

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9	Mat. No.
W 19 12 3 L	SS316L	ER316L	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 and stabilized – austenitic CrNi(N) and CrNiMo(N) steels and cast steel grades.

Base materials

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

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

	C	Si	Mn	Cr	Mo	Ni
wt-%	0.02	0.5	1.7	18.5	2.6	12.3

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	450	480	580	35	100

Operating data

Polarity:	Shielding gas:	Marks:	ø (mm)	L mm
DC (–)	(EN ISO 14175) I 1	✦ W 19 12 3L / ER316L	1.0	1000
			1.2	1000
			1.6	1000
			2.0	1000
			2.4	1000
			4.0	1000

Welding instruction

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

Approvals

TÜV (09500) DB (43.132.20), DNV, GL, CE