Thermanit GE-316L Si

Solid wire, high-alloyed, stainless

Classifications			
EN ISO 14343-A	EN ISO 14343-B	AWS A5.9	Mat. No.
G 19 12 3 L Si	SS316LSi	ER316LSi	1.4430

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 400 °C (752 °F). Corrosion-resistance similar to matching low-carbon and stabilized austenitic 18/8 CrNiMo steels / cast steel grades. For joining and surfacing application with matching and similar – non-stabilized – austenitic CrNi(N) and CrNiMo(N) steels and cast steel grades.

Base materials

TÜV-certified parent metal
1.4583 – X10CrNiMoNb18-12; UNS S31653; AISI 316Cb, 316L, 316Ti

Typical analysis of solid wire (wt.-%)

	C	Si	Mn	Cr	Mo	Ni
wt-%	0.02	0.8	1.7	18.8	2.8	12.5

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	380	420	560	35	70

Operating data

Polarity:	Shielding gas:	ø (mm)	Spool:
DC (+)	(EN ISO 14175) M12, M13	0.8	BS300
		1.0	B300
		1.2	B300

Welding instruction

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

Approvals

TÜV (00489), DB (43.132.10) DB, DNV, GL, LR, CE