



exocor™

Stainless Steel BARE WIRE DATA SHEET executive 309LMo

DESCRIPTION

Executive 309LMo is the same as an ER309Mo except for a lower maximum carbon content (0.03%). Low-carbon contents in stainless steels reduce the possibility of chromium carbide precipitation and thereby increase weld metal resistance to intergranular corrosion. The primary application for this filler metal is surfacing of base metals to improve their corrosion resistance. The Executive 309LMo is used in the same type of application as the ER309Mo, but where excessive pickup of carbon from dilution by the base metal, where intergranular corrosion from carbide precipitation, or both are factors to be considered in the selection of the filler metal. 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 CHEMICAL VALUES

C	Cr	Ni	Mo	Mn	Si	P	S	Cu
0.02	21.5	14.5	2.5	1.5	0.4	0.02	0.01	0.75

WELDING PARAMETERS

PROCESS	SIZE	VOLTS	AMPS	SPEED OF WELDING / GAS FLOW	SHIELDING GAS / FLUX
SAW	.093	29 - 32	300 - 350	20 - 30 IPM	Record IN Flux
	.125	29 - 32	400 - 550	20 - 30 IPM	Record IN Flux
	.156	29 - 32	500 - 650	20 - 30 IPM	Record IN Flux
GMAW	.035	29 - 33	160 - 180	30 - 50 CFH	98/99% Ar + 2/1% O ₂
	.045	29 - 33	180 - 220	30 - 50 CFH	or
	.062	29 - 33	210 - 250	30 - 50 CFH	97% Ar + 3% CO ₂
GTAW	.093	Direct Current; Electrode -		30 - 40 CFH	100% Ar

MECHANICAL PROPERTIES

Tensile Strength:	85,000 PSI	585 MPA
Yield Strength:	45,000 PSI	310 MPA
Elongation:	40%	

CLASSIFICATION

Wire chemistry has been optimized for best performance and is similar to **AWS/SFA 5.9, Class ER309LMo**, ISO 14343A, Class 23 12 2 L and ISO 14343B, Class SS309LMo.