

Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22	Mat. No.
T 19 12 3 L P M21 1 T 19 12 3 L P C1 1	TS316L-FB1	E316LT1-4 E316LT1-1	1.4430

Characteristics and typical fields of application

Thermanit 316 L-PW is an austenitic CrNiMo flux cored wire with rutile, fast freezing slag. It is suited for all position GMAW welding with mixed gas M21 and C1 acc. to EN ISO 14175 for joining of matching and similar, non stabilized and stabilized corrosion resistant CrNi(N) and CrNiMo(N) steels/cast steel grades. The weld metal is stainless, resistant to intercrystalline corrosion (wet corrosion up to 400 °C / 752 °F), cryogenic down to -60 °C (-76 °F) and resistant to scaling up to 800 °C (1472 °F).

Thermanit 316 L-PW shows very fine and smooth bead appearance and almost spatter free welding behaviour. Very good slag detachability and notch free and clean seams with low annealing colouring, easy to clean and pickle. Root welding is proven on ceramic backing strips.

Base materials

1.4301 – X5CrNi18-10	1.4541 – X6CrNiTi18-10
1.4306 – X2CrNi19-11	1.4550 – X6CrNiNb18-10
1.4308 – GX5CrNi19-10	1.4552 – GX5CrNiNb19-11
1.4401 – X5CrNiMo17-12-2	1.4571 – X6CrNiMoTi17-12-2
1.4404 – X2CrNiMo17-12-2	1.4580 – X6CrNiMoNb17-12-2
1.4408 – GX5CrNiMo19-11-2	1.4581 – GX5CrNiMoNb19-11-2
1.4435 – X2CrNiMo18-14-3	1.4583 – X10CrNiMoNb18-12
1.4436 – X3CrNiMo17-13-3	1.4948 – X6CrNi18-10

and also covered materials acc. to VdTÜV-Kennblatt 1000.
 UNS S31653; AISI 316L, 316Ti, 316Cb.

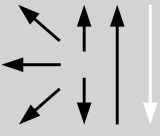
Typical analysis of all-weld metal (wt.-%)

	C	Si	Mn	Cr	Mo	Ni	Gas
wt-%	0.03	0.7	1.5	19.0	2.7	12.0	M21

Structure: Austenite with part ferrite

Mechanical properties of all-weld metal

Heat-treatment	Shielding gas	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	-120 °C
aw	M21	350	400	520	35	47	32

Operating data							
	Polarity: DC (+)	Shielding gas: (EN ISO 14175) M21, C1	∅ (mm) 1.2	Spool B300	Amps A 125 – 230	Voltage V 22 – 28	
		Consumption: 15 – 18 l/min					
Approvals							
TÜV (09771), DB (43.132.24), GL, CE							