

DATASHEET RW 318 SI – MIG wire

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
EN ISO 14343-A:2009	G 19 12 3 Nb Si
EN ISO 14343-B:2009	
AWS A5.9-2012	(ER318)
DIN Werkstoff Nr.	1.4576

Approvals
TÜV
DB
CE

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 MIG welding with M1 DIN EN ISO 14175 as shielded gas.

Expected minimum mechanical properties of all weld metal

Temperature	°C	20	-120
Yield strength, Rp 0,2	N/mm ²	500	
Yield strength, Rp 1,0	N/mm ²	540	
Tensile strength, Rm	N/mm ²	680	
Elongation, A5	%	31	
Reduction of area Z	%	50	
Impact energy, ISO – V	J	99	64

Welding parameters

Wire diameter	1,2 mm
Current	270 A
Voltage	28 V
Gas	15 l/min
Type of current and polarity	Direct current, electrode positive
Intermediate temperature	ca. 150 °C
Welding positions	downhand, horizontal, vertical upward
Wall thickness	max. 30 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 – 120°C

Resistance to intergranular corrosion proven in accordance with DIN 50914.

Recommended welding parameters

Wire diameter (mm)	Wire feed (m/min)	Current (A)	Voltage (V)	Gas (l/min)
Short-arc welding				
0.8	4-8	45-130	15-19	12
1.0	4-8	60-150	15-21	12
Spray-arc welding				
1.0	6-12	150-230	23-28	18
1.2	5-9	160-270	24-29	18
1.6	3-5	240-360	24-30	18

Packaging forms

Blue metallic wire baskets BS300 of 15 kg.

Plastic spools D300 of 12,5 kg for diam. 0,80 mm and of 15 kg for the other diameters.

Plastic spools D200 of 5 kg.

Drum packaging of about 150 kg for diameter 0,80 mm and of 250 kg for the other diameters.

Diameters : 0,80 – 0,90 – 1,00 – 1,20 – 1,60 mm.