



Select 120C

Description:

Select 120C is a low alloy steel, composite metal cored electrode for gas- shielded arc welding. Strength is achieved without the use of chromium, greatly reducing the concern over chromium in the welding fume. This product is intended for single and multiple pass welding of certain carbon and low alloy steels, in the flat and horizontal positions, where a minimum tensile strength of 120,000 psi is required in the deposited weld metal. The recommended shielding gas is 98% argon-2% oxygen. Argon-carbon dioxide mixtures may be employed, with a minimum of 75-80% argon, but strength levels may fall below 120,000 psi. Flow rates should be maintained at 35-50 cfh, with a dew point of at least -40° F.

Classification:

- E120C-G per AWS A5.28, SFA 5.28.

Characteristics:

Select 120C is a premium, composite metal cored electrode, exhibiting superb welder appeal and outstanding mechanical properties. Arc transfer is a pure spray, with virtually no spatter emission. There are many advantages in using composite metal cored, rather than solid wires, such as: faster travel speeds, leading to increased productivity; enhanced fusion into sidewalls, eliminating "cold-lap"; and minimal tendency for subsurface porosity. **Select 120C** is ideal for those applications where the slag residue and fume emissions of flux cored electrodes are unwanted. Proprietary manufacturing technology ensures the highest degree of quality, consistency, and welding performance in the industry.

Applications:

Select 120C is an ideal choice for joining low alloy, high strength steels such as HY-100 and A514. Earthmoving equipment, mining trucks and machinery, and heavy equipment trailers are some areas where these steels may be utilized. This electrode may also be used for overlay or surfacing in certain applications. As with all higher strength filler metals, care must be taken to maintain proper heat input, interpass temperatures, and welding parameters.

Typical Mechanical Properties:

	<u>98% Ar/2% O₂</u>
Ultimate Tensile Strength	120,600
Yield Strength	108,400
Percent Elongation	16
CVN (ft•lb f) @ -20° F	42
@ -60° F	28

Typical Deposit Composition:

<u>Wt%</u>	<u>C</u>	<u>Mn</u>	<u>S</u>	<u>P</u>	<u>Si</u>	<u>Cr</u>	<u>Ni</u>	<u>Mo</u>
	.05	1.65	.010	.010	.34	.02	2.24	.93

Recommended Welding Parameters: Metal Cored – Argon-2%Oxygen

<u>Diam. (in.)</u>	<u>Optimum</u>			<u>Amperage</u>	<u>Range</u>		<u>ESO</u>
	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</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"

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