

Select 80C-B2

Description:

Select 80C-B2 is a metal cored, low alloy steel electrode for gas- shielded arc welding of certain chrome-moly steels. This product is designed for both single and multiple pass welding. Recommended shielding gases are blends of 75-95% argon/balance carbon dioxide and 95-98% argon/balance oxygen. Gases should be welding grade, with a dew point of at least -40°F.

Classification:

- E80C-B2 per ANSI/AWS A5.28, SFA 5.28

Characteristics:

Select 80C-B2 is a low alloy steel, metal cored electrode, wherein all alloying is added through the core ingredients. This tubular, composite construction provides higher deposition rates and increased penetration compared to solid wires of similar composition. Metal cored electrodes also allow for easy transition into a real spray transfer, resulting in lower spatter, better bead geometry, and ease of handling. Ultimately, this means less clean up and, combined with higher deposition rates and faster travel speeds, lower cost welds. Finally, these products can be produced in much smaller, controlled batches than heat/lot quantities of solid wires.

Applications:

Select 80C-B2 is intended to weld materials such as ASTM A335-11 pipe and A387 Grade 11 plate. The weld metal is designed to withstand the high temperature service of the base materials. These materials are air hardening in nature, therefore both preheat and postweld heat treatments are necessary. When properly applied, the weld metal should deliver the same creep resistance and high temperature properties of the base metals.

Typical Mechanical Properties:

	<u>98% Ar/2% O₂ SR 1 Hr @ 1150 °F</u>
Ultimate Tensile Strength (psi)	87,000
Yield Strength (psi)	70,300
Percent Elongation	23.3

Typical Deposit Composition:

<u>Wt. %</u>	<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Cr</u>	<u>Mo</u>
	.06	.65	.010	.010	.43	1.16	.56

Recommended Welding Parameters*:

<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	29-30	160-250	350-750	24-35	½"-¾"
.045	255	410	29-30	180-330	240-600	27-33	½"-1"
.052	300	350	29-30	220-460	220-620	25-35	½"-1"
1/16	360	300	29-30	240-520	175-500	26-37	¾"-1¼"

* With Ar-25%CO₂. For Ar-O₂ mixes lower voltage by 3 volts.

Rev 0 (03/10/2014)

*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. The manufacturer disclaims any warranty of merchantability for any particular purpose with respect to its products.