Product Data Sheet

E 'Manual metal-arc welding'

OK 63.20

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
A-C Thorsson	Tero Borg	Tapio Huhtala	EN007134	EN005977	2016-02-25	1 (2)

REASON FOR ISSUE

Approvals amended, NAKS/HAKC added. N and Ferrite FN added under Chemical Composition. Hardness data added under Other Data.

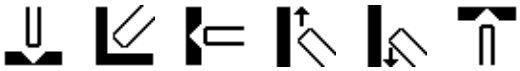
GENERAL

Rutile coated electrode for welding 18Cr12Ni3Mo -type steels. Also suitable for welding stabilized steels of similar composition. The electrode is especially designed for welding of thin walled pipes. Diameters 1.6 - 2.5mm. It can be used in all positions including vertical down.

Min AC OCV: 50
Polarity: DC+, AC

Alloy Type: Austenitic CrNiMo
Coating Type: Acid Rutile
Ferrite Content: FN 3-10

WELDING POSITIONS



1 2 3 4 5 6

CLASSIFICATIONS Electrode

EN ISO 3581-A	E 19 12 3 L R 1 1
SFA/AWS A5.4	E316L-16
CSA W48	E316L-16
Werkstoffnummer	1.4430

APPROVALS

CE	EN 13479
CWB	CSA W48: E316L-16
NAKS/HAKC	2.5-3.2 mm
Seproz	UNA 272580
VdTÜV	09716

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	17.5	19.0	
Ni	11.0	13.0	
Mo	2.5	3.0	
Cu		0.3	
N		0.15	
Ferrite FN			4

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MECHANICAL PROPERTIES OF WELD METAL

	ISO		AWS	
	As welded		As welded	
Properties	**Min**	**Typ**	**Min**	**Typ**
Rp0.2 (MPa)	320	480	320	
Rm (MPa)	510	590	510	
A4 (%)			30	40
A5 (%)	30	41		
Charpy V at 20°C (J)		56		
Charpy V at -60°C (J)	32	46		

Comments:

Interpass temperature max. 150 °C.

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	N	B	H	T	U	Welding
Ø x Length	Min	Max								Positions
1.6 x 300	15	40	0.7	103	0.63	227	0.3	53	23	1,2,3,4,5,6
2.0 x 265	18	60	0.9	105	0.65	167	0.6	44	22	1,2,3,4,5,6
2.0 x 300	18	60	1.1	100	0.62	152	0.5	49	25	1,2,3,4,5,6
2.5 x 300	25	80	1.6	100	0.63	96	0.8	54	22	1,2,3,4,5,6
3.2 x 350	55	110	3.2	100	0.60	52	1.2	65	26	1,2,3,4,6

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:

All weld metal, as welded condition, transverse cross section of an AWS joint, 5 indents: 232 - 246 HV10, average 235 HV10.

Weld metal in a V-joint, no buttering, matching base material, transverse cross section, measurements done along vertical line: 185 - 218 HV10

Redrying: 350 °C, 2h