

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 to 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%)						
	С	Si	Mn	Cr	Мо	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 wo	
	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) 0.8 BS300 M12, M13 1.0 B300 1.2 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