

Select 100C

Description:

Select 100C is a low alloy steel, composite metal cored electrode for gas-shielded arc welding. This product is intended for single and multiple pass welding of some carbon and certain low alloy steels, in the flat and horizontal positions, where a minimum tensile strength of 100,000 psi is required in the deposited weld metal. The recommended shielding gas is 95% minimum argon-balance oxygen. Mixtures of 92% minimum argon-balance carbon dioxide will yield similar results, with respect to weldment performance. Other argon-carbon dioxide mixtures may also be employed, with a minimum of 75-80% argon. Flow rates should be maintained at 35-50 cfh, and dew points should be at least -40° F.

Classification:

- E100C-G per AWS A5.28, SFA 5.28.

Characteristics:

Select 100C is a premium, composite metal cored electrode, exhibiting superb welder appeal and excellent mechanical properties. The arc is normally a pure spray transfer, with virtually no spatter emission. This composite, metal cored process has many advantages over solid wire, such as: faster travel speeds, hence increased productivity; enhanced sidewall fusion, eliminating the dreaded "cold-lap"; and very little tendency for subsurface porosity. Metal cored wires are also preferred for those flux cored applications where slag removal and clean up is not desirable. As with all Select-Arc products, modern manufacturing techniques, proprietary in nature, ensure the highest levels of quality, consistency, and welding performance.

Applications:

Select 100C is well suited to joining low alloy, high strength steels, such as HY-80, A710, and A514. These materials are used in shipbuilding, earthmoving equipment, and mining machinery, to name a few applications. This electrode is an ideal choice for those weldments where distortion must be minimized, and de-slagging is not desirable.

Typical Mechanical Properties:

	<u>98% argon – 2% oxygen</u>
Ultimate Tensile Strength	106,000
Yield Strength	95,000
Percent Elongation	18
CVN impact (ft•lb f) @ -20° F	35
@ -60° F	29

Typical Deposit Composition:

<u>Wt%</u>	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Ni</u>	<u>Mo</u>
	.04	1.55	.32	.010	.010	2.07	.50

Recommended Welding Parameters: Metal Cored – Argon/Oxygen

<u>Diam. (in.)</u>	<u>Optimum</u>			<u>Range</u>			<u>ESO</u>
	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	
.035	200	550	25	180-320	350-750	23-29	½"-¾"
.045	255	410	26	180-330	240-600	22-28	½" -1"
.052	300	350	26	220-460	220-620	23-30	½" - 1"
1/16	360	300	26	230-520	160-500	22-31	¾"-1¼"

Rev 0 (03/11/2014)

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. Select-Arc disclaims any warranty of merchantability for any particular purpose with respect to its products.