

Select 812-K2

Description:

Select 812-K2 is a low alloy steel, flux cored electrode for use with external gas shielding. This electrode is designed for use with 75-80% argon / balance carbon dioxide. **Select 812-K2** is intended for single and multiple pass welding of low alloy steels, in all positions, where moderate tensile strength and exceptional low temperature CVN values are required. The shielding gas should have a dew point of at least -40°F, with recommended flow rates of 35-50 cfh.

Classifications & Approvals:

- E81T1-K2MJ per AWS A5.29, SFA 5.29.
- ABS 4 YSA, DNV 4 YMS, All (C25)
- CWB E81T1-K2MJ-H4

Characteristics:

Select 812-K2 is a gas-shielded, low alloy steel, flux cored electrode which burns off in a smooth, semi-spray transfer, with low spatter emission. The arc is soft and stable, and easy to control in all position welding. Used in conjunction with 75-80 percent argon / balance carbon dioxide, the slag freezes rapidly and offers complete coverage. Carefully balanced alloy additions and a special slag system promote excellent CVN toughness values down to -75° F. The welder appeal and mechanical properties make this an excellent choice for weldments requiring both strength and toughness.

Applications:

Select 812-K2 is an excellent electrode for applications where all position capability, excellent mechanical properties, and low diffusible hydrogen levels are required. This electrode is well suited to applications such as low temperature storage tanks, offshore drilling rigs, shipbuilding, and construction machinery.

Typical Mechanical Properties:

	<u>As-welded</u>	<u>SR (3 hrs @ 1150F)</u>
Ultimate Tensile Strength (psi)	92,000	91,100
Yield Strength (psi)	84,000	78,900
Percent Elongation	24	24.7
CVN (ft•lb f)	114	
@ -20 F		
@ -50 F		58
@ -60 F	62	
@ -75 F	59	

Typical Deposit Composition:

<u>Wt%</u>	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Ni</u>
	.06	1.20	.22	.010	.010	1.60

Recommended 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>	<u>ESO (in.)</u>
1/16"	Flat	350	300	29	100-375	22-34	
	Overhead	225	160	26	100-310	22-28	1"-1¼"
	Vertical up	225	160	25	100-280	22-27	
.052"	Flat	300	360	28	100-330	19-32	
	Overhead	225	245	26	100-310	21-28	¾"-1"
	Vertical up	225	245	25	100-280	21-27	
.045"	Flat	250	282	28	100-300	21-32	
	Overhead	200	265	26	100-280	21-29	½"-3/4"
	Vertical up	200	265	25	100-230	21-28	

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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.