

# SW-309L Cored

Type : Rutile

CE

## Conformances

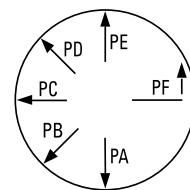
AWS A5.22/ ASME SFA5.22 E309LT1-1/-4  
 JIS Z3323 TS309L-FB1  
 EN ISO 17633-A-T 23 12 L P M21/C1 2  
 KR RW309LG (C) (-20°C ≥34J)  
 ABS AWS A5.22 E309LT1-1  
 LR SS/CMn(C1), Dup/CMn, SS/CMn(M21)  
 BV 309L with KV at -20°C (-20°C ≥34J)  
 DNV·GL VL 309L(C1)

NK KW309LG(C)  
 TÜV EN ISO 17633-A-T 23 12 L P M21/C12  
 DB DIN EN ISO 17633-A-T 23 12 L P M21/C12  
 CWB AWS A5.22 E309LT1-1/4  
 CE  
 RS A-9sp(309) (C1)

## Applications

- 23.5%Cr-13%Ni stainless steels
- Dissimilar welds between carbon, low alloy steels to stainless steels
- Buffer layer welding for cladding, overlays

## Welding Position



## Features

- Good performance in all positions

## Current

DC +

## Shielding Gas

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

## Diameter / Packaging

Diameter	Spool				Pac		
	5kg (11lbs)	12.5kg (27.6lbs)	15kg (33lbs)	250kg (551lbs)	300kg (661lbs)	350kg (771lbs)	
mm (in) 0.9 (0.035)	✓	✓	✓				
1.0 (0.040)	✓	✓	✓				
1.2 (0.045)	✓	✓	✓				
1.4 (0.052)	✓	✓	✓				
1.6 (1/16)		✓	✓				

SMAW

SAW

GMAW

GTAW

FCAW

Non-FERROUS

APPENDIX

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

	C	Si	Mn	P	S	Cr	Ni	Mo
100% CO <sub>2</sub>	0.027	0.74	1.27	0.021	0.006	12.99	23.36	0.130
80% Ar + 20% CO <sub>2</sub>	0.026	0.86	1.43	0.021	0.006	12.82	23.52	0.130

**Typical Mechanical Properties of All-Weld Metal**

	TS MPa(lbs/in <sup>2</sup> )	EL (%)	Temp °C(°F)	CVN-Impact Value J (ft-lbs)
100% CO <sub>2</sub>	540 (78,300)	41	-60 (-76)	46 (33.9)
80% Ar + 20% CO <sub>2</sub>	580 (84,100)	39	-60 (-76)	40 (29.5)

**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)	6.3 (248)	140	23-26	2.6 (5.7)
		9.0 (354)	180	27-30	3.7 (8.2)
		12.2 (480)	210	28-31	4.7 (10.4)
80% Ar + 20% CO <sub>2</sub>	20 (4/5)	6.2 (244)	140	23-26	2.8 (6.2)
		9.0 (354)	180	27-30	3.8 (8.4)
		12.0 (472)	210	27-30	4.9 (10.8)
<b>1.6mm (1/16 in) DC+</b>					
100% CO <sub>2</sub>	25 (1)	3.7 (146)	180	24-27	3.0 (6.6)
		6.4 (252)	250	25-28	4.6 (10.1)
		8.8 (346)	290	26-29	5.7 (12.6)
80% Ar + 20% CO <sub>2</sub>	25 (1)	3.7 (146)	180	24-27	3.2 (7.1)
		6.3 (248)	250	25-28	4.7 (10.4)
		8.8 (346)	290	26-29	5.9 (13.0)