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

Austenitic stainless steel wire electrode, resistant to inter-crystalline corrosion, wet corrosion resistant up to 400 °C (752 °F). Heat resistant and nonscaling up tp 800 °C (1472 °F).

Corrosion-resistance similar to matching low-carbon and stabilized austenitic 17/12/2-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.

Low temperature service down to –196 °C (-320 °F).

Base materials

TÜV-certified parent metal
1.4401 – X5CrNiMo17-12-2; 1.4404 – X2CrNiMo17-12-2; 1.4435 – X2CrNiMo18-14-3; 1.4436 – X3CrNiMo17-13-3; 1.4571 – X6CrNiMoTi17-12-2; 1.4580 – X6CrNiMoNb17-12-2; 1.4583 – X10CrNiMoNb18-12; 1.4409 – GX2CrNiMo19-11-2;

UNS S31603, S31653; AISI 316L, 316Ti, 316Cb

Typical analysis of solid wire (wt.-%)

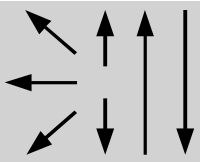
	C	Si	Mn	Cr	Mo	Ni
wt-%	0.02	0.8	1.7	18.8	2.8	12.5

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 CVN J	
	MPa	MPa	MPa	%	+20 °C	–196 °C
aw	380	**420** (≥ 320)	**560** (≥ 510)	**35** (≥ 25)	**70**	≥ 32

Operating data



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

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), DNV·GL, CE