

## Classifications

<b>EN ISO 14343-A</b>	<b>AWS A5.9 / SFA-5.9</b>
W 19 12 3 L	ER316L

## Characteristics and typical fields of application

TIG rod of W 19 12 3 L / ER316L type with controlled weld metal ferrite content (3-6 FN), particularly for good cryogenic toughness and lateral expansion down to  $-196^{\circ}\text{C}$ . Max. service temperature  $400^{\circ}\text{C}$ .

## Base materials

1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4435 X2CrNiMo18-14-3,  
1.4436 X3CrNiMo17-13-3, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2,  
1.4583 X10CrNiMoNb18-12, 1.4409 GX2CrNiMo 19-11-2  
UNS S31603, S31653; AISI 316L, 316Ti, 316Cb

## Typical analysis


	C	Si	Mn	Cr	Ni	Mo	FN
wt.-%	$\leq 0.02$	0.35	1.8	18.5	12.3	2.8	3 – 6

## 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	Lateral expansion mm
	MPa	MPa	%	$-196^{\circ}\text{C}$	$-196^{\circ}\text{C}$
u	450 ( $\geq 320$ )	580 ( $\geq 510$ )	35 ( $\geq 25$ )	$\geq 32$	$\geq 0.38$

u untreated, as-welded – shielding gas Ar

## Operating data

	<b>Polarity</b>	DC-	<b>Dimension mm</b>
	<b>Shielding gas (EN ISO 14175)</b>	I1	1.6 x 1000
	<b>Rod marking</b>	+ W 19 12 3 L (LF) / ER 316 L (LF)	2.4 x 1000

## Approvals

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