



Smoothcor 70C-6M

Classification:

E70C-6M per AWS A5.18, SFA 5.18

Description:

Smoothcor 70C-6M is a carbon steel, composite metal cored electrode for gas shielded arc welding. This electrode is intended for single and multiple-pass welding of carbon and certain low alloy steels, where a minimum tensile strength of 70,000 psi is required in the deposited weld metal. Recommended shielding gases are mixtures of argon/carbon dioxide, with a minimum of 75 percent argon, and argon/oxygen, with a minimum of 95 percent argon. Dew points should be at least -40 degrees F., and flow rates should be maintained at 35-50 cfh.

Characteristics:

Smoothcor 70C-6M has higher manganese and silicon contents, providing more deoxidization and flatter bead geometry. The extra deoxidizers allow this electrode to be used on higher levels of mill scale than can be tolerated by the E70C-3X class of metal cored product. As with all **Smoothcor** products, new manufacturing technology ensures the highest in quality, consistency, and welding performance. The use of **Smoothcor 70C-6M** offers many advantages over ER70S-6 solid wires, such as faster travel speeds and increased productivity, better sidewall fusion on heavy plate, and more porosity-free weldments.

Applications:

Smoothcor 70C-6M is well suited to applications where higher manganese and silicon levels are essential, such as in the presence of heavy mill scale or mild contaminants, or when improved wetting of the weld bead is desired. This product excels in general purpose welding, but is equally superior in higher demand situations as in heavier sheet metal fabrication, structural work, pipe welding, and welding of hot water heaters.

Typical Mechanical Properties:

	<u>75%Ar/25% CO₂</u>
Ultimate Tensile Strength (psi)	87,200
Yield Strength (psi)	78,900
Percent Elongation	25
CVN (ft•lb f) @-20°F	46

Typical Chemical Composition:

	Wt. % <u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>
75% Ar/25% CO ₂	0.06	1.55	0.010	0.010	0.66

Typical Welding Parameters:

<u>Diam.(in.)</u>	<u>Operating Range</u>			<u>Optimum</u>			
	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	<u>ESO</u>	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>
.035	180-320	350-750	29-36	1/2-3/4"	250	550	29-30
.045	190-330	240-575	27-38	1/2-1"	325	500	29-30
.052	220-460	220-620	25-39	1/2-1"	325	375	29-30
1/16"	240-520	160-500	24-40	3/4-1 1/4"	375	290	29-30
5/64"	240-550	165-350	27-36	3/4-1 1/4"	420	240	29-30
3/32"	400-600	125-250	28-36	1-1 1/4"	420	165	29-30
1/8"	450-625	95-145	26-32	1-1 1/4"	500	100	28-29

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.