

## Classifications

EN ISO 17633-A	EN ISO 17633-B	AWS A5.22
T Z19 13 4 L P M21 1	TS317L-F M21 1	E317LT1-4
T Z19 13 4 L P C1 1	TS317L-F C1 1	E317LT1-1

## Characteristics and typical fields of application

E 317L PW-FD is a rutile flux cored welding wire with fast freezing slag providing excellent positional operating characteristics and fast travel speeds. It is easy to use and operates with a powerful penetrating spray arc transfer, minimum spatter formation and self releasing slag. It is designed for welding of corrosion resistant CrNiMo-steels and satisfies the high demands of offshore fabricators, shipyards building chemical tankers as well as the chemical/petrochemical, pulp and paper industries. Suitable for service temperatures from -60 to +300 °C. The weld metal exhibits resistance against pitting corrosion and intergranular corrosion resistance (ASTM A 262 / Practise E) up to 300 °C. For corrosion resistant single claddings the wire should be used under mixture gas (Argon + 15 – 25 % CO<sub>2</sub>).

## Base materials

CrNiMo-steels with higher Mo-content like grade AISI 317LN or corrosion resistant claddings on mild steels

1.4434 X2CrNiMoN18-12-4, 1.4435 X2CrNiMo18-14-3, 1.4438 X2CrNiMo18-15-4,  
1.4429 X2CrNiMoN17-13-3,  
AISI 316L, 316LN, 317L, 317LN

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

	C	Si	Mn	Cr	Ni	Mo		FN
wt.-%	≤ 0.035	0.7	1.3	18.8	13.1	3.4		5-10

## Mechanical properties of all-weld metal

Condition	Yield strength R <sub>p0,2</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	%	+20 °C	-60 °C
u	<b>380</b> (≥ 350)	<b>560</b> (≥ 550)	<b>39</b> (≥ 25)	<b>58</b>	<b>50</b> (≥ 32)

u untreated, as welded – shielding gas Ar + 18 % CO<sub>2</sub>

## Operating data

	Polarity: DC (+)	Shielding gases: Argon + 15 – 25 % CO <sub>2</sub> 100 % CO <sub>2</sub>	Redrying: possible 150°C / 24 h	ø (mm) 1.2	Amps A 100 – 220	Voltage V 20 – 31
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Preheating and post weld heat treatment is not required by the weld deposit. The interpass temperature should be kept below 150 °C. Welding with standard GMAW-facilities possible, slightly trailing torch position (angel appr. 80°), when using 100 % CO<sub>2</sub> as shielding gas it is necessary to increase the voltage by 2 V.

The gas flow should be 15 – 18 l/min

## Approvals

BV (317L), LR (DXVuO, BF, 317L), CE