



Smoothcor[®] 81T1-Ni1M

Classification: AWS A5.29 / ASME SFA 5.29 E81T1-Ni1M H4

Description: Smoothcor 81T1-Ni1M is rutile type all position flux cored wire designed to weld carbon and low alloy steels requiring good CVN toughness at subzero temperatures and high tensile steel (> 80,000 psi /590 MPa). It provides a smooth arc, slow freezing slag, low spatter, good weldability and bead appearance. Proper preheat (50~150°) and interpass temperatures must be used to release diffusible hydrogen which may cause cracking in the weld metal when used for medium/heavy plates.

Typical Deposit Chemistry: %

	C	Mn	P	S	Si	Cr	Mo	Ni	V
Ar/+25%CO ₂	.05	1.44	.01	.01	.46	.03	.01	.9	.01

Typical Mechanical Properties:

	Ar/+25%CO ₂
Tensile Strength(psi)	94,419 PSI (651 MPa)
Yield Strength (psi)	92534 PSI (638 MPa)
Elongation (%)	26
CVN (J) -30° C	183
Diffusible Hydrogen Max 4 (ml/100g)	3.1
Gas flow rate	20~25 ml

Note: Hot cracking may occur with incorrect welding parameters

Recommended Welding Parameters (DC+)

Dia.	Position	Operating Range	
		Amps	Volts
.045"	Flat	180-300	24-36
	Horizontal	180-300	24-36
	Vertical Up	140-240	24-30
1/16"	Flat	200-380	26-42
	Horizontal	200-380	26-42
	Vertical Up	200-280	22-32

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 purpose with respect to its products.