

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.-%)

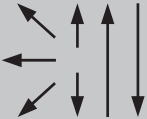
C	Mn	Si	Cr	Mo	Ni
0.02	1.7	0.8	18.8	2.8	12.5

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

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