



## Unibraze 309LMo

**CLASSIFICATIONS:** ISO 14343: 2009 23 12 2 L (as listed in AWS A5.9 2017 Table 1)  
*Similar to AWS ER309LMo (does not meet AWS A5.9 chemistry)*

**DESCRIPTION:** Unibraze 309LMo (ISO 14343 23 12 2 L) is a modified chemistry stainless steel wire that eliminates the brittleness and cracking issues associated with the standard AWS ER309LMo chemistry, that is experienced when the hot rolled wire is drawn or spooled, allowing the alloy to be further processed. It is similar to ER309L with the addition of Mo to increase pitting corrosion resistance. It is designed for surfacing of low alloy steels and for joining dissimilar stainless steels to improve their corrosion resistance.

**TYPICAL CHEMISTRY:** (ISO 14343 23 12 2 L)

C	Cr*	Ni*	Mo*	Mn	Si*	P	S	Cu*	FN (WRC)
.03 max	21.0- 25.0	11.0 – 15.5	2.0 – 3.5	1.0 – 2.5	1.0 Max	.03 Max	.02 Max	.50 Max	10

\*Values do not match AWS A5.9 ER309LMo

**TYPICAL MECHANICAL PROPERTIES:**

<b>Tensile Strength</b>	85,000 psi (585MPa)
<b>Yield Strength</b>	45,000 psi (310 MPa)
<b>Elongation</b>	40%
<b>Charpy Impacts@ -40°C</b>	44 ft lbs. (60 J)

**TYPICAL WELDING PARAMETERS:**

	Shielding Gas	Gas Flow	Diameter	Voltage	Amperage
<b>GMAW</b>	98/99% Ar +2/1% O 97%Ar + 3% CO <sub>2</sub>	30 - 50 cfh	.035" (.9mm)	26-29	160 /210
			.045" (1.14mm)	28-32	180/2500
			.062" (1.6mm)	29-33	200/280
<b>GTAW</b>	100% Ar		1/16" (1.6mm)	14-18	90/130
			3/32" (2.4mm)	15-20	120/175
			1/8" (3.2mm)	15-20	150/220
<b>SAW</b>	Suitable Flux		3/32" (2.4mm)	28-33	275/350
			1/8" (3.2mm)	29-32	350/450

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.