

SW-309MoL Cored

Type : Rutile

SW-309MoL Cored

Conformances

AWS A5.22 / ASME SFA5.22 E309LMoT1-1/-4
JIS Z3323 TS309LMo-FB1
EN ISO 17633-A-T 23 12 2 L P M/C 2
CWB AWS A5.22 E309LMoT1-1

DNV 309MoL (-20°C)
GL 4459S
NK KW309MoLG(C)

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

- Good performance in all positions

Welding Position



1G 2F 3G 4G
(PA) (PB) (PF) (PE)

Current

DC +

Shielding Gas

100% CO₂
Ar + 20~25% CO₂

Typical Chemical Composition of All-Weld Metal (%)

	C	Si	Mn	P	S	Cr	Ni	Mo
100% CO ₂	0.03	0.60	1.40	0.02	0.01	22.3	12.3	2.3
80% Ar + 20% CO ₂	0.03	0.70	1.50	0.02	0.01	23.5	12.5	2.4

Typical Mechanical Properties of All-Weld Metal

	TS Mpa(lbs/in ²)	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft.-lbs)	Ferrite Number
100% CO ₂	680 (98,600)	31	-20 (4)	45 (33)	17-20
80% Ar + 20% CO ₂	690 (100,050)	32	-20 (4)	50 (37)	17-20

Typical Operating Procedures

Diameter, Polarity Shielding Gas	CTWD mm (in)	Wire Feed Speed m/min (in/min)	Voltage (volts)	Approx. Current (amps)	Deposition Rate kg/hr (lb/hr)
1.2mm (0.045 in) DC+					
100% CO ₂	20 (4/5)	6.0 (236)	23-26	140	2.5 (5.5)
		9.0 (354)	27-30	180	3.6 (7.9)
		12.0 (472)	28-31	210	4.6 (10.1)
80% Ar + 20% CO ₂	20 (4/5)	6.2 (244)	23-26	140	2.6 (5.7)
		9.1 (358)	27-30	180	3.6 (7.9)
		12.0 (472)	27-30	210	4.7 (10.4)
1.6mm (1/16 in) DC+					
100% CO ₂	25 (1)	3.8 (150)	24-27	180	2.9 (6.4)
		6.2 (244)	25-28	250	4.4 (10.1)
		8.8 (346)	26-29	290	5.6 (12.3)
80% Ar + 20% CO ₂	25 (1)	3.6 (142)	24-27	180	3.1 (6.8)
		6.3 (248)	25-28	250	4.5 (9.9)
		8.7 (343)	26-29	290	5.5 (12.1)

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)	✓	✓	✓			
1.4 (0.052)	✓	✓	✓			
1.6 (1/16)		✓	✓			