

Shield-Bright 309L

Shield-Bright 309L is a rutile cored wire designed for the all-positional welding, except vertical down, of stainless steels to carbon or low alloy steels and for the first layer cladding of carbon and low alloy steels with Ar/15-25%CO₂ or CO₂ shielding gas.

Specifications	
Classifications	AWS A5.22 : E309T1-1/T1-4 A5.22 : E309LT1-1/T1-4
Approvals	ABS-AWS A5.22 : E309LT1-1 ASME II SFA 5.22 E309LT1-1/T1-4 ASME IX F No. 6 AWS A5.22 : E309LT1-1/T1-4 CWB : AWS A5.22 E309LT1-1, E309LT1-4 G.L.- AWS A5.22 : E309LT1-4 MIL-STD-1689 APPLICATIONS-NAVY TUV

Approvals are based on factory location. Please contact ESAB for more information.

Welding Current	DC+
Alloy Type	C Cr Ni
Shielding Gas	M21, C1 (EN ISO 14175)

Typical Tensile Properties			
Conditional Statement	Yield Strength	Tensile Strength	Elongation
100% CO₂			
As welded	392 MPa (57 ksi)	539 MPa (78 ksi)	51 %
75% Ar - 25% CO₂			
As welded	480 MPa (70 ksi)	600 MPa (87 ksi)	35 %

Typical Charpy V-Notch Properties		
Condition	Testing Temperature	Impact Value
M21 Shielding Gas		
As Welded	-29 °C (-20 °F)	45 J (33 ft-lb)
As Welded	-196 °C (-321 °F)	15 J (11 ft-lb)
C1 Shielding Gas		
As Welded	-196 °C (-321 °F)	18 J (13 ft-lb)
As Welded	-29 °C (-20 °F)	55 J (41 ft-lb)

Typical Weld Metal Analysis %						
C	Mn	Si	S	P	Ni	Cr
M21 Shielding Gas						
0.030	1.30	0.90	0.007	0.024	12.5	23.5
C1 Shielding gas						
0.029	1.10	0.80	0.007	0.024	12.4	23.1

Deposition Data				
Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
1.2 mm (0.045 in.)	130-220 A	24-29 V	5.8-14.4 m/min (228-567 in./min)	1.9-4.6 kg/h (4.2-10. lbs/h)