Select 810-Ni2

Description:

Select 810-Ni2 is a low alloy steel, flux cored wire for use with external gas shielding. This electrode is intended for single and multiple pass welding of carbon and certain low alloy steels in all positions. **Select 810-Ni2** can be shielded by either carbon dioxide or 75-80 percent argon – balance carbon dioxide. A suggested rate of gas flow is 35-50 cfh, and a minimum dew point of -40°F should be maintained.

Classifications & Approvals:

- E81T1-Ni2C, E81T1-Ni2M per AWS A5.29, SFA 5.29; MIL-81T1-Ni2C and MIL-81T1-Ni2M per MIL-E-24403/1
- ABS 3SA, 3YSA, All (CO_2/C25), MIL-81T1-Ni2C and MIL-81T1-Ni2M per MIL-E-24403/1

Characteristics:

Select 810-Ni2 has a rutile based slag system, which provides a spray like arc transfer with very little spatter. The "dual gas" capability of this electrode allows it to be used with 100 percent carbon dioxide or 75-80% argon – balance carbon dioxide mixtures. The use of argon-carbon dioxide mixtures will increase the spray tendency of the arc appreciably, and will also increase the as-deposited tensile strength. A fast freezing slag lends ease of all position capability and high welder appeal. Low temperature charpy v-notch toughness is excellent, due to the 2½ percent nickel in the weld deposit.

Applications:

Select 810-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 A572, A575, and A734. This combination of strength and CVN toughness makes **Select 810-Ni2** ideal for applications such as offshore platform construction, shipbuilding, earthmoving and mining machinery.

Typical Mechanical Properties:

	CO_2	75% Ar/25 CO_2
Ultimate Tensile Strength (psi)	87,000	90,000
Yield Strength (psi)	73,000	80,000
Percent Elongation	26	22
CVN (ft·lb *ƒ*) @-40ºF	50	40

Typical Deposit Composition:

Wt%	C	Mn	Si	P	S	Ni
75Ar/25CO_2	.05	.90	.30	.010	.010	2.40
CO_2	.04	.83	.29	.010	.010	2.40

Recommended Welding Parameters*:

		Optimum			Range	
Diameter	Position	Amperage	WFS	Voltage	Amperage	Voltage
5/64"	Flat	390	250	29	240-430	26-33
	Overhead	250	135	26	240-300	25-28
	Vertical up	250	135	25	240-290	24-26
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 CO_2 shielding gas. For 75Ar/25CO_2 decrease voltage by 1 to 1.5 volts.

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