

TECHNICAL DATA SHEET

ALUMINUM ALLOY FILLER METAL



316L-LF

Comparable specifications

ASME SFA A 5.9: ER316L EN ISO 14343-A: 19 12 3 L Werkstoff Nr.: 1.4430

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.

Chemical analysis is kept under control, by lowering ferrite promoting elements and/or by raising austenite promoting elements, in order to achieve a ferrite number ≤ 5 . Low amounts of ferrite are recommended if the weldment is to be in very low temperature service, as ferrite is not tough at low temperatures; also, if the weldment is to be used in high temperature service (higher than 1000 °F), the ferrite should be maintained at low levels because the ferrite becomes brittle at those temperatures.

Due to low ferrite, crack susceptibility may result: to reduce crack susceptibility, it is therefore recommended to use as low heat input as practical, a flat to convex bead shape, and maintain a suitable interpass temperature (e.g. 300°C).

This grade may be mainly used for:
welding, repairing and overlaying of stainless steel grades like type 316L when weld metal ferrite needs to be low;
applications in the cryogenic industry to obtain low impact toughness and high strength.

Weldable base materials*

* Illustrative, not-exhaustive list

All 300 series austenitic stainless steel, mainly low-carbon molybdenum-bearing

All-weld metal mech. properties*

* For reference only values

Tensile strength (Rm): ≥ 510 N/mm² Yield Strength (Rp0.2): ≥ 320 N/mm²
Elongation: $\geq 25\%$ Charpy-V Impact (R.T.): ≥ 80 J

Chemical composition*

* For reference only values

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	WRC FN
max	1.00	0.30	max	max	11.00	18.00	2.50	max	max
0.03	2.50	0.65	0.020	0.030	14.00	20.00	3.00	0.50	5

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.


* Other sizes and packing types are available upon request

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

TUV Nord Kennblatt nr. 18882 (GMAW) TUV Nord Kennblatt nr. 18879 (GTAW)

Lot classification

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