Thermanit A

TIG rods, high-alloyed, stainless

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9	Mat. No.
W 19 12 3 Nb	SS318	ER318	1.4576

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 400 °C (752 °F). Corrosion-resistant similar to matching stabilized CrNiMo steels. For joining and surfacing application with matching and similar – stabilized and non-stabilized – austenitic CrNi(N) and CrNiMo(N) steels and cast steel grades.

Base materials

TÜV-certified parent metal
1.4583 – X10CrNiMoNb18-12, AISI 316L, 316Ti, 316Cb

Typical analysis of the TIG rods (wt.-%)

	C	Si	Mn	Cr	Mo	Ni	Nb
wt-%	0.04	0.4	1.7	19.5	2.7	11.5	≥ 12xC

Structure: Austenite with part ferrite

Mechanical properties of all-weld metal

Heat-treatment	Yield strength $R_{p0.2}$	Yield strength $R_{p1.0}$	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J
	MPa	MPa	MPa	%	+20 °C
aw	400	430	600	30	100

Operating data

Polarity:	Shielding gas:	Marks:	ø (mm)	L mm
DC (–)	(EN ISO 14175) I 1	W 19 12 3 Nb / ER318	1.0	1000
			1.6	1000
			2.0	1000
			2.4	1000
			3.2	1000
			4.0	1000
			5.0	1000

Welding instruction

Materials	Preheating	Postweld heat treatment
Matching / similar steels / cast steel grades	None	Mostly none. If necessary, solution annealing at 1050 °C (1922 °F) – pay attention to tendency to embrittlement

Approvals

TÜV (09474), DB (43.132.27), GL