

TECHNICAL DATA SHEET

ALUMINUM ALLOY FILLER METAL



309L

Comparable specifications

ASME SFA A 5.9: ER309L / ER309
EN ISO 14343-A: 23 12 L
Werkstoff Nr.: 1.4332

Description and applications*

* *Illustrative, not-exhaustive list*

Austenitic stainless steel filler metal with a low carbon content, which reduces the possibilities of intergranular carbide precipitation, and thereby increases the resistance to intergranular corrosion without the use of stabilizers such as niobium or titanium.

Good performance under carburizing atmospheres. High temperature oxidation and corrosion resistance. High ferrite level.

This grade may be used for:

- joining and overlay of stainless steels of similar composition, such as AISI 309 castings, and for joining of 3Cr12;
- usage in contact with fused salts and in some cases of contamination by fuel ashes;
- applications in industrial furnace and boiler parts, annealing chambers, heat exchangers, fused salt treatment installations;
- overlay by submerged arc;
- intermediate layers by submerged arc welding of plates and cast materials with low carbon, stabilised and unstabilised austenitic CrNi coatings.

Weldable base materials*

* *Illustrative, not-exhaustive list*

All 300 series austenitic stainless steel, 3Cr12, mild steels (cladding)

All-weld metal mech. properties*

* *For reference only values*

Tensile strength (Rm): ≥ 510 N/mm² **Yield Strength (Rp_{0.2}):** ≥ 320 N/mm²
Elongation: $\geq 25\%$ **Charpy-V Impact (R.T.):** ≥ 50 J

Chemical composition*

* *For reference only values*

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
max	1.00	0.30	max	max	12.00	23.00	max	max
0.03	2.50	0.65	0.020	0.030	14.00	25.00	0.50	0.50

Standard packaging data*

Welding process	Product type	Ø mm (inches)	Packing type	Weight kg (lbs)	Length mm (inches)
GMAW **	filler wire	0.80 - 1.20 (0.030 - 0.047)	spools BS300 / D300	15 (33)	n.a.
GTAW **	filler rod	1.60 - 4.00 (1/16 - 5/32)	cardboard boxes / tubes	5 (11)	1000 (39.4)
SAW **	filler wire	1.60 - 4.00 (1/16 - 5/32)	basket rims B450	25 (55)	n.a.
SMAW **	core wire for electrodes	1.60 - 5.00 (1/16 - 0.197)	wooden boxes	500 - 750 (1100 - 1650)	250 - 450 (10 - 18)

* *Other sizes and packing types are available upon request*

** *GMAW: gas metal arc welding; GTAW: gas tungsten arc welding; SAW: submerged arc welding; SMAW: shielded metal arc welding*

Marking

Each filler rod for GTAW welding is durably marked with an identification traceable to the unique product type. Welding filler materials wound on spools or in coils are durably marked on the coil or spool with an identification traceable to the unique product type.

The outside of each unit package is suitably labelled with at minimum the following data: grade, diameter, heat, lot no., classifications.

marking type-testing performed and available.

Customized labels are available upon request.

Type approvals

Canadian Welding Bureau Cert. nr. NOV309L (GMAW / GTAW)
TUV Nord Kennblatt nr. 10237 (GMAW) **TUV Nord** Kennblatt nr. 10238 (GTAW)

Lot classification

All our productions fulfil the **Class S3** requirements acc. to EN ISO 14344.