

ER 90S-B9 (P91) Tig

CATEGORY GMAW-GTAW Solid wires

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 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.

CLASSIFICATION

AWS	A-5.28: ER90S-B9
EN ISO	21952-A: WCrMo91
DIN: W.Nr.	1.4903
DIN	8575: SG CrMoVNb91

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 % (TYPICAL)

C	Mn	Si	S	P	Cr	Ni	Mo	V	Al	Cu	Other
0.1	0.80	0.32	0.008	0.008	9.0	0.6	1.0	0.2	0.02	0.10	< 0.50

MECHANICAL PROPERTIES

Heat Treatment	R _{p0.2} (N/mm ²)	R _m (N/mm ²)	A ₅ (%)	A ₄ (%)	Impact Energy (J) ISO-V		Hardness HV
					20°C	-20°C	
Min	520	620	16	17			265
SR	700	800	22	19	220		

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

WELDING PARAMETERS / PACKING

Welding Parameters		Packing	
D (mm)	Current (A)	single	master carton
1,6 x 1000	50-90	5 kg cartons	25 kg cartons
2.4 x 1000	110-180	5 kg cartons	25 kg cartons
3.2 x 1000	150-250	5 kg cartons	25 kg cartons

REDRYING TEMPERATURE not required

GAS ACC. EN ISO: 14175: I1