

Lincolnweld® P2007™ & 309/309L

AWS ER309/ER309L • Stainless Steel

Typical Applications

- ▶ Nuclear reactor vessels and other components

ASME IX Qualification

ASME IX Qualification: QW432 F-No 6,
QW442 A-No 8

Key Features

- ▶ Designed to weld stainless steel to mild or low alloy steel
- ▶ Produces sound welds with excellent slag removal and bead appearance
- ▶ Designed combination to recover nearly all of the wire chromium in the deposit
- ▶ Balanced ferrite level for high resistance to hot cracking
- ▶ Low carbon content to reduce risk of sensitization of the weld

DIAMETERS / PACKAGING - WIRE

Diameter in (mm)	60 lb (27.2 kg) Coil
5/64 (2.0)	ED033151
3/32 (2.4)	ED033152
1/8 (3.2)	ED033153
5/32 (4.0)	ED033154

DIAMETERS / PACKAGING - FLUX

50 lb (22.7 kg) Plastic Bag
ED033159

MECHANICAL PROPERTIES⁽¹⁾ – As Required per AWS A5.9/A5.9M: 2006

	Yield Strength ⁽²⁾ MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Ferrite Number
Requirements - AWS ER309, ER309L	Not Specified			
Test Results ^(3, 5) - As-Welded	400 (58)	575 (83)	35	8

WIRE & DEPOSIT COMPOSITION⁽¹⁾ – As Required per AWS A5.9/A5.9M: 2006

	%C ⁽⁴⁾	%Cr	%Ni	%Mo	%Mn	%Si
Requirements - AWS ER309L	0.03 max.	23.0 - 25.0	12.0 - 14.0	0.75 max.	1.0 - 2.5	0.30 - 0.65
Typical Performance ⁽³⁾						
Wire Composition	0.02	23.9	13.0	0.15	1.8	0.50
All Weld Metal Composition ⁽⁵⁾	0.03	23.1 - 23.6	13.0	0.15	1.5 - 2.0	0.50 - 0.80

TYPICAL OPERATING PROCEDURES

Diameter - in (mm)	Wire Feed Speed - m/min (in/min)	Voltage (volts)	Current (amps)
5/64 (2.0)	2.0-6.1 (80-240)	24-30	190-500
3/32 (2.4)	1.5-5.3 (60-210)	26-32	195-575
1/8 (3.2)	0.9-2.8 (35-110)	28-34	200-700
5/32 (4.0)	0.8-1.9 (30-75)	30-36	320-775

IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED

Fumes from the normal use of some welding products can contain significant quantities of components - such as chromium and manganese - which can lower the 5.0 mg/m³ maximum exposure guideline for general welding fume. BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

⁽¹⁾Typical all weld metal. ⁽²⁾Measured with 0.2% offset. ⁽³⁾See test results disclaimer on pg. 12. ⁽⁴⁾AWS Requirement for ER309 is 0.12% max. carbon. ⁽⁵⁾Results shown correspond with the recommended Lincolnweld® and Blue Max® fluxes listed above, but not required per AWS A5.9-93.