



Smoothcor 81T1-W2

Classification: E81T1-W2C, W2M per AWS A5.29, ASME SFA 5.29

Approval: CWB E81T1-B2-H4

Description:

Smoothcor 81T1-W2 is a gas-shielded, flux cored, low alloy steel electrode for all position welding of weathering steels. This electrode is intended for single and multiple pass welding. Welder appeal is excellent with a spray transfer, thin slag which removes easily and cleanly, and a smooth bead profile.

Applications:

Smoothcor 81T1-W2 contains alloy additions which match those of the “weathering” steels such as ASTM A588. This provides weld metal which matches the corrosion resistance and coloring of the weathering-type structural steels. These steels are commonly used in bridge construction and other structural components used in highway construction.

Diameters: .045", .052", 1/16"

Shielding gas: 100% CO₂, 75%-80% Ar/balance CO₂, 35-50 cfh

Welding positions: All positions

Characteristics:

- Matches coloring and corrosion resistance of weathering steels.
- All position welding capability.
- Good mechanical properties.

TYPICAL MECHANICAL PROPERTIES	
	CO ₂
Ultimate Tensile Strength (psi)	91,000
Yield Strength (psi)	81,500
Percent Elongation	24
CVN (ft-lb f) @ -20° F	28

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. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products



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TYPICAL DEPOSIT COMPOSITION								
Wt%	C	Mn	P	S	Si	Ni	Cr	Cu
	.04	.94	.010	.010	.52	.70	.60	.59

RECOMMENDED WELDING PARAMETERS*						
Diam.	Position	Optimum			Range	
		Amps	Volts	WFS	Amps	Volts
1/16"	Flat	350	29	350	150-400	22-34
	Overhead	225	26	180	150-310	22-28
	Vertical up	225	25	180	150-280	22-27
.052"	Flat	300	28	440	100-330	19-32
	Overhead	200	26	245	150-310	21-28
	Vertical up	200	25	245	150-280	21-27
.045"	Flat	250	28	450	100-300	21-32
	Overhead	190	26	305	150-280	21-29
	Vertical up	190	25	305	100-230	21-28

* With CO₂ shielding gas. For 75Ar/25CO₂ decrease voltage by 1 to 1.5 volts.

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