

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9	Mat. No.
W Z 18 16 5 NL	SSZ317L	ER317L(mod.)	1.4453

Characteristics and typical fields of application

Stainless; resistant to intercrystalline corrosion and wet corrosion up to 400 °C (752 °F). High Mo content provides high resistance to Cl-bearing environment and pitting corrosion. Non magnetic. Well suited for joining and surfacing to matching and similar austenitic non-stabilized and stabilized stainless and non magnetic CrNiMo(N) steels / cast steel grades.

Base materials

TÜV-certified parent metal
 1.4429 – X2CrNiMo17-13-3
 1.4436 – X3CrNiMo17-13-3
 1.4438 – X2CrNiMo18-15-4
 1.4439 – X2CrNiMoN17-13-5
 1.4583 – X10CrNiMoNb18-12
 AISI 316Cb, 316LN, 317LN, 317L; UNS S31726

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

	C	Si	Mn	Cr	Mo	Ni	N
wt-%	0.01	0.4	5.5	19.0	4.3	17.2	0.16

Structure: Austenite, no 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	380	410	570	35	100

Operating data				
Polarity: DC (–)	Shielding gas: (EN ISO 14175) I1	Marks: ✦ WZ 18 16 5 NL / 1.4453	ø (mm)	L mm
			1.0	1000
			1.6	1000
			2.0	1000
			2.4	1000
			3.2	1000
Welding instruction				
Materials		Preheating	Postweld heat treatment	
Matching and similar austenitic non-stabilized and stabilized CrNiMo(N) steels / cast steel grades		None	If necessary, solution annealing at 1050 °C (1922 °F)	
Non magnetic CrNiMo(N) steels / cast steel grades		None; keep interpass welding temperature low	If necessary, stress relieving according to parent metal, otherwise solution annealing at 1050 °C (1922 °F)	
Approvals				
TÜV (11506), CE				