Product Data Sheet

E 'Manual metal-arc welding'

OK 61.86

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
A-C Thorsson	P-O Oskarsson	Tapio Huhtala	EN007387	EN007385	2016-10-11	1 (2)

REASON FOR ISSUE

Deposition data added for diameter 5.0mm electrode.

GENERAL

Niobium stabilized stainless steel electrode for welding niobium or titanium stabilized steels of the 19Cr 10Ni-type. Specially designed for use in applications where heat treatment is required.

OK 61.86 can be a bit sensitive for hot cracking, so issued welding procedures should be followed carefully.

Despite the low ferrite content level, the maximum working temperature should be limited to maximum 400°C. It will not match the creep resistance of base materials that are designed to work at higher temperatures.

Min AC OCV: 50

Polarity: AC, DC+

Alloy Type: Austenitic CrNi

Ferrite Content: FN 4-8

WELDING POSITIONS

1 2 3 4 6

CLASSIFICATIONS Electrode

EN ISO 3581-A	E 19 9 Nb R 1 2
SFA/AWS A5.4	E347-17
Werkstoffnummer	1.4551

APPROVALS

NAKS/HAKC	4.0-5.0 mm
Seproz	UNA 272580

APPROVAL COMMENT

NAKS/HAKC: Valid for lot numbers starting with SB

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max	Nom
C		0.030	
Si	0.60	1.00	
Mn	0.50	1.20	
P		0.025	
S		0.020	
Cr	18.0	20.0	
Ni	9.0	11.0	
Mo		0.50	
Nb		0.60	
Cu		0.20	
N		0.100	
Nb+Ta		0.60	
Ferrite FN			5

Comments:
% (Nb + Ta) > 8 x %C

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MECHANICAL PROPERTIES OF WELD METAL

	ISO		AWS
	As welded		As welded
Properties	**Min**	**Typ**	**Min**
Rp0.2 (MPa)	420	520	420
Rm (MPa)	560	660	560
A4 (%)			30
A5 (%)	27	35	
Z (%)		50	40
Charpy V at 20°C (J)	40	55	40

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	N	B	H	T	U	Welding
Ø x Length	Min	Max								Positions
3.2 x 350	70	120	3.5	98	0.55	53	1.1	62	27	1,2,3,4,6
4.0 x 350	80	170	5.5	101	0.54	34	1.7	64	28	1,2,3,4,6
5.0 x 350	150	240	8,3	101	0.56	21	2.7	62	31	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:

As welded condition, transverse cross section of ISO joint, measurements done along a horizontal (5 indents)- and vertical line (10 indents), 2 samples tested: 190 - 253 HV10, average 232 HV10

Redrying: 350 °C 2h