



Product Data Sheet

Shield-Bright 316L

T 'Tubular cored electrode arc welding'

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Neil Farrow	P-O Oskarsson	Neil Farrow	EN010703	EN010306	2023-06-08	1 (2)

REASON FOR ISSUE

UKCA approval added.

GENERAL

FCAW wire for low carbon 18%Cr - 12%Ni – 2%Mo stainless steel for all-position welding.

For welding type 316 stainless. 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. Carbon content 0.04% maximum.

Shielding Gas: M21, C1 (EN ISO 14175) **Alloy Type:** C Cr Ni Mo

Polarity: DC+ **Fill Type:** Rutile

CLASSIFICATIONS Weld Metal

SFA/AWS A5.22	E316LT1-1
SFA/AWS A5.22	E316LT1-4
JIS Z 3323	TS316L-FB1
KS D 3612	YF 316LC
EN ISO 17633-A	T 19 12 3 L P C1 2
EN ISO 17633-A	T 19 12 3 L P M21 2

APPROVALS

ABS	E316LT1-1
ABS	E316LT1-4
BV	316L (C1)
BV	SA 316L (M21)
CE	EN 13479
ClassNK	KW316LG(C)
CWB	E316LT1-1 (M21)
CWB	E316LT1-4 (C1)
DNV	VL 316L (M21)
KR	RW316LG(C) (C1)
LR	316L
RS	A-6(xCrNiMo 19 11 3) (C1)
UKCA	EN 13479
VdTÜV	04834

CHEMICAL COMPOSITION

All Weld Metal (%)

	M21 Shielding Gas		C1 shielding Gas	
	Min	Max	Min	Max
C		0.04		0.04
Si		1.0		1.0
Mn	0.50	2.0	0.50	2.0
P		0.030		0.030
S		0.025		0.025
Cr	17.0	20.0	17.0	20.0
Ni	11.0	13.0	11.0	13.0
Mo	2.5	3.0	2.5	3.0
Cu		0.5		0.5



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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Shielding Gas	Condition	Rp0.2 [MPa/ksi]		Rm [MPa/ksi]			A4 [%]	
		Min	Typ	Min	Max	Typ	Min	Typ
M21 Shielding Gas	As welded		450/65	485/70		580/84	30	40
C1 Shielding Gas	As welded		442/64	485/70		570/83	30	53

Comments:

Shielding Gas	Condition	Temp [°C/°F]	Charpy V [J/ft-lb]	
			Min	Typ
C1 Shielding Gas	As welded	-29/-20 -196/-321		60/44 26/19
M21 Shielding Gas	As welded	-29/-20 -196/-321		52/38 25/19

Comments:

ECONOMICS & CURRENT DATA

Dimension	Current (A)		W	η	N	H			Feed			U		
Ø	Min	Max	Nom	Nom	Nom	Min	Max	Nom	Min	Max	Nom	Min	Max	Nom
1.2 mm (0.045 in.)	130	220	20	83		1.9 kg/h (4.2 lb/h)	4.6 kg/h (10.1 lb/h)		5.8 m/min (228 in/min)	14.4 m/min (567 in/min)		24	29	

W = Gas consumption (l/min)

η = Filler metal efficiency (g weld metal x 100 / g wire)(%)

N = Deposition efficiency (g weld metal x 100 / g electrode)(%)

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

Feed = Wire feed speed (m/min)

U = Arc voltage (V)