

### DESCRIPTION

Executive 309LMo wire is designed to provide clean and consistent welds with excellent feedability and minimal clean-up. By maintaining tight control from the country of melt to the design of the spool, Executive wire provides welders with the highest quality stainless bare wire. Executive 309LMo has additional Molybdenum which gives it better strength, crack and corrosion resistance at high temperature. Executive 309LMo has a maximum carbon level of 0.03% which enhances the resistance to intergranular corrosion.

Chemistry requirements of AWS results in 309LMo having too much brittleness and cracking when the rod is drawn. This means that true ER309LMo is not commercially available. Executive 309LMo has a modified chemistry to allow the alloy to be manufactured.

### APPLICATIONS & FEATURES

The primary application for Executive 309LMo is surfacing of base metals to improve their corrosion resistance. In multilayer overlays, the low carbon Executive 309LMo is usually needed for the first layer in order to achieve low carbon contents in successive layers with filler metals such as Executive 316L or Executive 317L. Other applications include the welding of molybdenum-containing stainless steel linings to carbon steel shells, the joining of carbon steel base metals which had been clad with a molybdenum-containing stainless steel, and the joining of dissimilar base metals such as carbon steel to Type 304 stainless steel. The ferrite level of the wire should be sufficiently high in order to stop formation of fully austenitic micro-structure with dilution from base material.

### TYPICAL WIRE CHEMISTRY & MECHANICAL PROPERTIES

C	Cr	Ni	Mo	Mn	Si	P	S	Cu	N			
0.010	21.27	14.81	2.58	1.48	0.31	0.022	0.0027	0.096	0.052			
<b>Tensile Strength:</b>		86,300 PSI min		<b>Elongation:</b>		38.1%		<b>Ferrite Range:</b>		9 FN (WRC-92)		
<b>Yield Strength:</b>		60,500 PSI min										

### TYPICAL WELDING PARAMETERS

Process	Diameter	Voltage	Amperage	Gas Flow	Shielding Gas / Flux	
<b>GMAW</b> - Short	.035"	21-22	160-200	30 to 50 CFH	98% Ar / 2% O <sub>2</sub>	
	.045"	22-23	180-210			
	- Spray	.035"	23-25			190-260
		.045"	25-28			250-330
<b>GTAW</b>	.093"	Direct Current; Electrode -		30 to 40 CFH	100% Ar	
<b>SAW</b>	.093"	29-32	300-350	Record IN Flux		
	.125"	29-32	400-550			

### STANDARD PACKAGING

<b>GMAW</b> (MIG)	33-lb wire baskets	1,980-lb pallet
	11-lb plastic spools	11-lb box
	2-lb plastic spools	8-lb box
<b>GTAW</b> (TIG)	10-lb plastic tube	40-lb box
<b>SAW</b>	60-lb wire coil	1,200-lb pallet



### CLASSIFICATION

AWS/SFA 5.9, Class **Similar to ER309MLo**, ISO 14343:2017 23 12 2L