

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9	Mat. No.
W 19 9 L	SS308L	ER308L	1.4316

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 350 °C (662 °F). Corrosion-resistant similar to matching low-carbon and stabilized austenitic 18/8 CrNi(N) steels/cast steel grades. High toughness at subzero temperatures as low as -196 °C (-321 °F). For joining and surfacing applications with matching and similar – stabilized and non-stabilized – austenitic CrNi(N) and CrNiMo(N) steels/cast steel grades. For joining and surfacing work on cryogenic matching / similar austenitic CrNi(N) steels / cast steel grades.

Base materials

TÜV-certified parent metal
 1.4301 – X5CrNi18-10
 1.4311 – X2CrNi18-10
 1.4550 – X6CrNiNb18-10
 AISI 304, 304L, 304LN, 302, 321, 347;
 ASTM A157 Gr. C9, A320 Gr. B8G oder D

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

	C	Si	Mn	Cr	Ni
wt-%	0.02	0.5	1.7	20.0	10.0

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	-196 °C
aw	400	430	570	35	100	35

Operating data				
Polarity: DC (–)	Shielding gas: (EN ISO 14175) I1, I3	Marks: ✦ W 19 9L / ER308L	ø (mm) 1.0 1.2 2.4 4.0	L mm 1000 1000 1000 1000
Welding instruction				
Materials	Preheating	Postweld heat treatment		
Matching and similar non-stabilized and stabilized austenitic CrNi(N) steels / cast steel grades	None	Mostly none. If necessary, solution annealing at 1000 °C (1832 °F)		
Cryogenic austenitic steels / cast steel grades	None	None		
Approvals				
TÜV (09451), DB (43.132.19), DNV, CE				