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 M/C 2
KR	RW309LG (C) (-20°C ≥34J)
ABS	AWS A5.22 E309LT1-1
LR	SS/CMn
BV	309L with KV at -20°C (-20°C ≥34J)
DNV	309L
GL	4332S
NK	KW309LG(C)
TÜV	EN ISO 17633-A-T 23 12 L P M21/C1 2
CWB	AWS A5.22 E309LT1-1/4
CE	
DB	DIN EN ISO 17633-A-T 23 12 L P M/C2

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

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

Features

- Good performance in all positions

Current

DC +

Shielding Gas

100% CO_2

Ar + 20~25% CO_2

Diameter / Packaging

Diameter	Spool			Pac		
mm (in)	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)		√	√			

Typical Chemical Composition of All-Weld Metal (%)

	C	Si	Mn	P	S	Cr	Ni	Mo
100% CO_2	0.03	0.75	1.20	0.02	0.01	22.8	12.3	0.05
80% Ar + 20% CO_2	0.03	0.80	1.30	0.02	0.01	23.0	12.5	0.05

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	560 (81,200)	40	-20 (4)	50 (37)	16-19
80% Ar + 20% CO_2	580 (84,100)	39	-20 (4)	45 (33)	16-19

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)	6.3 (248)	23-26	140	2.6 (5.7)
		9.0 (354)	27-30	180	3.7 (8.2)
		12.2 (480)	28-31	210	4.7 (10.4)
80% Ar + 20% CO_2	20 (4/5)	6.2 (244)	23-26	140	2.8 (6.2)
		9.0 (354)	27-30	180	3.8 (8.4)
		12.0 (472)	27-30	210	4.9 (10.8)
1.6mm (1/16 in) DC+					
100% CO_2	25 (1)	3.7 (146)	24-27	180	3.0 (6.6)
		6.4 (252)	25-28	250	4.6 (10.1)
		8.8 (346)	26-29	290	5.7 (12.6)
80% Ar + 20% CO_2	25 (1)	3.7 (146)	24-27	180	3.2 (7.1)
		6.3 (248)	25-28	250	4.7 (10.4)
		8.8 (346)	26-29	290	5.9 (13.0)