

Technical Data Sheet

UGIWELD™ 309LM

Chemical composition (%)

C	Si	Mn	Ni	Cr	Mo	Cu
≤ 0.03	0.65 – 1.0	1.0 – 2.5	12.0 – 14.0	23.0 – 25.0	≤ 0,5	≤ 0,5

30-09-2021 – REV 05

Classification

Austenitic grade

Designation

Material No.

Europe – EN ISO 14343-A	USA – AWS A5.9	Europe – WNr.
23 12 L Si	ER309LSi	1.4332

Approvals

	MIG	TIG	SAW
TÜV (Germany)	X	X	
CE	X	X	X
DB	X	X	

Mechanical properties

On All-Weld metal.

Temperature (°C)	Room Temperature
Tensile strength (MPa)	600
Yield strength (MPa)	400
Elongation (%)	35
Impact ISO V (J)	130

Corrosion resistance

- » In no case shall a temperature of 950°C be exceed for use under intermittent oxidation conditions.
- » Good performance under carburizing atmospheres. This grade may be used in contact with fused salts and can also be used in some cases of contamination by fuel ashes.

The above are general indications intended to guide users in their choice. For each more specific case, please contact us.



Swiss Steel Group

Production sites: Ugitech SA
www.swisssteel-group.com

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Recommended welding parameters

MIG welding

Recommended shielding gases are:

» Argon + Oxygen (1 to 3%)

» Argon + CO₂ (1 to 2.5%)

□ Filler metal (mm)	0.8	1.0	1.2	1.6
Short-Arc Current (A) Voltage (V)	60/80 15/17	80/120 15/17	100/150 17/19	
Spray-Arc Current (A) Voltage (V)	140/210 25/28	180/250 26/29	200/290 20	250/350 27/30
Gas Flow (l/min)	12 / 18	12 / 18	12 / 18	12 / 18

Water-cooled torch is recommended for high current above 250 A.

Interpass must be controlled to less than 150°C.

UGIWELD™ 309LM is suited for pulsed arc welding.

TIG Welding

» Shielding gas: Argon and/or Helium.

Nitrogen and hydrogen are prohibited in shielding gases

Follow the recommendations of the torch producer:

» Current 50 – 250 A

» Voltage 10 – 20 V

Interpass must be controlled to less than 150°C.



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Available products

Process	Shape	Diameter Range	Packaging	Weight
TIG	Rods	1.0 – 4.0 mm	Cardboard tubes	5 kg
		0.8 – 1.6 mm	Metallic spools – BS 300	15 – 18 kg
MIG	Wire	0.8 – 1.2 mm	Plastic spools – D 200	5 kg
			Plastic spools – D 300	15 kg
		1.0 – 1.6 mm	Plastic spools – D 350	25 – 27 kg
		0.8 – 1.2 mm	Pay off pack - Drums	250 – 500 kg
SAW	Wire	1.6 – 3.2 mm	Rims K415 / 300 / 94	20 – 25 kg
			Rims K435 / 300 / 70	

Contact us for dimensions

Applications

Because of its high temperature oxidation and corrosion resistance, UGIWELD™ 309LM is recommended for the following applications:

- » Industrial furnace and boiler parts.
- » Annealing chambers.
- » Heat exchangers.
- » Fused salt treatment installations.

Due to its high ferrite level, UGIWELD™ 309LM is very well suited for the first layer during stainless steel cladding on carbon steel.



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