

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9
W 19 12 3 L	SS316L	ER316L

Characteristics and typical fields of application

TIG rod of W 19 12 3 L / ER316L type for joining and surfacing application with matching and similar unstabilized austenitic CrNi(N) and CrNiMo(N)-steels and cast steel grades. Corrosion resistance similar to matching low-carbon and stabilized austenitic 17Cr-12Ni-2Mo-steels and cast steel grades. Resistant to intergranular corrosion. Excellent weld metal toughness down to -196°C. Max. service temperature 400°C.

Base materials

1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4429 X2CrNiMoN17-12-3,
1.4432 X2CrNiMo17-12-3, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-12-3, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2,
1.4583 X10CrNiMoNb18-12
UNS S31600, S31603, S31635, S31640, S31653
AISI 316L, 316Ti, 316Cb

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

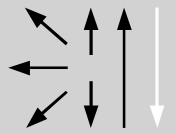
	C	Si	Mn	Cr	Ni	Mo
wt-%	<= 0,02	0.5	1.8	18.5	12.3	2,8

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

Heat-treatment	Yield strength R _{p0.2}	Tensile strength R _m	Elongation A (L ₀ =5d ₀)	Impact values ISO-V CVN J	
	MPa	MPa	%	+20 °C	-196 °C
u	470 (>= 320)	610 (>= 510)	38 (>= 25)	140	58 (>= 32)

u untreated, as-welded – shielding gas Ar

Operating data

	Polarity:	Shielding gas:	Marks:	ø mm	L mm
	DC (-)	(EN ISO 14175) I 1	✈ W 19 12 3L / ER316L		
				1,2	1000
				1.6	
				2.0	
				2.4	
				3.2	
				4,0	

Approvals

TÜV (09500), DB (43.132.20), DNV GL, ABS, NAKS, CE