

Avesta 318-Si/SKNb-Si

Solid Wire

Classifications

high-alloyed

EN ISO 14343-A:

G 19 12 3 Nb Si

Characteristics and field of use

Avesta 318-Si/SKNb-Si is designed for welding steels that are stabilised with titanium or niobium such as 1.4571/ASTM 316Ti and similar, providing improved high temperature properties, e.g. creep resistance, compared to low-carbon non-stabilised materials. 318-Si/SKNb-Si shows better properties than 316L-Si/SKR-Si at elevated temperatures and is therefore recommended for applications with service temperatures above 400°C. A stabilised weldment has improved high temperature properties, e.g. creep resistance, compared to low-carbon non-stabilised grades.

Corrosion resistance

Corresponding to 1.4571/ASTM 316Ti, i.e. good resistance to general, pitting and intergranular corrosion.

Base materials

For welding steels such as					
Outokumpu	EN	ASTM	BS	NF	SS
4571	1.4571	316Ti	320S31	Z6 CNDT 17-12	2350

Typical composition of solid wire (Wt-%)


C	Si	Mn	Cr	Ni	Mo	Nb
0.04	0.85	1.3	19.0	12.0	2.6	>12xC

Ferrite 10 FN; WRC-92 7 FN; WRC- 92

Mechanical properties of all-weld metal

Heat Treatment	Yield strength 0.2%	Tensile strength	Elongation ($L_0=5d_0$)	Impact values in J CVN	
	MPa	MPa	%	+20°C:	-40°C:
untreated	440	625	35	110	90

Operating data

	Polarity = +	Shielding gas: Ar + 2 % O ₂ or 2–3% CO ₂ . Gas flow rate 12–16 l/min.
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Dimensions (mm)

0.8	1.0	1.2	
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