

Select 111-K3C, -K3M

Description:

Select 111-K3C and Select 111-K3M are low alloy steel, flux cored electrodes designed for use with external gas-shielding. They are intended for single and multiple pass welding, in all positions, of low alloy steels requiring 110,000 psi minimum tensile strength in the weld deposit. **Select 111-K3C** should be used with carbon dioxide shielding gas and **Select 111-K3M** should be used with 75-80% argon – balance carbon dioxide. The recommended gas flow rates are 35- 50 cfh, and welding grade gas should be used with a dew point of at least -40° F.

Classifications & Approvals:

- E111T1-K3C, E111T1-K3M per AWS A5.29, SFA 5.29
- ABS as E111T1-K3C, E111T1-K3MJ

Characteristics:

Select 111-K3C, M are premium low alloy steel, flux cored electrodes, with a rutile based slag system. They operate in a spray-like transfer, with low spatter and good welder appeal. The fast freezing slag facilitates welding in all positions. There is moderate slag volume, with complete coverage, and easy removal. Mechanical properties are quite good, with excellent CVN toughness at subzero temperatures.

Applications:

Select 111-K3C, M is a superb choice for those applications requiring 110 Ksi minimum tensile strength and good charpy v-notch toughness, such as when welding HY-80, certain grades of A514, and HSLA-80 steels. These materials are used in crane fabrication, trailer construction, and other structural applications involving higher strength materials.

Typical Mechanical Properties:

	<u>All Weld Metal As-Welded</u>	
	<u>111-K3C (CO₂)</u>	<u>111-K3M (75/25)</u>
Ultimate Tensile Strength (psi)	125,200	126,900
Yield Strength (psi)	118,100	107,800
Percent Elongation	20	19
CVN (ft-lb f) @) 0° F	41	49
@ -20 F	39	37

Typical Weld Deposit Chemistry:

<u>Wt.%</u>	<u>C</u>	<u>Mn</u>	<u>P</u>	<u>S</u>	<u>Si</u>	<u>Ni</u>	<u>Mo</u>
K3C	.05	2.00	.010	.010	.35	1.92	.55
K3M	.07	2.03	.010	.010	.38	1.99	.38

Typical Welding Parameters*:

<u>Diameter</u>	<u>Position</u>	<u>Optimum</u>			<u>Range</u>	
		<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	<u>Amperage</u>	<u>Voltage</u>
1/16"	Flat	350	300	29	150-400	22-34
	Overhead	225	160	26	150-310	22-28
	Vertical up	225	160	25	150-280	22-27
.052"	Flat	300	360	28	100-330	19-32
	Overhead	225	245	26	150-310	21-28
	Vertical up	225	245	25	150-280	21-27
.045"	Flat	250	282	28	100-300	21-32
	Overhead	200	265	26	150-280	21-29
	Vertical up	200	265	25	100-230	21-28

* With CO₂ shielding gas. For 75% Ar/25% CO₂ decrease the voltage by 1 to 1.5 volts.

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.

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