

Supercored 309L

Type : Rutile



Conformances

AWS A5.22/ ASME SFA5.22 E309LT0-1/-4
 JIS Z3323 TS309L-FB0
 EN ISO 17633-A-T 23 12 L R M21/C1 3
 TÜV EN ISO 17633-A-T 23 12 L R M21/C1 3
 DB DIN EN ISO 17633-A-T 23 12 L R M21/C1 3

CE
 LR SS/CMn (M21)
 BV 309L (M21)
 DNV-GL VL 309L (-20°C) (M21)

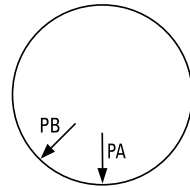
Applications

- 23.5%Cr-13%Ni 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% CO₂
 Ar + 20~25% CO₂

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	Cu
100% CO ₂	0.033	0.50	1.61	0.020	0.006	22.5	12.37	0.12	0.12
80% Ar + 20% CO ₂	0.030	0.60	1.66	0.015	0.007	22.6	12.45	0.12	0.15

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	570 (82,650)	35	-20 (-4)	45 (33)	18-20
80% Ar + 20% CO ₂	580 (84,100)	34	-20 (-4)	40 (30)	18-20

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)
1.2mm (0.045 in) DC+					
100% CO ₂	20 (4/5)	6.2 (244)	140	23-26	2.6 (5.7)
		9.0 (354)	180	27-30	3.8 (8.4)
		12.0 (472)	210	28-31	5.0 (11.0)
80% Ar + 20% CO ₂	20 (4/5)	6.2 (244)	140	23-26	2.8 (6.2)
		9.5 (374)	180	27-30	4.1 (9.0)
		12.0 (472)	210	27-30	5.2 (11.5)
1.6mm (1/16 in) DC+					
100% CO ₂	25 (1)	3.7 (146)	180	24-27	3.3 (7.3)
		6.4 (250)	250	25-28	5.2 (11.5)
		8.9 (350)	290	26-29	6.6 (14.6)
80% Ar + 20% CO ₂	25 (1)	3.7 (146)	180	24-27	3.4 (7.5)
		6.4 (250)	250	25-28	5.4 (11.9)
		8.9 (350)	290	26-29	6.8 (15.0)

SWAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX