Technical Data Sheet
Aluminum Alloy Filler Metal

PM NORWAY A/S

309LMo

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, whose classification is the same as an ER309Mo, except for a lower maximum carbon content (0.03%). Low-carbon contents in stainless steel reduce the possibility of chromium carbide precipitation and thereby increase weld metal resistance to intergranular corrosion.

The primary application for this filler metal is surfacing of base metals to improve their corrosion resistance. It is used to achieve a single-layer overlay with a chemical composition similar to that of a 316 stainless steel. It is also used for the first layer of multilayer overlays with filler metals such as ER316 or ER317 stainless steels. In those applications, in particular, *NMS 309LMO* should be used where excessive pickup of carbon from dilution by the base metal, where intergranular corrosion from carbide precipitation, or both are factors to be considered in the selection of the filler metal.

This grade is also used for dissimilar joints between austenitic stainless steels (e.g. 304L, 316L) and unalloyed or low-alloyed steels. It can even be used for welding difficult to weld steels, such as hardenable or heat treatable steels.

Weldable base materials*

* *Illustrative, not-exhaustive list*

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

All-weld metal mech. properties*

* *For reference only values*

Tensile strength (Rm): ≥ 550 N/mm^2 **Yield Strength ($Rp_{0.2}$):** ≥ 350 N/mm^2
Elongation: ≥ 25%

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	2.00	max
0.03	2.50	0.65	0.020	0.030	14.00	25.00	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.

CE 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.