

## Oxford Alloy® 309LMo

ER309LMo • Stainless Steel

### Key Features

- Similar to 309 with the exception for the addition of 2.0 - 3.0% molybdenum to increase its pitting corrosion resistance in halide-containing environments.
- Primary application for this filler metal is surfacing of base metals to improve their resistance to corrosion. The 309LMo is used to achieve a single-layer overlay with a chemical composition similar to that of a 316L stainless steel.
- Also used for the first layer of a multilayer overlays with filler metals such as 316L or 317L stainless steel.

### Conformances

BS EN ISO 14343:2009 23 12 2L

Chemical Composition - As per typical heat						
C	Si	Cr	Ni	Mo	Mn	S
0.03 max	1.00 max	21.0-25.0	11.0-15.5	2.0-3.5	1.0-2.5	0.02 max
P	Cu	OET				
0.03 max	0.50 max	0.50 max				

Mechanical Properties - As per typical heat			
	Tensile Strength MPa (ksi)	Yield Strength MPa (ksi)	Elongation %
AWS Requirements	Not Specified		
Typical Results - As welded	620 (90)	440 (64)	42



Typical Welding Parameters					
Diameter		Process	Volt	Amps	Shielding Gas
in	(mm)				
.035	0.9	GMAW	22-23	180-210	Spray Transfer 98% Argon / 2% Oxygen
.045	1.2	GMAW	23-25	195-260	
1/16	1.6	GMAW	25-28	260-390	
.035	0.9	GMAW	19-23	55-170	Short Circuiting Transfer 90% Helium / 7 1/2 % Argon / 2 1/2 CO <sub>2</sub>
.045	1.2	GMAW	19-23	100-185	
1/16	1.6	GMAW			
1/16	1.6	GTAW	14-18	90-130	100% Argon
3/32	2.4	GTAW	15-20	120-175	100% Argon
1/8	3.2	GTAW	15-20	150-220	100% Argon

Diameters & Packaging					
Oxford Alloys USA			Oxford Alloys Asia Pacific		
Diameter (in)	Form	Packaging (lbs)	Diameter (mm)	Form	Packaging (kgs)
.035	GMAW	33 lb spool   1980 lb pallet	0.9	GMAW	15 kg spool   900 kg pallet
.045	GMAW	33 lb spool   1980 lb pallet	1.2	GMAW	15 kg spool   900 kg pallet
1/16	GMAW	33 lb spool   1980 lb pallet	1.6	GMAW	15 kg spool   900 kg pallet
1/16	GTAW	10 lb tube   40 lb carton	1.6	GTAW	5 kg tube   20 kg carton
3/32	GTAW	10 lb tube   40 lb carton	2.4	GTAW	5 kg tube   20 kg carton
1/8	GTAW	10 lb tube   40 lb carton	3.2	GTAW	5 kg tube   20 kg carton

Actual test results may vary. Refer test result disclaimer on page 160.