



Smoothcor[®] 91T1-B9

CLASSIFICATION: AWS A5.29 / ASME SFA 5.29 E91T1-B9

DESCRIPTION: Smoothcor 91T1-B9 is an all position flux cored wire designed for single and multiple pass welding of 9%Cr-1%Mo creep resistant steels. The addition of Nb, V and N improves the long-term creep resistance. Applications include power plant turbine casings, valves, headers and piping, A387 Gr 91 plate, A335 P91 and 369-FP91 piping, A199-T91, A200-T91 and A213-T91 tubing, A182-F91 forgings, as well as fittings and castings of similar composition. Smoothcor 91T1-B9 improves deposition rates over solid wire, the arc transfer is smooth and stable, and the weld bead is uniform with good tie in. SHIELDING GAS: 75% Ar/25% CO₂, 40-50 cfh.

Typical Deposit Chemistry: %

Al	C	Cr	Mn	Mo	N	Nb	Ni	P	S	Si	V
<.01	.10	9.0	.70	.1.0	.04	.04	.35	.01	.01	.25	.20

Typical Mechanical Properties:

	75Ar/25CO ₂	
	SR 2hrs @ 1400°F	SR 4hrs @ 1400°F
Tensile Strength(psi)	104,200	99,800
Yield Strength (psi)	84,200	81,900
Elongation	20	21

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

Dia.	Position	Operating Range		Optimum			
		Amps	Volts	Amps	WFS (ipm)	Volts	ESO
.045"	Flat	130-300	21-32	250	450	27	½ - 1"
	Overhead	150-280	21-30	190	305	25	½ - 1"
	Vertical Up	130-260	21-29	190	305	25	½ - 1"
1/16"	Flat	150-400	22-34	330	330	28	½"-1"
	Overhead	150-310	22-28	225	180	25	½ -1"
	Vertical Up	150-280	22-27	225	180	24	½ - 1"

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.