Technical Data Sheet
Aluminum Alloy Filler Metal

PM NORWAY A/S

316LMn

Comparable specifications

ASME SFA A 5.9: ER316LMn
EN ISO 14343-A: 20 16 3 Mn N L
Werkstoff Nr.: 1.4455

Description and applications*

* *Illustrative, not-exhaustive list*

Fully austenitic stainless steel filler metal with typical ferrite content of 0.5 FN maximum. One of the primary uses of this filler metal is for the joining of similar and dissimilar cryogenic steels for applications down to -269°C. This filler metal also exhibits good corrosion resistance in acids and seawater, and it is particularly suited for corrosion conditions found in urea synthesis plants. It is also non magnetic. The high Mn-content of the alloy helps to stabilize the austenitic microstructure and aids in hot cracking resistance.

This grade may be used for:

- welding, repairing and overlaying of grades of stainless steel like type 316L when weld metal ferrite is needed to be low.;
- applications in cryogenic industry to obtain low impact toughness and high strength.

Weldable base materials*

* *Illustrative, not-exhaustive list*

N-alloyed stainless CrNi-and CrNiMo steels (e.g. UNS S30453, UNS S31653, UNS S31726), Austenitic anti-magnetic steels, Low temperature steels.

All-weld metal mech. properties*

* *For reference only values*

Tensile strength (Rm): ≥ 510 N/mm^2 **Yield Strength ($Rp_{0.2}$):** ≥ 320 N/mm^2
Elongation: ≥ 25%

Chemical composition*

* *For reference only values*

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
max	5.00	0.30	max	max	15.00	19.00	2.50	max	0.10
0.03	9.00	0.65	0.020	0.030	18.00	22.00	3.50	0.50	0.20

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.

Customized labels are available upon request.

Lot classification

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

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