

# Supercored 309MoL

Type : Rutile

## Conformances

AWS A5.22/ASME SFA5.22 E309LMoT0-1/-4  
 JIS Z3323 TS309LMo-FB0  
 EN ISO 17633-A-T 23 12 2 L R M21/C1 3  
 LR SS/CMn (M21)

BV 309LMo (M21)  
 DNV-GL VL 309MoL (-20°C) (M21)

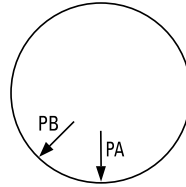
## Applications

- 22%Cr-12%Ni-2.5%Mo stainless steels
- Dissimilar welds between carbon, low alloy steels to stainless steels
- Buffer layer welding for cladding, overlays

## Features

- Flat and horizontal fillet position welding
- High deposition rate and efficiency

## Welding Position



## Current

DC +

## Shielding Gas

100% CO<sub>2</sub>  
 Ar + 20~25% CO<sub>2</sub>

## Diameter / Packaging

Diameter mm (in)	Spool			Pac		
	5kg (11lbs)	12.5kg (27.6lbs)	15kg (33lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)
0.9 (0.035)	✓	✓	✓			
1.0 (0.040)	✓	✓	✓			
1.2 (0.045)	✓	✓	✓			
1.6 (1/16)		✓	✓			

## Typical Chemical Composition of All-Weld Metal (%)

	C	Si	Mn	P	S	Cr	Ni	Mo
100% CO <sub>2</sub>	0.03	0.50	1.10	0.02	0.01	22.0	12.2	2.2
80% Ar + 20% CO <sub>2</sub>	0.03	0.60	1.20	0.02	0.01	22.5	12.5	2.3

## Typical Mechanical Properties of All-Weld Metal

	TS MPa(lbs/in <sup>2</sup> )	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)	Ferrite Number
100% CO <sub>2</sub>	680 (98,600)	35	-20 (-4)	50 (37)	17-20
80% Ar + 20% CO <sub>2</sub>	690 (100,050)	32	-20 (-4)	55 (40)	17-20

## Typical Welding Parameters

Diameter, Polarity Shielding Gas	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Amp. (A)	Volt. (V)	Deposition Rate kg/hr (lb/hr)
<b>1.2mm (0.045 in) DC+</b>					
100% CO <sub>2</sub>	20 (4/5)	6.2 (244)	140	23-26	2.6 (5.7)
		9.1 (358)	180	27-30	3.9 (8.6)
		12.0 (472)	210	28-31	5.0 (11.0)
80% Ar + 20% CO <sub>2</sub>	20 (4/5)	6.2 (244)	140	23-26	2.8 (6.2)
		9.2 (362)	180	27-30	4.0 (8.8)
		12.0 (472)	210	27-30	5.1 (11.2)
<b>1.6mm (1/16 in) DC+</b>					
100% CO <sub>2</sub>	25 (1)	3.7 (146)	180	24-27	3.3 (7.3)
		6.4 (250)	250	25-28	5.3 (11.7)
		9.0 (354)	290	26-29	6.6 (14.6)
80% Ar + 20% CO <sub>2</sub>	25 (1)	3.6 (142)	180	24-27	3.2 (7.1)
		6.4 (250)	250	25-28	5.5 (12.1)
		9.0 (354)	290	26-29	6.7 (14.8)