



GMAW/GTAW LOW ALLOY STEEL (High Temperature)
AUTOMIG 90S-B9 / TIGFIL 90S-B9

MODIFIED 9Cr-1Mo-V-Nb COPPER COATED LOW ALLOY WIRE



CLASSIFICATION : EN ISO 21952-A AWS A/SFA 5.28 **APPROVALS :**

Automig 90S-B9:	G CrMo91	ER90S-B9	-
Tigfil 90S-B9:	W CrMo91	ER90S-B9	-

KEY FEATURES :

- Copper coated low alloy steel solid filler wire & rod
- Typical 9Cr-1Mo-V-Nb type weld deposit
- Uniform copper coating
- Smooth wire feeding
- Offers improved long-term creep properties
- Radiographic quality weld

WELDING POSITION :



GMAW: DCEP
GTAW: DCEN

Shielding Gas	Gas Flow Rate, LPM	Stickout, mm
GMAW: Ar+5O ₂	15-22	10-20
GTAW: Ar	10-15	-

TYPICAL APPLICATIONS :

- Suitable for welding of Cr-Mo-V-Nb steels such as P91, T91 and F91
- Suitable for material 1.4903, SA 387 Gr.91, SA 213 T91, SA 335 P91
- For heavy wall components such as headers, main steam piping and turbine rotors in power generating plants

STORAGE / HANDLING : Keep dry and follow handling instructions mentioned on the box

CHEMICAL COMPOSITION OF BARE SOLID WIRE, Wt% :

	C	Mn	Si	Cr	Mo	Ni	V
Specification	0.07-0.13	1.20 max	0.15-0.50	8.0-10.50	0.85-1.20	0.80 max	0.15-0.30
	Cu*	Al	Nb	N	S	P	
Specification	0.20 max	0.04 max	0.02-0.10	0.03-0.07	0.010 max	0.010 max	

* Including Cu in the coating

MECHANICAL PROPERTIES OF ALL WELD METAL :

	Condition	UTS, MPa	YS at 0.2% offset, MPa	EL%
Typical	PWHT: 760°C for 2 Hrs	620 min	410 min	16 min

Mechanical properties will vary with the type of shielding gas used.

CREEP TEST DATA :

Temperature, °C	Stress, MPa	Duration, Hrs	Strain% after 1000 Hrs
550	240	1000	2.26
600	160	1000	3.04

PACKING DATA :

Automig 90S-B9	Ø, mm		Kg/Spool	
	1.2		15	
	1.6		15	
Tigfil 90S-B9	Ø x L, mm	Primary Box, Kg	No. of Primary Boxes	Net Wt. of Carton, Kg
	1.6 x 1000	5	4	20
	2.0 x 1000	5	4	20
	2.5 x 1000	5	4	20

EQUIVALENT :

SMAW Electrode: **Cromoten 9M**