

Classifications

EN ISO 14343-A	EN ISO 14343-B	AWS A5.9
W 19 12 3 Nb	SS318	ER318

Characteristics and typical fields of application

Solid wire TIG rod of W 19 12 3 Nb Si / ER318 (mod.) type for joining and surfacing application with matching and similar stabilized and non-stabilized austenitic CrNi(N) and CrNiMo(N)-steels and cast steel grades. Corrosion resistance similar to matching stabilized CrNiMo-steels. Max. service temperature 400°C.

Base materials

1.4401 X5CrNiMo17-12-2, 1.4404 X2CrNiMo17-12-2, 1.4409 GX2CrNiMo19-11-2, 1.4435 X2CrNiMo18-14-3, 1.4436 X3CrNiMo17-13-3, 1.4437 GX6CrNiMo18-12, 1.4571 X6CrNiMoTi17-12-2, 1.4580 X6CrNiMoNb17-12-2, 1.4581 GX5CrNiMoNb19-11-2, 1.4583 X10CrNiMoNb18-12 UNS S31600, S31603, S31635, S31640, S31653, AISI 316, 316L, 316Ti, 316Cb

Typical analysis of the TIG rods

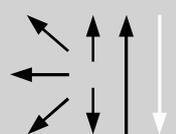
	C	Si	Mn	Cr	Mo	Ni	Nb
wt-%	0.04	0.4	1.7	19.5	2.7	11.5	≥ 12xC

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 values ISO-V CVN J
	MPa	MPa	%	+20 °C
u	400 (≥ 350)	600 (≥ 550)	30 (≥ 25)	100

u untreated, as-welded – shielding gas Ar

Operating data

	Polarity:	Shielding gas:	Marks:	∅ mm	L mm
	DC –	(EN ISO 14175) I 1	✦ W 19 12 3 Nb / ER318	1.0	1000
			1.6	1000	
			2.0	1000	
			2.4	1000	
			3.2	1000	
			4.0	1000	
			5.0	1000	

Approvals

TÜV (09474), DB (43.132.27), DNV GL, CE