

Select 70C-6 SR

Description:

Select 70C-6 SR is a premier carbon steel, composite metal cored designed to produce excellent mechanical operating in the as-welded and stress relieved conditions. Through unique alloying techniques the Select 70C-6 SR not only exhibits superior mechanical properties but also produces fewer silicon islands. It is ideal for pressure vessels, flanges and valves, piping and repair applications.

Classification:

- E70C-6M-H4 per AWS A5.18, ASME SFA 5.18
- E70T15-M20A6-CS2-H4 & E70T15-M20P6-CS2-H4 per AWS A5.36/A5.36M:2012
- Certified by CWB to CSA W48-06 classification E491C-6MJ-H4

Advantages:

- Maintains excellent mechanical properties after extended stress relief up to 6 hours
- Possesses excellent notch toughness at -58°F before and after post weld heat treatment
- Metal cored formula promotes increased travel speed with better sidewall fusion
- True spray transfer with virtually no spatter
- Very low diffusible hydrogen levels of less than 4.0mL/100g

Typical Mechanical Properties:

	<u>75% Ar/25%CO₂</u>		<u>90%Ar/10%CO₂</u>		<u>95%Ar/5%CO₂</u>	
	As-Welded	6hr@1150F	As-Welded	6hr@1150F	As-Welded	6hr@1150F
Ultimate Tensile Strength (ksi)	83.2	78.0	86.1	85.0	93.1	81.7
Yield Strength (ksi)	70.8	60.3	73.2	70.6	83.0	64.3
Elongation (%)	30	32	28	28	31	32
CVN (ft-lbs) @ -40°F	44	45	63	30	55	71
CVN (ft-lbs) @ -60°F	30	27	49	27	47	38
Hardness (HBW)			190	166		

Typical Deposit Composition:

	Wt. %	<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Ni</u>	<u>Cr</u>	<u>Mo</u>
Using 75% Argon / 25% CO ₂		0.04	1.48	0.012	0.010	0.69	0.42	0.03	0.01
Using 90% Argon / 10% CO ₂		0.04	1.54	0.010	0.009	0.62	0.41	0.04	0.01
Using 95% Argon / 5% CO ₂		0.04	1.61	0.010	0.008	0.65	0.40	0.02	0.01

Typical Welding Parameters*:

<u>Diam.(in.)</u>	<u>Operating Range</u>				<u>Optimum</u>		
	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	<u>CTWD</u>	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>
.045	180-330	240-600	27-33	¾"-1"	255	410	29-30
.052	220-460	220-620	25-35	½"-1"	300	350	29-30
1/16	240-520	175-500	26-37	¾"-1¼"	360	300	29-30

Typical Short Arc Parameters (for out of position welding):

	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>
.045	140	150	16-17

* Welding parameters are for 75% Ar/25% CO₂. At higher levels of argon the voltage should be gradually decreased; ½-1 volt for 85% Ar/15% CO₂, 1-1 1/2 volts for 90% Ar/10% CO₂ and 1-2 volts for 95% Ar/5% CO₂.

Certified Material Test Reports Supplied with 90%Ar/10%Co2 Shielding gas only

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Notice: 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 for any particular purpose with respect to its products.