Avesta 347-Si/MVNb-Si

TIG rod, high-alloyed, high corrosion resistant

Classification

EN ISO 14343-A	AWS A5.9
W 19 9 Nb Si	ER347Si

Characteristics and typical fields of application

Avesta 347-Si/MVNb-Si is used for welding titanium and niobium stabilized steels of type 17 Cr 11 Ni 2.5 Ti or similar, providing improved high temperature properties, e.g. creep resistance, compared to low-carbon non-stabilized materials. 347-Si/MVNb-Si is therefore primarily used for applications where service temperatures exceed 400 °C.

Structure: Austenite with 5 – 10 % ferrite

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

Corrosion resistance:

347-Si/MVNb-Si is primarily intended for high temperature service or constructions that should be heat treated. However, the corrosion resistance corresponds to that of 308H, i.e. good resistance to general corrosion.

Base materials

Outokumpu 4541, ASTM 321, 347, EN 1.4541, 1.4550

Typical analysis of the solid wire (wt.-%)

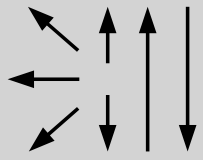
	C	Si	Mn	Cr	Ni	Nb	Ferrite
wt.-%	0.05	0.85	1.2	19.5	10.0	> 12xC	7 FN (WRC-92)

Mechanical properties of all-weld-metal

Heat treatment	Yield strength $R_{p0.2}$	Tensile strength R_m	Elongation (L_0=5d_0)	Impact work ISO-V KV J		Hardness
	MPa	MPa	%	+20 °C	–40 °C	Brinell
u	520	680	33	110	100	210

u untreated, as welded – Shielding gas Ar (99.5 %)

Operating data



Polarity	Shielding gas:	ø (mm)
DC (+)	Ar 99.5 %	1.6
	Ar + 20 – 30 % He	2.0
	Ar + 1 – 5 % H_2	2.4
	Gas flow rate: 4 – 8 l/min	3.2

Heat treatment: Generally none.

Interpass temperature: max. 150 °C.

Heat input: max. 2.0 kJ/mm.

Approvals

TÜV, CE