Smoothcor® 81T1-Ni2

Classification: AWS A5.29 / ASME SFA 5.29 E81T1-Ni2C / E81T1-Ni2M

Description: Smoothcor 81T1-Ni2 is a 2 ½% Ni steel designed for single and multiple pass welding of carbon and certain low alloy steels such as ASTM A572, A575 and A734 in all positions. It is an excellent selection for welding steels that require good CVN toughness and 80,000 – 100,000 psi tensile strength. **Smoothcor 81T1-Ni2** combines strength and CVN toughness making it ideal for offshore platform construction, shipbuilding, earthmoving and mining machinery.

Shielding Gas: 100% CO_2, 75% Ar/25% CO_2, 35-50 cfh

Typical Deposit Chemistry: %

	C	Mn	P	S	Si	Ni
CO_2	.05	.83	.01	.01	.29	2.40
75Ar/25CO_2	.04	.90	.01	.01	.30	2.40

Typical Mechanical Properties:

	CO_2	75Ar/25CO_2
Tensile Strength(psi)	87,000	90,000
Yield Strength (psi)	73,000	80,000
Elongation	26	22
CVN (ft•lb *f*) @ 0°F	50	40

Typical Welding Parameters – Carbon & Low Alloy – Flux Cored -All position-CO_2*- DCEP

Dia.	Position	Operating Range		Optimum			
		Amps	Volts	Amps	WFS (ipm)	Volts	ESO
.045"	**Flat**	130-300	21-32	250	450	28	½ - 1"
	Overhead	150-280	21-30	190	305	26	½ - 1"
	Vertical Up	130-260	21-29	190	305	25	½ - 1"
.052"	**Flat**	140-330	19-32	275	400	28	½ - 1"
	Overhead	150-290	21-28	200	245	26	½ - 1"
	Vertical Up	140-270	21-27	200	245	25	½ - 1"
1/16"	**Flat**	150-400	22-34	330	330	29	½"-1"
	Overhead	150-310	22-28	225	180	26	½ -1"
	Vertical Up	150-280	22-27	225	180	25	½ - 1"

*For 75Ar/25CO_2 decrease voltage by 1 to 1.5 volts.