

Classifications

EN ISO 14343-A	AWS A5.9 / SFA-5.9
W Z 18 16 5 Mn N L	ER317L(mod.)

Characteristics and typical fields of application

TIG rod of type 18 16 5 Mn N L / ER317L(mod.) with good resistance to wet corrosion. 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.

Well suited for depositing intermediate layers when welding products clad with a matching or similar overlay.
Service temperatures from -269°C to 400°C.

Base materials

TÜV-certified parent metal

1.4429 – X2CrNiMoN17-13-3; 1.4436 – X3CrNiMo17-13-3; 1.4438 – X2CrNiMo18-16-4;

1.4439 – X2CrNiMoN17-13-5; 1.4583 – X10CrNiMoNb18-12

AISI 316Cb, 316 LN, 317LN, 317L, UNS S31726

Typical analysis

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

Structure: Austenite, no ferrite

Mechanical properties of all-weld metal - typical values (min. values)

Condition	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact energy ISO-V KV J	
	MPa	MPa	%	20°C	-269°C
u	440 (≥ 400)	650 (≥600)	35 (≥25)	120 (≥47)	75 (≥32)

u untreated, as welded

Operating data

	Polarity	DC-	Dimension mm
	Shielding gas (EN ISO 14175)	I1	1.0 × 1000
	Rod marking	+ WZ 18 16 5 Mn NL / 1.4453	1.2 × 1000
			1.6 × 1000
			2.0 × 1000
			2.4 × 1000

Preheating is in general not necessary. Solution annealing can be applied at 1050°C.

Non-magnetic CrNiMo(N) steels / cast steel grades should be welded with low interpasstemperature. Stress relieving can be applied according to parent metal, otherwise solution annealing at 1050°C can be carried out.

Approvals

TÜV (11506), DNV, CE