

DATASHEET RW 309 LSI – MIG wire

Description and Applications

Austenitic stainless steel welding wire suitable to weld different parent metals like AISI 304 to carbon steels or similar steels in wrought and cast form. It can also be used to weld AISI 304 and base metals of similar compositions under severe corrosion conditions requiring a higher alloy weld metal. The low C content reduces the possibility of intergranular carbide precipitation and therefore increases the resistance to intergranular corrosion.

Equivalent to RW 309 L except for higher Si content. This improves the arc stability, the weld metal fluidity and the melt run appearance. If the dilution by the base metal produces a low ferrite or fully austenitic weld, the hot cracking sensitivity of the weld is higher than that of the RW 309 L.

Rodacciai denomination and approximate equivalent with other standards

	RW 309 LSi
EN ISO 14343-A:2009	G 23 12 LSi
EN ISO 14343-B:2009	SS 309 LSi
AWS A5.9-2012	ER 309 LSi
DIN Werkstoff Nr.	1.4332

Approvals

TÜV
DB
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	0,65	0,005		23,00	13,00						
max	0,020	2,00	1,00	0,015	0,020	24,00	14,00	0,30	0,20	0,20	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	-60
Yield strength, Rp 0,2	N/mm ²	460	
Tensile strength, Rm	N/mm ²	610	
Elongation, A5	%	35	
Reduction of area Z	%	52	
Impact energy, ISO – V	J	117	102

Welding parameters

Wire diameter	1,2 mm
Current	250 – 270 A
Voltage	28 V
Gas	165 l/min
Type of current and polarity	Direct current, electrode positive
Welding positions	downhand, horizontal, vertical-up
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 about 250 kg for the other diameters.

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