

1.4459

Comparable specifications

ASME SFA A 5.9: ~ER309LMo

EN ISO 14343-A: 23 12 2 L

Werkstoff Nr.: ~1.4459

Description and applications*

* Illustrative, not-exhaustive list

Austenitic stainless steel filler metal similar to ER309 - with a low carbon content, which reduces the possibilities of chromium carbide precipitation and thereby increases weld metal resistance to intergranular corrosion, and with a significant content of molybdenum to increase its pitting corrosion resistance in halide-containing environments.

This grade may be used for:

- single-layer overlay cladding with a chemical composition similar to that of a 316L stainless steel;
- first layer of multilayer overlays with filler metals such as ER316L or ER317L stainless steels, in order to avoid that elements such as chromium and molybdenum might be reduced to unacceptable levels in successive layers dilution from the base metal; the low content of carbon allows to control factors such as the excessive pickup of carbon from dilution by the base metal and the intergranular corrosion from carbide precipitation;
- welding stainless steels to other types of steel, dissimilar welds between stainless steels and mild or low alloys, such as carbon steel to Type 304 stainless steel. Well suited for austenitic ferritic joints with a maximum application temperature of 300°C; it is also suited for stainless with wet corrosion up to 350°C.

Weldable base materials*

* Illustrative, not-exhaustive list

Types 304L, 316L, 317L, 410 to mild or low alloy steels; carbon steels; hardenable steels (buffer layer prior to hardsurfacing).

All-weld metal mech. properties*

* For reference only values

Tensile strength (Rm): $\geq 550 \text{ N/mm}^2$

Yield Strength (Rp_{0.2}): $\geq 350 \text{ N/mm}^2$

Elongation: $\geq 25\%$

Chemical composition*

* For reference only values

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
max	1.00	0.30	max	max	14.00	21.00	2.00	max
0.03	2.50	0.65	0.020	0.030	15.00	23.00	3.00	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.


* 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.

Lot classification

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