

Select 81-Ni2

Description:

Select 81-Ni2 is a low alloy steel, gas-shielded, flux cored wire intended for horizontal fillet and flat position welding of carbon and low alloy steels requiring 80,000 psi minimum tensile strength and good CVN toughness at subzero temperatures. Carbon dioxide is the recommended shielding gas. Suggested flow rates are 35-50 cfh, with a dew point of at least -40° F. **Select 81-Ni2** can be used in both single and multiple pass applications.

Classification:

E80T1-Ni2C per AWS A5.29, ASME SFA 5.29.

Characteristics:

Select 81-Ni2 utilizes a rutile-based slag system, producing a smooth spray transfer, a thin coverage of easily removing slag, and a smooth rippled bead profile. Low temperature charpy v-notch toughness is excellent, due to the 2½ percent nickel in the weld deposit.

Applications:

Select 81-Ni2 is an excellent selection for welding steels which require good charpy v-notch toughness and tensile strength in the range of 80,000-100,000 psi. Typical steels would include ASTM A203, A572, A575, and A734 and steels containing 2% nickel. This combination of strength and CVN toughness makes **Select 81-Ni2** ideal for applications such as offshore platform construction, earthmoving and mining machinery and shipbuilding.

Typical Mechanical Properties:

	<u>CO₂</u>
Ultimate Tensile Strength (psi)	89,300
Yield Strength (psi)	76,500
Percent Elongation	27
CVN (ft-lb f) @-40°F	48

Typical Deposit Composition:

<u>Wt%</u>	<u>C</u>	<u>Mn</u>	<u>Si</u>	<u>P</u>	<u>S</u>	<u>Ni</u>
	.07	1.00	.29	.010	.010	2.23

Recommended Welding Parameters:

<u>Diameter</u>	<u>Optimum</u>			<u>Range</u>	
	<u>Amperage</u>	<u>WFS</u>	<u>Voltage</u>	<u>Amperage</u>	<u>Voltage</u>
1/16"	350	300	29	150-400	22-34
5/64"	390	250	29	280-430	26-33
3/32"	450	210	31	300-550	26-34

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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 for any particular purpose with respect to its products.