

Stainless Steel Bare Wire

Alloy: WW308LSI
Class: ER308LSI

Conforms to Certification: AWS A5.9
ASME SFA A5.9

Alloy ER308LSI Welding Data

Weld Process Used for Tig, Mig and Submerged Arc

AWS Chemical Composition Requirements

C = 0.03 max	P = 0.03 max
Cr = 19.5 – 22.0	S = 0.03 max
Ni = 9.0 – 11.0	Mo = 0.75 max
Mn = 1.0 – 2.5	Cu = 0.75 max
Si = 0.65 – 1.0	

Deposited Chemical Composition % (Typical)

C = 0.016	Si = 0.85	Mn = 1.65
P = 0.016	S = 0.008	Cr = 20.65
Ni = 10.0		

Deposited All Weld Metal Properties

The following data are typical for mig welding with Argon + 2% oxygen and tig welding with Argon as the shielding gas. Data on sub-arc is dependent on the type of flux used.

Mechanical Properties (R.T.)

Yield Strength	59,000psi
Tensile Strength	87,000psi
Elongation	39%
Reduction of Area	60%

Application

WW308LSI is suitable for joining stainless steels of the 304 type and 308 types. Welding speed is higher than 308 or 308L due to improved weldability of the weld metal.

Recommended Welding Parameters

GMAW “Mig Process”

Reversed Polarity

Wire Diameter	Wire Feed	Amps	Volts	Shielding Gas	Gas CFH
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Short Arc Welding

.030	13-26	40-120	16-20	Argon+2% O ₂	25
.035	13-26	60-140	16-22	Argon+2% O ₂	25

Spray Arc Welding

.035	20-39	140-220	24-29	Argon+2% O ₂	38
.045	16-30	160-260	25-30	Argon+2% O ₂	38
1/16	10-16	230-350	27-31	Argon+2% O ₂	38

GTAW “Tig Process”

Wire Diameter	Amps DCRP	Voltage	Gases
.035	60-90	12-15	Argon 100%
.045	80-110	13-16	Argon 100%
1/16	90-130	14-16	Argon 100%
3/32	120-175	15-20	Argon 100%

Note: Parameters for tig welding are dependent upon plate thickness and welding position.

Other shielding Gases may be used for Mig and Tig welding. Shielding gases are chosen taking Quality, Cost, and Operability into consideration

Submerged Arc Welding

Reverse Polarity is suggested

Wire Diameter	Amps	Volts
3/32	250-450	28-32
1/8	300-500	29-34
5/32	400-600	30-35
3/16	500-700	30-35

Both Agglomerated and fused fluxes can be used for submerged arc welding. Note: The chemical composition of the flux mainly affects the chemistry of the weld metal and consequently its corrosion resistance and Mechanical properties

