DATASHEET RW 318 SI – TIG rods

Description and Applications
Excellent corrosion resistance as needed in chemical industry up to 400°C and good weldability with excellent flowing properties due to the increased silicon content.

Rodacciai denomination and approximate equivalent with other standards

	RW 318 SI	**Approvals**
EN ISO 14343-A:2009	W 19 12 3 Nb Si	TÜV
EN ISO 14343-B:2009		DB
AWS A5.9-2012	(ER318)	CE
DIN Werkstoff Nr.	1.4576	

Filler metal properties
Chemical composition (nominal) in %

	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	Co	N	Nb	B
min	0,020	1,20	0,65			18,50	11,00	2,50				12xC	
max	0,050	1,80	0,95	0,015	0,020	19,50	12,00	3,00	0,30	0,20	0,060	0,900	0,003

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

Expected minimum mechanical properties of all weld metal

Temperature	°C	20	-60
Yield strength, Rp 0,2	N/mm²	550	
Yield strength, Rp 1,0	N/mm²	590	
Tensile strength, Rm	N/mm²	720	
Elongation, A5	%	30	
Reduction of area Z	%	56	
Impact energy, ISO – V	J	88	69

Welding parameters

Wire diameter	3,2 mm
Current	190 – 200 A
Voltage	18 V
Gas	12 l/min
Type of current and polarity	Direct current, electrode negative
Intermediate temperature	max. 150 °C
Welding positions	downhand, horizontal/vertical, vertical upward, overhead
Wall thickness	max. 20 mm

Highest operating temperature, in the short term range, as for base metal, but not higher than 400 °C
Lowest operating temperature, as for base metal, but not lower than – 60°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 318SI and RW 1.4576

Packaging forms
White carton boxes of 5 kg.
Red, white or blue coloured cardboard tubes of 5 kg.
Wooden crates of 250 kg.