

Sandvik® Stainless Steel Welding Wires

Specifications

U.S.A.	Canada
AWS 5.9	CWB AWS 5.9 - 93
ASME SFA 5.9	

Chemistry (%)

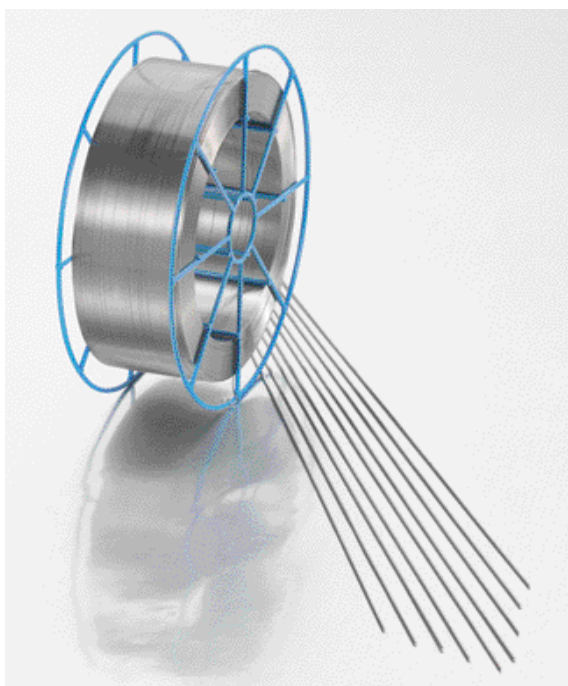
Filler Metal	C	Mn	Si	Cr	Ni	Mo
308L/308LSi	.025	1.8	0.4-0.8	20	10	-
309L/309LSi	.025	2.0	0.4-0.8	24	13	-
316L/316LSi	.025	1.8	0.4-0.8	19	12	2.5

Mechanical Properties

Filler Metal	Yield (psi)	Tensile (psi)	Elongation (%)
308L/308LSi	55,000	85,000	37
309L/309LSi	58,000	87,000	34
316L/316LSi	60,000	88,000	35

Classifications MIG and TIG

Filler Metal	Base Material
308L, 308LSi	302, 304, 304L, 308, 308L
309L, 309LSi	Dissimilar base metals (i.e. mild steel to stainless steel)
316L, 316LSi	304, 304L, 316, 316L



GMAW (MIG) Welding Conditions

Short Arc

Wire Diameter	Wire Speed (ipm)	Amps	Voltage	Gas Flow (cfh)	Gas Recommended
.035"	150-300	60-150	14-21	30-40	Praxair® HeliStar™ A-1025, HeliStar™ SS
.045"	140-280	100-210	17-22	30-40	Praxair® HeliStar™ A-1025, HeliStar™ SS

Spray Arc

Wire Diameter	Wire Speed (ipm)	Amps	Voltage	Gas Flow (cfh)	Gas Recommended
.035"	240-470	140-250	22-28	30-40	Praxair® StarGold™ C-2 and O-2
.045"	190-360	180-270	24-30	30-40	Praxair® HeliStar™ SS

Stainless Steel GMAW (MIG) Wire

308L

Wire Size	2 lb (1 kg)	10 lb (4.5 kg)	15 lb (6.8 kg)	33 lb (15 kg)	600 lb Drum (272 kg)
.023"	SAN308L0232	SAN308L02310	SAN308L02315		
.030"	SAN308L0302	SAN308L03010		SAN308L03033	
.035"	SAN308L0352	SAN308L03510		SAN308L03533	
.045"	SAN308L0452	SAN308L04510		SAN308L04533	SAN308L045DM

308LSi

Wire Size	2 lb (1 kg)	10 lb (4.5 kg)	15 lb (6.8 kg)	33 lb (15 kg)	300 lb Drum (136 kg)
.023"	SAN308LSi0232	SAN308LSi02310	SAN308LSi02315		
.030"	SAN308LSi0302	SAN308LSi03010		SAN308LSi03033	
.035"	SAN308LSi0352	SAN308LSi03510		PRS05021	SAN308LSi035D
.039"				PRS06309	
.045"	SAN308LSi0452	SAN308LSi04510		PRS05022	

309L

Wire Size	33 lb (15 kg)
.035"	SAN309L03533
.045"	SAN309L04533

309LSi

Wire Size	33 lb (15 kg)	300 lb Drum (136 kg)
.035"	PRS05023	SAN309LSi035D
.039"	PRS06310	
.045"	PRS05024	

312

Wire Size	33 lb (15 kg)
.035"	SAN31203533
.045"	SAN31204533

Stainless Steel GMAW (MIG) Wire, continued

316L

Wire Size	2 lb (1 kg)	10 lb (4.5 kg)	15 lb (6.8 kg)	33 lb (15 kg)	600 lb Drum (272 kg)
.023"	SAN316L0232	SAN316L02310	SAN316L02315		
.030"	SAN316L0302	SAN316L03010		SAN316L03033	
.035"	SAN316L0352	SAN316L03510		SAN316L03533	
.045"	SAN316L0452	SAN316L04510		SAN316L04533	SAN316L045DM

316LSi

Wire Size	2 lb (1 kg)	10 lb (4.5 kg)	15 lb (6.8 kg)	33 lb (15 kg)	300 lb Drum (136 kg)
.023"	SAN316LSI0232	SAN316LSI02310	SAN316LSI02315		
.030"	SAN316LSI0302	SAN316LSI03010		SAN316LSI03033	
.035"	SAN316LSI0352	SAN316LSI03510		PRS05025	SAN316LSI035D2
.039"				PRS06311	
.045"	SAN316LSI0452	SAN316LSI04510		PRS05026	

Stainless Steel FCAW (Flux-Cored) Wire

308L Series Wire Size	308LT0-4* 33 lb (15 kg)	308LT1-4** 33 lb (15 kg)
.035"	SAN308LT003533	
.045"	SAN308LT004533	SAN308LT104533
1/16"	SAN308LT006333	SAN308LT106333

309L Series Wire Size (in)	309LT0-4* 33 lb (15 kg)	309LT1-4** 33 lb (15 kg)
.035"	SAN309LT003533	
.045"	SAN309LT004533	SAN309LT104533
1/16"	SAN309LT006333	SAN309LT106333

316L Series Wire Size	316LT0-4* 33 lb (15 kg)	316LT1-4** 33 lb (15 kg)
.035"	SAN316LT003533	
.045"	SAN316LT004533	SAN316LT104533
1/16"	SAN316LT006333	SAN316LT106333

Welding Position

- * Flat/horizontal
- ** All position

Stainless Steel GTAW (TIG) Rods – 10 lb packs

	.035"	.045"	1/16"	3/32"	1/8"
308L	SAN308L035T	SAN308L045T	PRS05012	PRS05013	PRS05014
309L	SAN309L035T	SAN309L045T	PRS05015	PRS05016	PRS05017
312	SAN312035T	SAN312045T	SAN312063T	SAN312093T	SAN312125T
316L	SAN316L035T	SAN316L045T	PRS05018	PRS05019	PRS05020



Stainless Steel SMAW (Stick) Electrodes – 10 lb packs

	3/32"	1/8"	5/32"	3/16"
308L-16	SAN308L16098	SAN308L16128	SAN308L16157	SAN308L1616
308L-17	SAN308L17098	SAN308L17128	SAN308L17157	SAN308L17187
309L-16	SAN309L16098	SAN309L16128	SAN309L16157	SAN309L16196
309L-17	SAN309L17098	SAN309L17128	SAN309L17157	SAN309L17196
312-16	SAN31216098	SAN31216128	SAN31216157	SAN31216187
316L-16	SAN316L16098	SAN316L16128	SAN316L16157	SAN316L16196
316L-17	SAN316L17098	SAN316L17128	SAN316L17157	SAN316L17196

Hints

- Lower carbon in stainless steel promotes corrosion resistance
- The 16 coating is for all positions while the 17 is for flat
- 312-16 electrode is an excellent maintenance electrode for almost all steel and stainless steel
- 309 or 312 series can be used to weld steel to stainless. Never use the 308 or 316 series for this application
- High silicon reduces grinding requirements but may not be suitable for some military applications or when the welds are highly polished