



WASHINGTON ALLOY'S Quality Management System is Certified to ISO 9001:2008 Cert # 05-R0925

309LMo Stainless Steel Flux Cored

U.S. ALLOY CO.
dba Washington Alloy
7010-G Reames Rd.
Charlotte, NC 28216
www.weldingwire.com



ALLOY DESCRIPTION AND APPLICATION;

For joining dissimilar metals of stainless steel to carbon and low alloy steels. Most commonly used as a buffer layer when cladding mild steel with 316 austenitic stainless. 309LMo offers greater corrosion resistance at elevated temperatures than 309L. The addition of molybdenum to the chemical analysis also gives the weld deposit improved crack resistance. 309LMo is commonly used for welding ferritic steel plates clad with AISI 316 stainless steel. Excellent for 317L stainless and dissimilar steel applications involving sulfuric and phosphoric acids. It is sometimes used in paper mills and in power plants to give greater corrosion resistance.

TYPICAL FCAW WELDING PROCEDURES; DCEP

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Electrical Stick-out	CO ₂ (cfh)
0.035	275-520	105-170	24-28	1/2-1"	35-45
0.045	240-600	135-245	25-30	1/2-1"	40-50
1/16"	155-320	170-315	25-31	1/2-1"	40-50

Deposition rate lbs/hr: .035" = 3-6 lbs, .045" = 4-10 lbs, 1/16" = 5-11 lbs

Procedures may vary with change in position, base metals, filler metals, equipment and other changes.
(Based on 100% CO₂ for 75% Argon & 25% CO₂ lower volts by 2 volts)

CHEMISTRY (%) for Undiluted WELD METAL & PROPERTIES (AWS Requirements)

Carbon	0.04	Molybdenum	2.0-3.0
Manganese	0.5-2.5	Phosphorus	0.04
Silicon	1.00	Sulfur	0.03
Chromium	21.0-25.0		
Nickel	12.0-16.0	Copper	0.75
	Elongation	25% min.	
	Tensile Strength (psi)	75,000 min.	

Iron balance and all single values are maximum percentages unless noted

AVAILABLE SIZES: TSF 309MOLT-1 = .045, 1/16

Other sizes available – please inquire

SPECIFICATIONS; ANSI/AWS A5.22 E309LMoT0-1/-4 or E309LMoT1-1/-4
ASME SFA 5.22 E309LMoT0-1/-4 or E309LMoT1-1/-4
ASME F - 6

T0 = flat and horizontal; T1 = all position: -1 is for 100% CO₂; -4 = 75-80 Ar /CO₂

EAST COAST
7010-G Reames Rd
Charlotte, NC 28216
Tel (888) 522-8296
Fax (704)598-6673

GULF COAST
4755 Alpine Drive #100A
Stafford, TX 77477
Tel (877) 711-9274
Fax (281)313-6332

WEST COAST
8535 Utica Ave
Rancho Cucamonga, CA 91730
Tel(800)830-9033
Fax (909)291-4586



2012 DC

Warehouse Distribution Center – Dayton, Ohio

Head Office – Puyallup, Washington

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