

DATASHEET RW 316 LAWS – TIG Rods

Description and Applications

Austenitic stainless steel welding wire suitable to weld base metals of similar compositions like AISI 316 and AISI 316L. Low C content reduces the possibility of intergranular carbide precipitation and therefore increases the resistance to intergranular corrosion. It is also suitable for welding steel that are stabilized with titanium or niobium. Guarantees a better corrosion resistance than RW 308 LAWS.

Rodacciai denomination and approximate equivalent with other standards

	RW 316 LAWS
EN ISO 14343-A:2009	W 19 12 3 L
EN ISO 14343-B:2009	SS 316L
AWS A5.9-2012	ER 316L
DIN Werkstoff Nr.	1.4430

Approvals

TÜV
CE
CWB

Filler metal properties

Chemical composition (nominal) in %

	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Co	N	Nb	B
min		1,50	0,30			18,00	12,00	2,50					
max	0,020	2,00	0,60	0,015	0,025	19,20	13,00	3,00	0,30	0,20	0,060	0,050	0,002

Metal properties

The following data are typical for non-heat treated weld metal from TIG welding with I1 DIN EN ISO 14175 as shielding gas.

Expected minimum mechanical properties of all weld metal

Temperature	°C	20
Yield strength, Rp 0,2	N/mm ²	450
Yield strength, Rp 1,0	N/mm ²	505
Tensile strength, Rm	N/mm ²	620
Elongation, A5	%	35
Reduction of area Z	%	64
Impact energy, ISO – V	J	222

Welding parameters

Wire diameter	3,2 mm
Current	180 – 190 A
Voltage	ca. 16 V
Gas	13 l/min
Type of current and polarity	Direct current, electrode positive
Intermediate temperature	max. 180 °C
Welding positions	downhand, horizontal/vertical, vertical upward, overhead
Wall thickness	max. 30 mm
Base metals	X2 CrNiMo 17 12 2 - X5 CrNiMo 17 12 2 - X2 CrNiMo 17 12 3 X6 CrNiMoTi 17 12 2 - X3 CrNiMo 17 13 3 - X6 CrNiMoNb 17 12 2

Highest operating temperature, in the short term range, as for base metal, but not higher than 350 °C

Lowest operating temperature, as for base metal, but not lower than – 196°C

Resistance to intergranular corrosion proven in accordance with DIN 50914

Sizes and marking

Standard sizes : diam. 1,00 – 1,20 – 1,60 – 2,00 – 2,40 – 3,20 and 4,00 mm

Tolerances on diameter : + 0,01 / - 0,04 mm

Marking : Each rod is stamped one end with ER 316L and RW 1.4430

Packaging forms

White carton boxes of 5 kg.

Red, white or blue coloured cardboard tubes of 5 kg.

Wooden crates of 250 kg.