



# Product Data Sheet

E 'Manual metal-arc welding'

OK 63.30

Prepared by A-C Thorsson	Qualified by Tero Borg	Approved by Tapio Huhtala	Reg no EN007242	Cancelling EN007135	Reg date 2016-05-13	Page 1 (2)
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## REASON FOR ISSUE

Approvals revised. DNV and GL merged to DNV-GL.

## GENERAL

Extra low carbon stainless steel electrode for welding steels of the 18Cr 12Ni 2.8Mo-type.

Also suitable for welding of stabilized stainless steels of similar composition, except when the full creep resistance of the base metal is to be met.

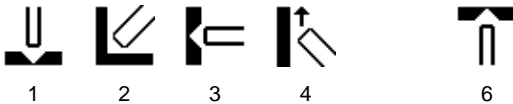
**Min AC OCV:** 50

**Polarity:** DC+, AC

**Alloy Type:** Austenitic CrNiMo

**Ferrite Content:** FN 3-10

## WELDING POSITIONS



## CLASSIFICATIONS Electrode

EN ISO 3581-A    E 19 12 3 L R 1 2  
SFA/AWS A5.4    E316L-17  
CSA W48        E316L-17  
Werkstoffnummer    1.4430

## APPROVALS

ABS                SFA/AWS A5:4,  
                      E316L-17  
BV                 316L  
CE                 EN 13479  
CWB               CSA W48: E316L-17  
DB                 30.039.06  
DNV-GL            VL 316 L  
LR                 316L  
NAKS/HAKC       2.5-4.0 mm  
Seproz             UNA 272580  
VdTÜV             00262

## APPROVAL COMMENT

NAKS/HAKC: Valid for lot numbers starting with SB

## CHEMICAL COMPOSITION

### All Weld Metal (%)

	Min	Max	Nom
C		0.030	
Si	0.50	1.00	
Mn	0.5	1.2	
P		0.025	
S		0.020	
Cr	17.0	19.0	
Ni	11.0	13.0	
Mo	2.5	3.0	
Cu		0.2	
N		0.15	
Ferrite FN			6



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## MECHANICAL PROPERTIES OF WELD METAL

Properties	ISO		AWS
	As welded Min	Typ	As welded Min
Rp0.2 (MPa)	320	460	320
Rm (MPa)	510	570	510
A4 (%)			30
A5 (%)	27	40	
Z (%)		60	
Charpy V at 20°C (J)	47	60	
Charpy V at -20°C (J)		55	
Charpy V at -60°C (J)	32	43	

### Comments:

Interpass temperature maximum 150 °C.  
Hardness weld metal 180 - 220 HV.

## ECONOMICS & CURRENT DATA

Dimension (mm) Ø x Length	Current (A)		W	η	N	B	H	T	U	Welding Positions
	Min	Max								
1.6 x 300	30	45	0.7	95	0.56	250	0.4	37	29	1,2,3,4,6
2.0 x 300	45	65	1.1	104	0.60	147	0.6	39	29	1,2,3,4,6
2.5 x 300	45	90	1.9	100	0.55	96	0.9	45	29	1,2,3,4,6
3.2 x 350	60	125	3.5	100	0.55	52	1.4	57	30	1,2,3,4,6
4.0 x 350	70	190	5.3	100	0.56	34	2.0	57	32	1,2,3,4,6
5.0 x 350	100	280	8.3	100	0.56	21	3.0	63	32	1,2,3

- W** = Weight (kg / 100 electrodes)  
**η** = Efficiency (g weld metal x 100 / g core wire)  
**N** = Effective value (kg weld metal / kg electrodes)  
**B** = Changes (number of electrodes / kg weld metal)  
**H** = Deposit rate at 90% of max current (kg weld metal / hour arc time)  
**T** = Fusion time at 90% of max current (s / electrode)  
**U** = Arc voltage (V)

## OTHER DATA

Hardness data:

Weld metal, as welded condition, transverse cross section of a V-joint, matching base material, no buttering, five indents: 181 - 203 HV10, average 190 HV10

Redrying: 350 °C, 2h.