

Techalloy® 309/309L

AWS ER309L

CONFORMANCES

AWS ER309L
 UNS 30983
 UNS 30980
 ISO 14343:2009 (23 12 L)
 CWB



Techalloy® 309/309L electrodes have reduced carbon levels (0.04% max) that offers increased resistance to inter-granular corrosion. Type 309/309L is ideal for joining stainless steels to themselves or to carbon or low alloy steels, and can be used at temperatures of up to 700°F (371°C). Reduced carbon levels help prevent intergranular corrosion.

Applications: Do not exceed service temperatures of 700°F (371°C).

DIAMETERS / PACKAGING

Diameter in (mm)		MIG WIRE 33 lb (14.9 kg) Wire Basket	TIG WIRE 10 lb (4.5 kg) Tube 30 lb (13.6 kg) Master Carton	SAW WIRE 55 lb (25 kg) Coil
0.035	(0.9)	MG309L035667		
0.045	(1.2)	MG309L045667		
1/16	(1.6)	MG309L062667	TG309L062638	
3/32	(2.4)		TG309L093638	SA309L093726
1/8	(3.2)		TG309L125638	SA309L125726
5/32	(4.0)		TG309L156638	SA309L156726

DEPOSIT COMPOSITION

	%C	%Cr	%Ni	%Mo	%Mn
Requirements AWS ER309L	0.03 max.	23.0 - 25.0	12.0 - 14.0	0.75 max.	1.0 - 2.5
Typical Performance Techalloy® 309/309L	0.01	23.4	13.6	0.06	1.6
	%Si	%P	%S	%Cu	FN
Requirements AWS ER309L	0.30 - 0.65	0.03 max.	0.03 max.	0.75 max.	Not Required
Typical Performance Techalloy® 309/309L	0.38	0.02	0.007	0.07	9 - 14

TYPICAL OPERATING PROCEDURES

Process	Diameter in (mm)	Voltage (volts)	Amperage	Gas Flow	Gas
MIG	0.035 (0.9)	26-29	160-210	30-50 CFH	98/99% Argon + 2/1% Oxygen 97% Argon + 3% CO ₂
	0.045 (1.2)	28-32	180-250		
	1/16 (1.6)	29-33	200-280		
TIG	1/16 (1.6)		90-130	20 - 40 CFH	100% Argon
	3/32 (2.4)		120-175		
	1/8 (3.2)		150-220		
	5/32 (4.0)		160-230		
SAW	3/32 (2.4)	28-33	275-350		Lincolnweld® P2007
	1/8 (3.2)	29-32	350-450		
	5/32 (4.0)	30-33	400-550		

Material Safety Data Sheets (MSDS) are available on our website at www.techalloy.com

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

CUSTOMER ASSISTANCE POLICY

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