Select 80C-Ni2

Description:

Select 80C-Ni2 is a low alloy steel, composite metal cored electrode for use in gas-shielded arc welding. This electrode is intended for welding carbon and low alloy steels requiring 80,000 psi minimum tensile strength and good charpy v-notch toughness at subzero temperatures. **Select 80C-Ni2** can be used in both single and multiple pass applications in the flat and horizontal positions. Shielding gases can be either 75-92 percent argon – balance carbon dioxide or 95-98 percent argon – balance oxygen mixtures. Gas flow should be 40-50 cfh.

Classification:

- E80C-Ni2 per AWS A5.28, SFA 5.28.

Characteristics:

Select 80C-Ni2 operates in a smooth spray transfer, with virtually no spatter and very little fume emission. Weld beads are flat, with good tie-in, and few slag islands. This electrode provides superior penetration into sidewalls compared to solid wire, thus cold lap, or lack of fusion, is nonexistent. Quality and consistency are superb, due to modern manufacturing methods and equipment.

Applications:

Good charpy v-notch values at lower temperatures make **Select 80C-Ni2** an excellent choice for those applications where low temperature toughness is essential, such as construction equipment, piping systems, shipbuilding, and colder climate fabrications.

Typical Mechanical Properties:

	SR 1 Hr @ 1150 F 98% Ar/2% O_2
Ultimate Tensile Strength (psi)	91,000
Yield Strength (psi)	72,000
Percent Elongation	25
CVN impact (ft•lb f) @ -80° F	25

Typical Deposit Composition:

Wt%	C	Mn	Si	P	S	Ni
	.04	1.30	.45	.010	.010	2.30

Recommended Welding Parameters*:

	Optimum			Range			
Diam. (in.)	Amperage	WFS	Voltage	Amperage	WFS	Voltage	CTWD
.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	1"-1¼ ″

* With 75% Ar/25% CO_2. For Ar/O_2 mixes lower voltage by 3 volts.

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