



Product Data Sheet

Shield-Bright 316L

T 'Tubular cored electrode arc welding'

Signed by Neil Farrow	Approved by Neil Farrow/Christos Skodras	Reg no EN004913	Cancelling EN004308	Reg date 2009-07-14	Page 1 (2)
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REASON FOR ISSUE

Shielding gas standard updated

GENERAL

Shield-Bright 316L is a rutile cored wire designed for the all-positional welding of 316 low-carbon type 18-20Cr10-14Ni2-3Mo steels using Ar/15-25%CO₂ or CO₂ shielding gas

Shielding Gas: M21, C1 (EN ISO 14175)

Alloy Type: Austenitic 316L

Polarity: DC+

Fill Type: Rutile

CLASSIFICATIONS Weld Metal

SFA/AWS A5.22	E316LT1-1
SFA/AWS A5.22	E316LT1-4
JIS Z 3323	YF 316LC - KR
KS D 3612	YF 316LC - KR
EN ISO 17633-A	T 19 12 3 L P C 2 - US
EN ISO 17633-A	T 19 12 3 L P M 2 - US

APPROVALS

ABS	E316LT1-1 (C1)	
APPROVALS (SPECIFIC)		
BV	316L (C1)	KR
ClassNK	KW316LG(C) (C1)	KR
CWB	E316LT1-1 (C1&M21)	US
DNV	316L (C1)	KR
KR	RW316LG (C) (C1)	KR
LR	316L (C1)	KR
VdTUV	04834	US

APPROVAL COMMENT

KR=ESAB SeAH, South Korea, US=ESAB Welding & Cutting Products, USA

CHEMICAL COMPOSITION

All Weld Metal (%)

	M21 shielding gas	
	Min	Max
C		0.04
Si	0.4	1.0
Mn	1.1	1.8
P		0.030
S		0.025
Cr	17.0	20.0
Ni	11.0	13.0
Mo	2.5	3.0
Cu		0.3



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MECHANICAL PROPERTIES OF WELD METAL

Properties	All Weld Metal	
	Min	Typ
	M21 Shielding gas	
	As welded	
Rp0.2 (MPa)	320	
Rm (MPa)	510	
A4 (%)	30	
Charpy V at -20°C (J)		65
Charpy V at -101°C (J)		42

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed			U	
	Min	Max			Nom	Nom	Min	Max	Min	Max	Min
\emptyset 1.2	130	220	20	83	1.9	4.6	5.8	14.4	24		29

W = Gas consumption (l / min)

η = Recovery, g weld metal / 100g wire (%)

H = Deposit rate (kg weld metal / hour arc time)

Feed = Feeding rate (m/min)

U = Arc voltage (V)