

# TECHNICAL DATA SHEET

## ALUMINUM ALLOY FILLER METAL



### 318Si

#### Comparable specifications

**ASME SFA A 5.9:** ~ER318  
**EN ISO 14343-A:** 19 12 3 Nb Si  
**Werkstoff Nr.:** 1.4576

#### Description and applications\*

\* *Illustrative, not-exhaustive list*

Austenitic stainless steel filler metal with a significant presence of niobium, that provides resistance to intergranular chromium carbide precipitation and thus increased resistance to intergranular corrosion. The higher silicon content improves the usability of the filler metal in the gas metal arc welding process.

Composition similar to stainless steel type 316L: good general corrosion resistance and good pitting corrosion resistance.

This grade may be used for:

- welding of base metals of similar composition;
- welding and surfacing of stabilised austenitic CrNi and CrNiMo stainless steels/cast steels (e.g. types 316Ti and 316Nb);
- usage as capweld for the clad side of plates having equivalent/comparing coating;
- applications at temperatures higher than 400°C.

#### Weldable base materials\*

\* *Illustrative, not-exhaustive list*

All CrNi and CrNiMo stainless steels

#### All-weld metal mech. properties\*

\* *For reference only values*

**Tensile strength (Rm):** ≥ 550 N/mm<sup>2</sup>      **Yield Strength (Rp<sub>0.2</sub>):** ≥ 350 N/mm<sup>2</sup>  
**Elongation:** ≥ 25%      **Charpy-V Impact (R.T.):** ≥ 50 J

#### Chemical composition\*

\* *For reference only values*

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Nb
max	1.00	0.65	max	max	11.00	18.00	2.50	max	8xC
0.08	2.50	1.00	0.020	0.030	14.00	20.00	3.00	0.50	1.00

#### 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)


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

\*\* *GMAW: gas metal arc welding; GTAW: gas tungsten 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

**DB** Zulassungs nr. 43.097.08 (GMAW / GTAW)  
**TUV Nord** Kennblatt nr. 04026 (GMAW)    **TUV Nord** Kennblatt nr. 04027 (GTAW)

#### Lot classification

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