



PRODUCT

DATA SHEET

Flux Cored Stainless Steel Electrodes (Gas Shielded)

Weld Process: Gas Metal Arc

Alloy: E309MOT-1 Class: E309MOTX-X

Conforms to Certification: AWS A5.22 ASME SFA 5.22

Alloy: DM309MOT-1



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AWS Chemical Composition Requirements

C = 0.04 max	S = 0.03 max
Mn = 0.5 – 2.5	Cr = 21.0 – 25.0
Si = 1.0 max	Ni = 12.0 – 16.0
P = 0.04 max	Mo = 2.0 – 3.0
Cu = 0.75 max	

Deposited Chemical Composition % (Typical)

C = 0.03	Mn = 1.20	Si = 0.60
Cr = 23.0	Ni = 12.5	Mo = 2.3
P = 0.015	S = 0.01	

Deposited All Weld Metal Properties %

As-Welded

Tensile Strength	90,000psi
Yield Strength	60,000psi
Elongation	34%
Ferrite	19 FN

Deposited Charpy-V-Notch Impact Properties %

Not applicable

Application

The composition of this weld metal is the same as E309MOTX-X except for lower carbon content. Use these electrodes to join stainless steel to carbon and low alloy steels for services below 600° F. Use for overlay. Ferrite is 20FN deposited.

Suggested Welding Parameters

Diameter .035

	<u>Optimum Parameters</u>			<u>Operating Range</u>	
	Wire Feed Speed	Amps	Volts	Amps	Volts
Flat	365” / minute	130-140	24-25	100-170	21-26
Horizontal	365” / minute	130-140	24-25	100-170	21-26
Vertical-Up	310” / minute	110-120	22-23	110-120	21-23
Overhead	320” / minute	120-130	23-24	120-130	22-24

Diameter .045

	<u>Optimum Parameters</u>			<u>Operating Range</u>	
	Wire Feed Speed	Amps	Volts	Amps	Volts
Flat	450” / minute	180-200	25-27	135-250	24-32
Horizontal	450” / minute	180-200	25-27	135-250	24-32
Vertical-Up	325” / minute	150-170	24-26	135-200	24-26
Overhead	425” / minute	175-195	25-27	155-200	25-28

Diameter 1/16

	<u>Optimum Parameters</u>			<u>Operating Range</u>	
	Wire Feed Speed	Amps	Volts	Amps	Volts
Flat	264” / minute	220-240	25-27	170-300	24-31
Horizontal	235” / minute	200-220	25-27	170-270	24-29
Vertical-Up	220” / minute	190-210	25-26	170-230	24-27
Overhead	235” / minute	200-220	25-26	170-270	24-29

For best results, set the wire feed speed and adjust the voltage for smoothest operation. Electrode extension range is from 1/2” to 1,” with an optimum range of 5/8” to 3/4.” Weld using reverse polarity DC(+).

Shielding Gas

75% argon / 25% CO₂ (or nearest equivalent) shielding gas; however, straight CO₂ may also be used. The 75/25 mixture will produce a smoother arc with virtually no spatter and slightly higher yield and tensile strengths than CO₂. The mechanical properties and deposit analyses will meet AWS A5.22 specifications with either gas.