.009	0.62	0.00
92%Ar / 8%CO ₂	0.03	0.04	0.03	1.56	<0.01	0.45	0.009	0.008	0.64	0.00

TYPICAL MECHANICAL PROPERTIES

Shielding Gas	Tensile Strength ksi (MPa)	Yield Strength ksi (MPa)	Elongation (%)	Weld Condition	PWHT Temp	CVN @ -40°F (-40°C) ft-lb (J)	CVN @ -50°F (-46°C) ft-lb (J)	CVN @ -60°F (-50°C) ft-lb (J)
75%Ar / 25%CO ₂	83 (572)	72 (497)	29	As-Welded	-	58 (79)	41 (56)	40 (54)
75%Ar / 25%CO ₂	80 (552)	65 (448)	35	PWHT	1150°F for 8 hrs	58 (79)	35 (47)	38 (52)
90%Ar / 10%CO ₂	84 (579)	72 (497)	30	As-Welded	-	65 (88)	63 (85)	57 (77)
90%Ar / 10%CO ₂	81 (559)	65 (448)	35	PWHT	1150°F for 8 hrs	49 (66)	50 (68)	29 (39)
92%Ar / 8%CO ₂	91 (628)	83 (572)	27	As-Welded	-	39 (53)	46 (62)	38 (52)
92%Ar / 8%CO ₂	83 (572)	68 (469)	27	PWHT	1150°F for 8 hrs	39 (53)	41 (56)	36 (49)



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)
1/16 (1.6 mm)	75% Ar/25% CO2	Flat & Horizontal	200 (5.1)	250	25	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	245 (6.2)	290	26	5/8 - 3/4 (16 - 19)
		Flat & Horizontal	275 (7.0)	310	27.5	3/4 - 1 (19 - 25)
		Flat & Horizontal	285 (7.2)	330	29	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.

At higher levels of argon the voltage should be gradually decrease, 1/2-1 Volts for 85% Ar / 15% CO2, 1-1 1/2 Volts for 90% Ar / 10% CO2 and 1-2 Volts for 95% Ar / 5% CO2.

APPROVALS

Agency	Approval	Shielding Gas	Diameter(s) in (mm)
ABS	E70C-6M-H4	M21 (75%Ar / 25%CO2)	0.045 (1.2) - 1/16 (1.6)
		M20 (90%Ar / 10%CO2)	0.045 (1.2) - 1/16 (1.6)
CWB CSA W48-23	E491T15-M21P5-CS1-H4	M21 (75%Ar / 25%CO2)	0.035 (0.9) - 1/16 (1.6)
	E491T15-M21A5-CS1-H4	M21 (75%Ar / 25%CO2)	0.035 (0.9) - 1/16 (1.6)
	E491T15-M20P5-CS1-H4	M20 (92%Ar / 8%CO2)	0.035 (0.9) - 1/16 (1.6)
	E491T15-M20A5-CS1-H4	M20 (92%Ar / 8%CO2)	0.035 (0.9) - 1/16 (1.6)

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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