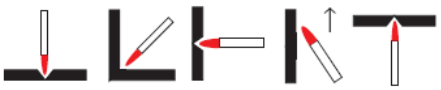
MIG Wire: Stainless Steel

WW-308LSi

Classification	AWS A5.9 ER 308LSi
	EN G 19 9 L Si
	ISO 14343 B – SS308LSi

Welding Position



Application and Properties:

WW-308LSi mainly consists of low C-18Cr-8Ni. It is widely used for austenitic stainless steel welding consumable. It has excellent weldability, sound wire feeding, stable arc, good appearance, little spatter, good slag removal, stable mechanical properties of deposited metal, high X-Ray qualification rate. WW-308LSi is widely used in the industries of petrochemistry, pressure vessel, food machinery, medical device, and chemical fertilizer.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Cu
AWS	0.03	1.0-2.5	0.65-1.00	19.5-22.0	9.0-11.0	0.75	0.040	0.030	0.75
EX	0.024	1.52	0.53	19.82	10.54	0.08	0.025	0.007	0.09

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	520	30	-
EX	-	595	43	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V
0.8	70-150	20-50	50-120	19-23	50-120	19-23
1.0	100-200	22-28	80-150	20-25	80-150	20-25

MIG Wire: Stainless Steel

WW-309LMo

Classification	AWS A5.9 ER 309LMo
	EN G 19 12 3 L Mo
	ISO 14343 B – SS309LMo

Welding Position

Application and Properties:

WW-309LMo mainly consists of low C-22Cr-12Ni-Mo. It can be welded in all position. It has excellent weldability, sound wire feeding, stable arc, good appearance, little spatter, good slag removal, stable mechanical properties of deposited metal, high X-Ray qualification rate. It has excellent crack resistance by adding Mo and low carbon. WW-309LMo is usually used in the welding of carbon steel and stainless steel (dissimilar metal) or ferritic stainless steels, and martensitic stainless steel.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Cu
AWS	0.04	1.0-2.5	0.30-0.65	23.0-25.0	12.0-14.0	2.0-3.0	0.030	0.03	0.75
Type Value	0.031	1.80	0.40	23.87	13.16	2.59	0.011	0.010	0.25

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	-	-	-
Type Value	-	595	43	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V
0.8	70-150	20-50	50-120	19-23	50-120	19-23

MIG Wire: Stainless Steel

WW-309LSi

Classification	AWS A5.9 ER309LSi
	EN G 23 12 L Si
	ISO 14343 B – SS309LSi

Welding Position

Application and Properties:

WW-309LSi mainly consists of low C-22Cr-12Ni. It can be welded in all position. The fluid of iron water is excellent by the addition of Si. It has good appearance, sound wire feeding, stable arc, little spatter, stable mechanical properties of deposited metal, high X-Ray qualification rate. Because of its low carbon content, it shows excellent corrosion resistance. WW-309LSi is usually used in the welding of carbon steel and stainless steel dissimilar metal, petrochemical industries such as surfacing welding of transition metal in reactor vessel inner wall, or in the welding of martensite and ferritic stainless steel with poor toughness.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Cu
AWS	0.03	1.0-2.5	0.65-1.00	23.0-25.0	12.0-14.0	0.75	0.040	0.030	0.75
TYPE VALUE	0.021	2.33	0.78	23.93	13.84	0.46	0.012	0.014	0.19

Mechanical Properties of All-Weld Metal:

	Yield Stess (MPa)	Tensile Strength (MPa)	Elongation (%)	Charp V-notch J/°C
AWS	-	520	30	-
Typical	-	600	41	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V

MIG Wire: Stainless Steel

WW-316LSi

Classification	AWS A5.9 ER316LSi
	EN G 19 12 3 L Si
	ISO 14343 B – SS316LSi

Welding Position

Application and Properties:

WW-316LSi mainly consists of low C-18Cr-12Ni-2Mo. It can be welded in all position. It has excellent weldability, sound wire feeding, stable arc, little spatter, stable mechanical properties of deposited metal, high X-Ray qualification rate. Because of its low carbon content, it shows excellent corrosion resistance. WW-316LSi is usually used in the production of chemical fertilizer, carbamide, petrochemistry because its excellent corrosion resistance.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Cu
AWS	0.03	1.0-2.5	0.65-1.00	18.0-25.0	11.0-14.0	2.0-3.0	0.030	0.03	0.75
Type Value	0.031	1.55	0.75	19.05	12.44	2.32	0.016	0.014	0.25

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	-	-	-
Type Value	-	585	40	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V
0.8	70-150	20-50	50-120	19-23	50-120	19-23
1.0	100-200	22-28	80-150	20-25	80-150	20-25

MIG Wire: Stainless Steel

WW-347

Classification	AWS A5.9 ER347
	EN G 19 9 Nb
	ISO 14343 B – SS347

Welding Position

Application and Properties:

WW-347 mainly consists of low C-19Cr-11Ni-Nb. It can be welded in all position. The corrosion resistance, especially for intergranular corrosion resistance can be improved by adding Nb. It has excellent weldability, sound wire feeding, stable arc, little spatter, stable mechanical properties of deposited metal, high X-Ray qualification rate. Therefore, WW-347 is usually used in petrochemical, pressure vessel, food machinery, medical equipment, chemical fertilizers, and other related sectors.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Cu
AWS	0.08	1.0-2.5	0.30-0.65	19.0-21.5	9.0-11.0	2.0-3.0	0.030	0.03	Cu0.75 Nb8C-1.00
Type Value	0.027	1.60	0.40	20.39	9.92	0.44	0.015	0.012	Cu-.16 Nb0.44

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	-	-	-
Type Value	-	595	42	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V

MIG Wire: Stainless Steel

WW-410NiMo

Classification	AWS A5.9 ER410 NiMo
	ISO 14343 B – SS410NiMo

Welding Position

Application and Properties:

WW-410NiMo mainly consists of 13Cr-4Ni-0.5Mo. It can be welded in all position. Filler metal is modified to contain less chromium and more nickel to eliminate ferrite in the microstructure as it has a deleterious effect on mechanical properties. It can be used for more abrasive and corrosion resistance. It has excellent weldability, sound wire feeding, stable arc, little spatter, stable mechanical properties of deposited metal, high X-Ray qualification rate. WW-410NiMo is generally used for overlay of the valve and the turbines of hydrop plant, such as ASTM CA6NM castings or similar material, as well as light-gauge 410, 410S, and 405 base metals.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Others
AWS	0.06	0.60	0.50	11-12.5	4.0-5.0	0.4-0.7	0.030	0.03	0.75
Type Value	0.025	0.45	0.40	11.90	4.50	0.50	0.01	0.004	0.02

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	760	15	-
Type Value	-	815	22	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V
0.8	70-150	20-50	50-120	19-23	50-120	19-23

MIG Wire: Stainless Steel

WW-430

Classification	AWS A5.9 ER430
	ISO 14343 B – SS430

Welding Position

Application and Properties:

WW-430 mainly consists of 17Cr. It can be welded in all position. It has excellent weldability, sound wire feeding, stable arc, little spatter, stable mechanical properties of deposited metal, high X-Ray qualification rate. WW-430 is generally used for overlay of the valve and the turbines of hydrop plant, such as ASTM CA6NM castings or similar material, as well as light-gauge 410, 410S, and 405 base metals.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Others
AWS	0.06	0.60	0.50	11-12.5	4.0-5.0	0.4-0.7	0.030	0.03	0.75
Type Value	0.025	0.45	0.40	11.90	4.50	0.50	0.01	0.004	0.02

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	760	15	-
Type Value	-	815	22	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V
0.8	70-150	20-50	50-120	19-23	50-120	19-23
1.0	100-200	22-28	80-150	20-25	80-150	20-25
1.2	140-220	23-33	120-180	24-28	160-200	26-30

MIG Wire: Stainless Steel

WW-2209

Classification	AWS A5.9 ER2209
	EN G 22 9 3 N L
	ISO 14343 B – SS2209

Welding Position

Application and Properties:

WW-2209 is duplex (austenite-ferrite) type of stainless steel MIG wire that the main composition of the weld metal is 22Cr-9Ni-3Mo-N and 40% ferrite. The microstructure consisting of austenite-ferrite matrixes are characterized by high tensile strength, resistance to stress corrosion cracking, and improve pitting resistance. It can be welded in all position. It has excellent weldability, sound wire feeding, stable arc, little spatter, stable mechanical properties of deposited metal, high X-Ray qualification rate. WW-2209 is suitable for welding of petroleum, chemical industries.

Current	DC+
Shielding Gas	98%Ar + 2%O_2
Gas Flow	20-25 L/min
Elongation Length	15-25 mm

Notes: Rust Layer, moisture, oil stain, and dust of the welding part should be surely cleaned up. Under the circumstance of outdoor welding, if the wind speed is more than 1.5 cm/s, wind resistant actions should be taken; wind resistant facility is necessary to prevent porosity.

Typical Chemical Composition of All-Weld Metal:

Alloy wt%	C	Mn	Si	Cr	Ni	Mo	P	S	Cu	N
AWS	0.03	0.50-2.0	0.90	21.5-23.5	7.5-9.5	2.5-3.5	0.030	0.03	0.75	0.08-2
Type Value	0.023	1.62	0.40	22.5	8.75	3.23	0.011	0.009	0.18	N0.1

Mechanical Properties of All-Weld Metal:

	Yield Stress (MPa)	Tensile Strength (MPa)	Elongation (%)	Impact Values J/°C
AWS	-	690	20	-
Type Value	-	760	28	-

Size Available and Recommended Parameter:

Dimension (mm)	Flat, Horizontal welding		Vertical Up		Overhead Welding	
	A	V	A	V	A	V