

# 307-Si

For welding steels such as Outokumpu	EN	ASTM	BS	NF	SS
AVESTA 307-Si is primarily used for dissimilar welding between stainless and mild steel or low-alloy steels.					

## Standard designations

EN ISO 14343 W 18 8 Mn

## Characteristics and welding directions

AVESTA 307-Si is a manganese-alloyed, fully austenitic consumable for welding stainless steel to mild steel, high-strength steels such as Hardox® and Armox®, low-alloy or Mn-steels. It is also suitable for the welding of some 14% Mn-steels and other difficult-to-weld steels.

The high manganese content makes the weld metal, even though it is purely austenitic, very resistant to hot cracking, with a good ductility.

## Welding data

Diameter, mm	Current, A	Voltage, V
1.60	80 – 110	10 – 12
2.00	100 – 130	14 – 15
2.40	130 – 160	16 – 18
3.20	160 – 200	17 – 19

## Shielding gas

Ar (99.95%)..

Gas flow rate 4 – 8 l/min.

## Chemical composition, wire (typical values, %)

C	Si	Mn	Cr	Ni
0.09	0.80	7.0	19.0	8.0
Ferrite 0 FN				

## Mechanical properties

	Typical values (IIW)	Min. values EN ISO 14343
Yield strength $R_{p0,2}$	470 N/mm <sup>2</sup>	350 N/mm <sup>2</sup>
Tensile strength $R_m$	700 N/mm <sup>2</sup>	500 N/mm <sup>2</sup>
Elongation $A_5$	40 %	25 %
Hardness	220 Brinell	

**Interpass temperature:** Max. 150°C.

**Heat input:** Max. 1.5 kJ/mm.

**Heat treatment:** Generally none.

For constructions that include low-alloy steels in mixed joints, stress-relieving may be advisable. Always consult the supplier of the parent metal or seek other expert advice to ensure that the correct heat treatment process is carried out.

**Structure:** Fully austenitic.

**Scaling temperature:** Approx. 850°C (air).

**Corrosion resistance:** Primarily intended for stainless to mild steel connections, however, the corrosion resistance corresponds to that of ASTM 304.

## Approvals

- CE
- DB
- TÜV