

Technical Data Sheet

308L Welding Wire and Rod



Overview

308L is an austenitic stainless steel used to weld base metal of similar composition types such as AISI 201 (17-4 Mn), 202 (18-5 Mn), 205, 301 (17-7), 302 (18-8), 304 (19-9), 305 (18-10), 308 (20-10) and the low carbon grades. The low carbon reduces carbide precipitation. (Tri-mix gas = 90% He + 7.5% Ar + 2.5% CO₂)

Features/Benefits

- Low carbon to prevent cracking
- Excellent corrosion resistance
- Welds all low-grade stainless alloys up to a 308L

Applications

- Pulp and paper mills
- Stainless pipe and tubing
- Bakery and kitchen equipment
- Housings and impellers
- Hospital equipment

Method of Application

TIG Wire: TIG welding machine
MIG Wire: MIG welding machine

Identification

TIG Wire: embossed or tagged
MIG Wire: labeled wire spool

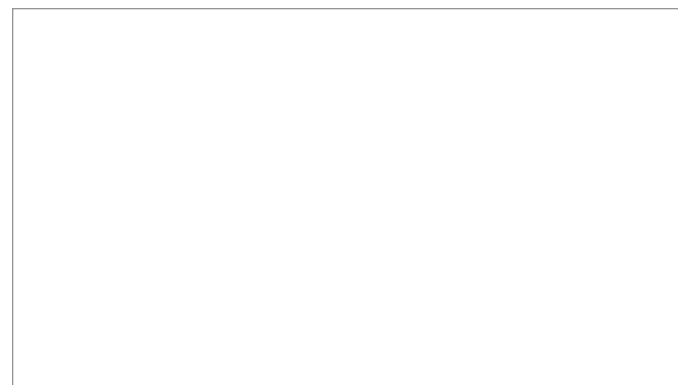
Directions for Use

Remove all contaminants such as grease and oils from base metal before welding. For MIG, set machine on DC reverse polarity. For TIG, set machine on DC straight polarity. Hold a short arc and use stringer beads while welding,

Technical Specifications

ANSI/AWS A5.9: ER308L
ASME SFA 5.9: ER308L

(1 of 2)





**Typical Weld
 Metal Properties**

Tensile Strength: 86,500 PSI
 Yield Strength: 59,000 PSI
 Elongation: 35%

Typical GMAW Welding Procedures: DCEP Short Circuit

⁽¹⁾98% Ar, 2% O₂

	Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stickout	Tri-mix (cfh)
	0.023"	180 – 400	30 – 85	14 – 19	3/8" – 1/2"	20 – 25
	0.030"	150 – 350	45 – 125	15 – 20	3/8" – 1/2"	20 – 25
	0.035"	120 – 330	60 – 150	16 – 22	3/8" – 1/2"	20 – 30
	0.045"	100 – 280	90 – 210	17 – 22	3/8" – 1/2"	25 – 30
Spray	0.030"	280 – 600	160 – 220	24 – 28	3/8" – 1/2"	⁽¹⁾ 25 – 35
	0.035"	250 – 470	170 – 295	23 – 29	1/2" – 3/4"	⁽¹⁾ 25 – 35
	0.045"	200 – 385	195 – 360	24 – 30	1/2" – 3/4"	⁽¹⁾ 30 – 35
	1/16"	110 – 200	210 – 380	25 – 31	1/2" – 3/4"	⁽¹⁾ 35 – 40

Typical GTAW Welding Procedures: DCEN with EWLa-2 Truncated Conical Tip

Filler Wire Size	Tungsten	Amps	Volts	Gas Cup Size	Argon (cfh)	Base Thickness
1/16"	1/16"	80 – 150	12	3/8"	20	1/16" – 1/8"
3/32"	3/32"	150 – 250	12	3/8"	20	1/8" – 3/16"
1/8"	1/8"	200 – 375	12	1/2"	25	1/4" – 1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.