

## Classifications

<b>EN ISO 14343-A</b>	<b>AWS A5.9 / SFA-5.9</b>
W 19 9 Nb	ER347

## Characteristics and typical fields of application

Solid wire TIG rod of W 19 9 Nb / ER347 type for joining and surfacing application with matching and similar stabilized and non-stabilized austenitic CrNi(N)-steels and cast steel grades. Service temperatures from -196°C to 400°C. Corrosion resistance similar to matching stabilized austenitic CrN-steels .

## Base materials

1.4301 X5CrNi18-10, 1.4306 X2CrNi19-11, 1.4311 X2CrNiN18-9, 1.4312 GX10CrNi18-8, 1.4541 X6CrNiTi18-10, 1.4546 X5CrNiNb18-10, 1.4550 X6CrNiNb18-10, 1.4552 GX5CrNiNb19-11  
UNS S30400, S30403, S30453, S32100, S34700  
AISI 347, 321,302, 304, 304L, 304LN

## Typical analysis

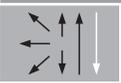
	C	Si	Mn	Cr	Ni	Nb
wt.-%	0.05	0.5	1.8	19.5	9.5	≥ 12×C

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

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 energy ISO-V KV J	
	MPa	MPa	%	20°C	-196°C
u	420 (≥350)	600 (≥ 550)	30 (≥ 25)	100 (≥ 65)	(≥ 27)

u untreated, as-welded – shielding gas Ar

## Operating data

	Polarity	DC-	Dimension mm
	Shielding gas (EN ISO 14175)	l1	1.0 x 1000
	Rod marking	+ W 19 9 Nb / ER 347	1.2 x 1000
			1.6 x 1000
			2.0 x 1000
			2.4 x 1000
			3.2 x 1000
			4.0 x 1000

Suggested heat input is max. 1.5 kJ/mm and interpass temperature max. 100°C. Post-weld heat treatment generally not needed. In special cases, solution annealing can be performed at 1050°C followed by water quenching. Can be used for cladding, which normally requires stress relieving at approximately 590°C.

## Approvals

TÜV (09475), DB (43.132.21), CE