


**GMAW/GTAW LOW ALLOY STEEL (High Temperature)**
**AUTOMIG 90S-B3 / TIGFIL 90S-B3**

2.25Cr-1Mo COPPER COATED LOW ALLOY WIRE FOR CREEP RESISTANCE


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

Automig 90S-B3: G CrMo2Si	ER90S-B3	IBR
Tigfil 90S-B3: W CrMo2Si	ER90S-B3	IBR/NPCIL/BHEL

**KEY FEATURES :**

- Copper coated low alloy steel solid filler wire & rod
- Uniform copper coating
- Deposit notch free welds with excellent mechanical properties
- Typical 2.25 Cr-1 Mo weld deposit
- Superior strength and toughness after PWHT
- Radiographic quality weld

**WELDING POSITION :**

**GMAW: DCEP  
GTAW: DCEN**

Shielding Gas	Gas Flow Rate, LPM	Stickout, mm
GMAW: Ar/1-5O <sub>2</sub>	15-22	10-20
GTAW: Ar	10-15	-

**TYPICAL APPLICATIONS :**

- Welding of 2.25Cr-0.5Mo and 2.25Cr-1Mo type creep resistant steels
- Joining ASTM A 335 Gr.P22, A 387 Gr.22 materials
- Refineries, Petrochemicals and fertilizers plant
- Joining of P5A materials
- Cr-Mo and Cr-Mo-V bearing steels for high temperature applications
- Suitable for 12CrMo9-10, 10CrSiMoV7 German steels

**STORAGE / HANDLING :**

Keep dry and follow handling instructions mentioned on the box

**CHEMICAL COMPOSITION OF BARE SOLID WIRE, Wt% :**

	C	Mn	Si	Cr	Mo	Cu*	S	P
Specification	0.07-0.12	0.40-0.70	0.40-0.70	2.30-2.70	0.90-1.20	0.35 max	0.025 max	0.025 max

\* Including Cu in the coating

**MECHANICAL PROPERTIES OF ALL WELD METAL :**

	Condition	UTS, MPa	YS at 0.2% offset, MPa	EL%
Specification	PWHT: 690°C for 1 Hr	620 min	540 min	17 min

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

**CREEP TEST DATA FOR TIGFIL 90S-B3:**

	Temperature, °C	Stress, MPa	Duration, Hrs	Strain% after 1000 Hrs
PWHT: 690°C for 1 Hr	550	140	1000	0.92
	600	80	1000	1.28

**PACKING DATA :**

Automig 90S-B3	Ø, mm		Kg/Spool	
		1.2		15
	1.6		15	
Tigfil 90S-B3	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 C**