

Chrome Moly Welding Wire

Alloy: WW90S-B9
Class: ER90S-B9

Conforms to Certification: AWS A5.28
ASME SFA A5.28

Alloy: ER90S-B9

Weld Process: Mig and Tig Welding Processes

AWS Chemical Composition Requirements

C = 0.07 - 0.13	Ni = 0.80 max
Mn = 1.20 max	Cr = 8.00 - 10.50
Si = 0.15 - 0.50	Mo = 0.85 - 1.20
P = 0.010 max	Cu = 0.20 max
S = 0.010 max	V = 0.15 - 0.30
Al = 0.04 max	Other = 0.50 max

Deposited All Weld Metal Properties % (AW)

Tensile Strength	100,000psi
Yield Strength	85,000psi
Elongation	22%

Deposited Charpy-V-Notch Impact Properties %

Not Applicable

Deposited Chemical Composition % (Typical)

C = 0.09	P = 0.009	Cr = 8.75
Mn = 1.00	S = 0.009	Mo = 1.08
Si = 0.20	Ni = 0.75	Cu = 0.11
V = 0.19		

Deposited Mechanical Properties (S.R.)

1400° F for (2) Hours

Tensile Strength	112,000psi
Yield Strength	100,000psi
Elongation	17%

Application

Material contains 9% chromium and 1% molybdenum. Classification is intended for welding base materials of similar composition. Requires controlled preheat, inter-pass and post-weld heat treatment.

Recommended Welding Parameters

Process	Diameter of Wire	Voltage (V)	Amperage (A)	Gas
Tig	.035 inches x 36	10 – 12	50 – 70	100% Argon
	.045 inches x 36	10 – 12	70 – 100	100% Argon
	1/16 inches x 36	12 – 15	100 - 125	100% Argon
	3/32 inches x 36	15 – 20	125 - 175	100% Argon
	1/8 inches x 36	15 – 20	175 - 250	100% Argon
MIG-Sprayer Transfer	.035 inches	28 – 32	165 – 200	98% Argon + 2% Helium
	.045 inches	30 – 34	180 – 220	75% Argon + 25% Co ₂
	1/16 inches	30 – 34	230 – 260	100% Co ₂
MIG-Short Arc Transfer	.035 inches	22 – 25	100 – 140	100% Co ₂
	.045 inches	23 – 26	120 – 150	75% Argon + 25% Co ₂

