

DATASHEET RW 307 SI – MIG wire

Description and Applications

Fully austenitic stainless steel welding wire suitable to weld dissimilar steels like austenitic manganese steel, mild steel and low-alloyed steels. It is also suitable for welding some 14% Mn-steels and other difficult-to-weld steels. It is often used as weld layer before making the hard facing. The high Mn-content makes the weld metal, although purely austenitic, very resistant to hot cracking with good ductility. The high Si-content provides good fluidity of the weld pool with a minimum of spatters.

Rodacciai denomination and approximate equivalent with other standards

	RW 307 SI
EN ISO 14343-A:2009	G 18 8 Mn
EN ISO 14343-B:2009	
AWS A5.9-2012	
DIN Werkstoff Nr.	1.4370

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	0,060	6,50	0,65	0,005		17,50	8,00						
max	0,100	7,50	1,00	0,015	0,030	19,50	10,00	0,30	0,30	0,30	0,060	0,050	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	450	
Yield strength, Rp 1,0	N/mm ²	475	
Tensile strength, Rm	N/mm ²	640	
Elongation, A5	%	40	
Reduction of area Z	%	60	
Impact energy, ISO – V	J	167	51

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	max. 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 300 °C	
Lowest operating temperature, as for base metal, but not lower than – 60°C	

Recommended welding parameters

Wire diameter (mm)	Wire feed (m/min)	Current (A)	Voltage (V)	Gas (l/min)
Short-arc welding				
0.8	4-8	40-120	15-19	12
1.0	4-8	60-140	15-21	12
Spray-arc welding				
1.0	6-12	140-220	23-28	18
1.2	5-9	180-260	24-29	18
1.6	3-5	230-350	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.