

SA 90S-B9

CATEGORY SAW Arc Submerged

TYPE Medium alloyed, high-strength creep resistant 9% Chromium alloy.

APPLICATIONS Designed for welding equivalent type 91~ 9% Cr Steels modified with small additions of Niobium, Vanadium and Nitrogen to offer improved long term creep properties. This alloy is specially intended for high integrity structural service at elevated temperature such as: Headers, main steam piping and turbine casings, gasification plants etc.

PROPERTIES Sub arc filler metal specifically intended for high integrity structural service at elevated temperature so the minor alloy additions responsible for its creep strength are kept above the minimum considered necessary to ensure satisfactory performance. SA 90S-B9 is best to be used with [FL 155](#) high basic agglomerated flux to obtain optimum creep properties.

CLASSIFICATION

AWS	A5.23: EB91
EN ISO	24598-A SCrMo91
DIN: W.Nr.	1.4903

SUITABLE FOR A 213 T91 (seamless tubes), A 335 P91 (seamless tubes), A 387 Gr91 (plates), A 182 / A336 F91 (forgings), X10CrMoVNb 91, 1503 Gr91, AFNOR NF A-49213/A-49219 Gr TU Z 10, CDVNB 09-01

APPROVALS CE approved

WELDING POSITIONS:



WELD METAL ANALYSIS %

C	Mn	Si	S	P	Cr	Ni	Mo	Nb	V
0.1	0.50	0.25	0.006	0.008	8.7	0.6	1.0	0.04	0.2

MECHANICAL PROPERTIES

Heat Treatment	R _{p0.2} (N/mm ²)	R _m (N/mm ²)	A5 (%)	A4 (%)	Impact Energy (J) ISO-V		Hardness HV
					20°C	-20°C	
Min	540	620	16	17			265
SR	700	800	22	19	220		

SR: stress relieved PWHT 750°C-760°C / 2-3Hr

WELDING PARAMETERS / PACKING

D (mm)	Welding Parameters		Packing		
	Voltage (V)	Current (A)	spool type	kg / spool	kg / pallet
2.0	26-29	280-375	K-415 / Drum	25 / 300	950 / 600
2.4	27-30	320-420	K-415 / Drum	25 / 300	950 / 600
3.2	27-30	400-520	K-415 / Drum	25 / 300	950 / 600

REDRYING TEMPERATURE not required

RECOMENDED FLUX FL 155