

SM-90B3 / ST-90B3

2.25%Cr- 1%Mo steels, Joining carbon steel and Cr-Mo alloys

Conformances

AWS A5.28/ ASME SFA5.28 ER90S-B3

ABS AWS A5.28 ER90S-B3 (ST-90B3)

Applications

- High pressure piping and pressure vessels

Features

- Careful control of preheat, interpass temperatures postweld heat treatment is essential to prevent cracking

Welding Position

Current

GMAW: DC + / GTAW: DC -

Shielding Gas

Ar

Diameter / Packaging

Diameter mm (in)	Spool			Pac		
	10kg (22lbs)	15kg (33 lbs)	20kg (44lbs)	30kg (66lbs)	150kg (330lbs)	200kg (440lbs)
0.8 (0.033)						
0.9 (0.035)						
1.0 (0.040)						
1.2 (0.045)		✓	✓			
1.4 (0.052)						
1.6 (1/16)						

Diameter mm (in)	5kg*1000						
	1.0 (0.039)	1.2 (0.045)	1.6 (1/16)	2.0 (5/64)	2.4 (3/32)	2.6 (0.10)	3.2 (1/8)
				✓	✓		✓

Typical Chemical Composition of the Wire(%)

C	Si	Mn	Cr	Ni	Mo	Cu	Shielding Gas
0.118	0.48	0.54	2.48	0.15	0.98	0.32	Ar

Typical Mechanical Properties of All-Weld Metal

	YS MPa(lbs/in ²)	TS MPa(lbs/in ²)	EL (%)
As welded with 100% Ar	590 (85,600)	759 (109,518)	24

SMAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX