



Product Data Sheet

OK 76.98

E 'Manual metal-arc welding'
ESAB Perstorp AB Sweden

Prepared by P-O Oskarsson	Qualified by Tero Borg	Approved by J-P Ernoult	Reg no EN007088	Cancelling EN005516	Reg date 2016-02-17	Page 1 (2)
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REASON FOR ISSUE

Typical mechanical values amended.

GENERAL

OK 76.98 is a low-hydrogen electrode for welding of modified 9 Cr-steels like T91/P91. The electrode is suitable for all-positional welding in pipes and plates.

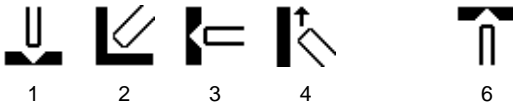
Polarity: DC+

Alloy Type: Cr-Mo-Ni-V-Nb

Coating Type: Basic

Diff Hydrogen: <5.0 ml/100g

WELDING POSITIONS



CLASSIFICATIONS Electrode

SFA/AWS A5.5-96 E9015-B9 (nearest)
EN ISO 3580-A E CrMo91 B 4 2 H5

APPROVALS

CE EN 13479
NAKS/HAKC 2.5-4.0 mm
VdTÜV 07687

APPROVALS (SPECIFIC)

Seproz UNA 272580

APPROVAL COMMENT

NAKS/HAKC: Valid for lot numbers starting with SB

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max
C	0.08	0.12
Si	0.2	0.5
Mn	0.4	1.0
P		0.015
S		0.015
Cr	8.0	10.0
Ni	0.4	1.0
Mo	0.85	1.10
V	0.15	0.30
Nb	0.04	0.08
Cu		0.29
Al		0.04
Sn		0.01
As		0.01
Sb		0.01
N	0.030	0.070



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MECHANICAL PROPERTIES OF WELD METAL

Properties	ISO		AWS
	Min	Typ	Min
	PWHT 755°C 2h		PWHT 755°C 2h
Rp0.2 (MPa)	445	720	530
Rm (MPa)	585	820	620
A4 (%)			17
A5 (%)	18	21	
Charpy V at 20°C (J)	47	50	
	Comments: EN standard requires Rp0.2 min 415 MPa and A5 min 17%.		Comments:

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	N	B	H	T	U	Welding Positions
	Min	Max								
\emptyset x Length										
2.5 x 350	70	100	2.1	117	0.66	71.4	0.90	56	21	1,2,3,4,6
3.2 x 350	90	135	3.7	113	0.60	45.5	1.20	68	22	1,2,3,4,6
4.0 x 450	130	200	7.0	113	0.64	22.6	1.90	85	23	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)