



ER90S-B3

Specifications / Certifications:

AWS: A5.28
ASME SFA A5.28

Features

- Used for pipe material in the petroleum industry for elevated temperature service.
- Requires controlled preheat, inter-pass, and post weld treatment.

Applications

- Petro-Chemical
- Power Plants
- Piping
- Turbine Castings
- Steam Chests
- 2 1/4 chrome, 1 moly steels

Technical Specifications

- Before welding, it is necessary to remove pollutants such as rust, coating, oil stains, moisture, and impurities from the welded parts.
- The ambient wind speed during welding should be less than 1 m/s. Wind proof measures should be taken for welding in windy areas.
- Argon gas used for welding should be used, with Ar ≥ 99.99%.
- When the back of the weld is filled with argon gas, the gas flow rate should be 1/2 of the front to avoid forming positive pressure on the back and causing incomplete penetration at the root.
- Usually, during welding, the weldment needs to be preheated and maintained at an inter pass temperature of 160-200 °C, and then subjected to tempering treatment at 675-705 °C after welding.

Recommended Weld Parameters:

Diameter	Volts	Amps	Gas
0.035	10-12	50-70	100% Argon
0.045	10-12	70-100	100% Argon
1/16	12-15	100-125	100% Argon
3/32	15-20	125-175	100% Argon
1/8	15-20	175-250	100% Argon

Typical Chemical Composition:

Chemical	C	Mn	Si	P	S
	0.07-0.12	0.40-0.70	0.40-0.70	0.025 max	0.025 max
Chemical	Ni	Cr	Mo	Cu	Other
	0.20 max	2.30-2.70	0.90-1.20	0.35 max	0.50 max

Typical Mechanical Properties:

Tensile Strength	Yield Strength	Percent Elongation
94,000 psi	80,500 psi	19%

Diameters & Packages

Diameter		Lbs	Pkg
0.030"	1/32"	11	Spool
0.035"	7/200"	11	Spool
0.035"	7/200"	33	Spool
0.045"	3/64"	2	Spool
0.045"	3/64"	10	Box
0.045"	3/64"	33	Spool
0.062"	1/16"	10	Box
0.062"	1/16"	33	Spool
0.093"	3/32"	10	Box
0.125"	1/8"	10	Box
0.156"	5/32"	10	Box
0.187"	3/16"	55	Coil