Select 70C-T

Description:

Select 70C-T is a carbon steel, composite metal cored electrode for gas-shielded arc welding. This product is intended for single and multiple pass welding, in horizontal fillet and flat position applications of carbon or certain low alloy steels requiring excellent CVN notch toughness at temperatures as low as -50º F. Recommended shielding gases are mixtures of 75-95% argon, balance carbon dioxide. Flow rates must be in the range of 40-55 cfh, and dew points should be a minimum of -40º F.

Classification & Approvals:

- E70C-6M per AWS A5.18, ASME SFA 5.18
- ABS 3SA-3YSA, DNV 3 YMS, Lloyd's 3S, 3YS; F (C25)
- CWB E491C-6, 6M-H4 (CO_2/C5)

Characteristics:

Select 70C-T is a microalloyed version of **Select 70C-6**, offering superior CVN toughness values at subzero temperatures, as low as -50º F. The toughness of this product produces superior crack resistance in critical applications. This electrode exhibits a true spray transfer, with virtually no spatter. There are minimal slag islands on the weld surface, and these decrease with increased argon in the shielding gas. The bead profile is superior; fillets are equal legged with virtually no convexity. The deoxidizer content of **Select 70C-T** allows it to weld over mill scale and rust with no surface porosity. As with all metal cored wires, there are several advantages over welding with solid electrodes; increased travel speeds, better fusion into base material and sidewalls, and the virtual elimination of subsurface porosity. Smaller diameter electrodes can be used in all position welding with either pulse arc or short circuit arc welding process.

Applications:

The excellent CVN toughness of **Select 70C-T** makes it an ideal selection for welding fine grained steels and any low alloy steels of moderate tensile strength requiring good CVN impact toughness down to -50º F. Such steels would be ASTM A515 Gr 70, A516 Gr 70, and 1% Ni steels. These materials would be used in the fabrication of railcars, mining machinery, shipbuilding, earthmoving equipment, pipeline material, and fabrications utilized in cold climates.

Typical Mechanical Properties(75%Ar/25%CO2):

Ultimate Tensile Strength(psi)	88,900
Yield Strength(psi)	76,300
Percent Elongation	28
CVN(ft lb f) @-50º F	38

Typical Deposit Composition:

Shielding Gas	C	Mn	P	S	Si	Ni
75%Ar/25%CO2	.04	1.59	.010	.010	.69	.40

Typical Welding Parameters*:

	Optimum			Range			
Diam.(in.)	Amperage	WFS	Voltage	Amperage	WFS	Voltage	ESO
.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	¾"-1¼"

Typical Short Arc Parameters (for out of position welding):

	Amperage	WFS	Voltage
.035	100	145	15-16
.045	140	150	16-17
.052	125	120	17-18

* Welding parameters are for 75% Ar/25% CO_2. At higher levels of argon the voltage should be gradually decreased; ½-1 volt for 85% Ar/15% CO2, 1-11/2 volts for 90% Ar/10% CO_2 and 1-2 volts for 95% Ar/5% CO2.

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