



Product Data Sheet

T 'Tubular cored electrode arc welding'

Shield-Bright 309L X-tra

Prepared by Daniel Amahatsion	Qualified by P-O Oskarsson	Approved by Neil Farrow	Reg no EN007527	Cancelling EN007483	Reg date 2017-04-21	Page 1 (2)
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REASON FOR ISSUE

Addition of mixed gas data

GENERAL

FCAW wire for 22%Cr - 12%Ni stainless steel For flat and horizontal position welding. Developed to be used when welding most mild or carbon steels to type 304. The higher percentages of Cr and Ni provide the necessary crack resistance. Carbon content 0.04% maximum.

Shielding Gas: M21, C1 (EN ISO 14175)

Alloy Type: C Cr Ni

Polarity: DC+

Fill Type: Rutile

CLASSIFICATIONS Weld Metal

SFA/AWS A5.22	E309LT0-1
SFA/AWS A5.22	E309LT0-4
JIS Z 3323	YF-309LC
KS D 3612	YF-309LC
EN ISO 17633-A	T 23 12 L R C1 3
EN ISO 17633-A	T 23 12 L R M21 3

APPROVALS

ABS	E309LT0-1 (C1)
BV	309L (C1)
CCS	309LS (C1)
CE	EN 13479
CWB	E309LT0-1 (C1)
CWB	E309LT0-4 (M21)
DNV	NV 309L MS (C1)
DNV	NV 309L MS (M21)
VdTÜV	06594

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	0.5	2.5	0.5	2.5
P		0.030		0.030
S		0.025		0.025
Cr	22.0	25.0	22.0	25.0
Ni	12.0	14.0	12.0	14.0
Mo		0.3		0.3
Cu		0.50		0.50

MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

Properties	M21 Shielding Gas		C1 shielding Gas	
	As welded		As welded	
	Min	Typ	Min	Typ
Rp0.2 (MPa)		480		410
Rm (MPa)	520	600	520	546
A4 (%)	30	35	30	38
Charpy V at -29°C (J)				40
Charpy V at -196°C (J)				15



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ECONOMICS & CURRENT DATA

Dimension (mm) Ø	Current (A)		W	η	H		Feed			U
	Min	Max	Nom	Nom	Min	Max	Min	Max	Min	Max
1.2	150	250	20	85	2.5	7.0	8.0	16.0	25	32
1.6	200	350	20	85	3.0	7.5	4.0	11.0	26	34

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)