



Product Data Sheet

OK 74.78

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 EN007367	Cancelling EN007172	Reg date 2016-08-23	Page 1 (2)
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REASON FOR ISSUE

DNV-GL approval.

GENERAL

OK 74.78 is an LMA AC/DC electrode suitable for welding high tensile steels used in low temperature applications. Good notch toughness down to -40°C. Suitable for enclosed welding and cladding of rails, when a hardness of ~ 250 HV is required. Also suitable for butt welding rails with tensile strength of 800-900 N/mm².

Due to low moisture content of the coating, this electrode is suitable when preheating cannot be applied.

Min AC OCV: 65 V

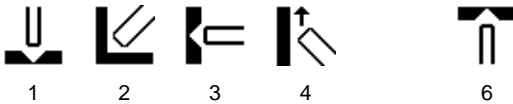
Polarity: AC, DC+

Alloy Type: Low alloyed (0.4 % Mo)

Coating Type: Basic covering

Diff Hydrogen: < 5.0 ml/100g

WELDING POSITIONS



CLASSIFICATIONS Electrode

SFA/AWS A5.5 E9018-D1
EN ISO 18275-A E 55 4 MnMo B 3 2 H5

APPROVALS

ABS 3YQ460M H5
CE EN 13479
DB 81.039.02
DB 82.039.02
DNV-GL 3 Y46H5
VdTÜV 01027

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max
C	0.02	0.10
Si	0.15	0.55
Mn	1.40	1.75
P		0.020
S		0.020
Cr		0.1
Ni		0.1
Mo	0.30	0.45
V		0.03
Nb		0.02
Cu		0.1
Al		0.03
Sn		0.01
Ti		0.03
Pb		0.02
As		0.03



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MECHANICAL PROPERTIES OF WELD METAL

Properties	ISO			AWS
	Min	Max	Typ	Min
As welded				Stress relieved 620°C 1h
Rp0.2 (MPa)	550		600	530
Rm (MPa)	610	780	650	620
A4 (%)				17
A5 (%)	22		24	
Charpy V at -40°C (J)	47		90	
Charpy V at -50°C (J)			70	27
	Comments: EN standard requires A5 min 18%.			Comments:

ECONOMICS & CURRENT DATA

Dimension (mm) Ø x Length	Current (A)		W	η	N	B	H	T	U	Welding Positions
	Min	Max								
2.5 x 350	75	100	2.2	120	0.62	73.0	0.90	55	22	1,2,3,4,6
3.2 x 450	105	140	4.8	120	0.65	32.0	1.30	86	23	1,2,3,4,6
4.0 x 450	140	190	7.3	120	0.65	20.5	1.80	97	23	1,2,3,4,6
5.0 x 450	190	260	10.5	120	0.68	14.0	2.60	100	24	1,2,3
6.0 x 450	240	340	15	117	0.69	10	3.6	103	24	1,2

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)