

Shield-Bright 316L

Shield-Bright 316L was developed for the welding of Type 316L stainless steel but can be used for other stainless steels including Types 316 and 304L. In a few cases, e.g. nitric acid service, Shield-Bright 316L should not be used to weld 304L. It contains molybdenum which resists pitting corrosion induced by sulphuric and sulphurous acids, chlorides and cellulose solutions. Used widely in the rayon, dye and paper making industries.

Classifications:	SFA/AWS A5.22: E316LT1-1, SFA/AWS A5.22: E316LT1-4, EN ISO 17633-A: T 19 12 3 L P M21 2, JIS Z 3323: TS316L-FB1, KS D 3612: YF 316LC, EN ISO 17633-A: T 19 12 3 L P C1 2
Approvals:	ABS E316LT1-1 (C1), BV 316L (C1), DNV 316L (C1), ClassNK KW316LG (C1), KR RW316LG(C) (C1), LR 316L (C1), VdTÜV 04834 (M20,M21), CE EN 13479, CWB AWS A5.22 E316LT1-1, E316LT1-4

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

Welding Current:	DC+
Alloy Type:	C Cr Ni Mo

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
100% CO₂			
As welded	442 MPa (64 ksi)	570 MPa (83 ksi)	53 %
75% Ar - 25% CO₂			
As welded	450 MPa (65 ksi)	580 MPa (84 ksi)	40 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	-29 °C (-20 °F)	60 J (44 ft-lb)
As Welded	-196 °C (-321 °F)	26 J (19 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo
100% CO₂							
0.028	1.10	0.80	0.010	0.027	11.8	18.50	2.60
75% Ar - 25% CO₂							
0.030	1.20	0.90	0.010	0.027	12.0	18.50	2.70

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
1.2 mm (.045 in.)	130-220 A	24-29 V	5.8-14.4 m/min (228-567 in./min)	1.9-4.6 kg/h (1.2-10.1 lb/h)