MasterWeld
The Welder's Ultimate Choice

TECHNICAL DATA SHEET
STAINLESS STEEL FILLER METAL

312

Comparable specifications

ASME SFA A 5.9: ER312 **EN ISO 14343-A:** 29 9 **Werkstoff Nr.:** 1.4337

Description and applications*

* *Illustrative, not-exhaustive list*

Austenitic stainless steel filler metal originally designed to weld cast alloys of similar composition, found also valuable in welding dissimilar metals such as carbon steel to stainless steel, particularly those grades high in nickel. It gives a two-phase weld deposit with substantial percentages of ferrite in austenite matrix. Even with considerable dilution by austenite-forming elements such as nickel, the microstructure remains two-phase and thus highly resistant to weld metal cracks and fissures.

Due to its high ferrite level, very adapted to heterogeneous welding, especially when one of the components is fully austenitic. Good corrosion oxidation resistance at high temperature due to its high content of Cr. Service temperatures should be below 420°C to prevent formation of secondary brittle phases.

This grade may be essentially used for:

- welding of stainless steels with similar chemical composition;
- welding of dissimilar steels such as medium and high carbon steels to stainless steel;
- welding and facing of difficult-to-weld steels;
- buffering of layers on tooling prior to surfacing;
- wear facing, where resistance to severe impact is required.

Weldable base materials*

* *Illustrative, not-exhaustive list*

Mild and low alloy steels, stainless steel of similar composition.

All-weld metal mech. properties*

* *For reference only values*

Tensile strength (Rm): ≥ 650 N/mm^2 **Yield Strength ($Rp_{0.2}$):** ≥ 450 N/mm^2
Elongation: ≥ 15%

Chemical composition*

* *For reference only values*

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
max	1.00	max	max	max	8.00	28.00	max	max
0.15	2.50	0.65	0.020	0.030	10.50	32.00	0.50	0.50

Lot classification

Class S3 acc. to EN ISO 14344.