

## 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 <sub>p0.2</sub>	Yield strength R <sub>p1.0</sub>	Tensile strength R <sub>m</sub>	Elongation A (L <sub>0</sub> =5d <sub>0</sub> )	Impact work ISO-V KV J	
	MPa	MPa	MPa	%	+20 °C	-196 °C
aw	400	430	570	35	100	35

Operating data				
<b>Polarity:</b> DC ( - )	<b>Shielding gas:</b> (EN ISO 14175) I1, I3	<b>Marks:</b> ✦ W 19 9L / ER308L	<b>ø (mm)</b> 1.0 1.2 2.4 4.0	<b>L mm</b> 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				