



Product Data Sheet

E 'Manual metal-arc welding'

OK 48.00

Prepared by J-P Ernoult	Qualified by P-O Oskarsson	Approved by J-P Ernoult	Reg no EN009427	Cancelling EN007671	Reg date 2021-02-12	Page 1 (3)
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REASON FOR ISSUE

New template.

GENERAL

A reliable, general purpose electrode for manual metal arc welding of carbon steels, carbon manganese steels and fine-grained carbon manganese steels with elevated yield strength. OK 48.00 deposits a tough, crack-resistant weld metal. The coating is of the low moisture absorption type.

High welding speed in the vertical-up position. OK 48.00 is insensitive to the composition of the base material within fairly wide limits.

The electrode can be used for welding structures where difficult stress conditions cannot be avoided.

Tested according to NACE TM0177 and TM0284.

Diffusible Hydrogen tested in various conditions show values below 3 ml/100g.

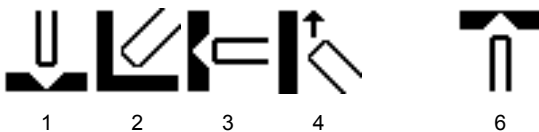
Polarity: DC+(-)

Alloy Type: Carbon Manganese

Coating Type: Basic covering

Diff Hydrogen: < 4.0 ml/100g (< 3 for most of the batches)

WELDING POSITIONS



CLASSIFICATIONS Electrode

SFA/AWS A5.1 E7018 H4 R
EN ISO 2560-A E 42 4 B 42 H5

APPROVALS

ABS 3Y H5
BV 3Y H5
CE EN 13479
DB 10.039.12
DNV-GL 3 YH5
LR 3Y H5
PRS 3Y H5
RINA 3Y H5
RS 3Y H5
VdTÜV 00690

APPROVALS (SPECIFIC)

NAKS/HAKC *2.5 - 5.0 mm

APPROVAL COMMENT

*Valid for lot numbers starting with SF



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CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max
C	0.02	0.10
Si	0.30	0.70
Mn	0.90	1.40
P		0.02
S		0.015
Cr		0.1
Ni		0.1
Mo		0.06
V		0.04
Nb		0.02
Cu		0.1
Al		0.03
Sn		0.02
Ti		0.03
Pb		0.02
As		0.03
Mn+Ni+Cr+Mo+V		1.75

MECHANICAL PROPERTIES OF WELD METAL

Standard	Condition	Rp0.2 [MPa/ksi]		ReL [MPa/ksi]		Rm [MPa/ksi]			A4 [%]		A5 [%]	
		Min	Typ	Min	Typ	Min	Max	Typ	Min	Typ	Min	Typ
ISO	As welded			420/61	475/69	530/77	640/93	565/82			22	29
AWS	As welded	400/58				490/71			22			

Comments:

EN standard requires Rm min 500 Mpa and A5 Min 20%.

Standard	Condition	Temp [°C/°F]	Charpy V [J/ft-lb]	
			Min	Typ
ISO	As welded	-30/-22		130/96
		-40/-40	47/35	115/85
AWS	As welded	-30/-22	27/20	130/96
		-40/-40		

Comments:



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ECONOMICS & CURRENT DATA

Dimension	Current (A)		W	η	N	B	H	T	U	Welding Positions
	Min	Max								
1.6 x 300 mm (1/6 x 11.8 in)	30	55	0.9	127	59	192	0.38 kg/h (0.8 lb/h)	50	24	1,2,3,4,6
2.0 x 300 mm (5/64 x 11.8 in)	55	80	1.4	128	65	125	0.63 kg/h (1.4 lb/h)	45	22	1,2,3,4,6
2.5 x 350 mm (0.098 x 13.8 in)	70	110	2.5	129	67	65	0.96 kg/h (2.1 lb/h)	57	24	1,2,3,4,6
3.2 x 350 mm (1/8 x 13.8 in)	90	140	3.7	123	70	42	1.24 kg/h (2.7 lb/h)	68	23	1,2,3,4,6
3.2 x 450 mm (1/8 x 17.7 in)	90	140	4.7	124	73	31	1.33 kg/h (2.9 lb/h)	85	23	1,2,3,4,6
4.0 x 350 mm (5/32 x 13.8 in)	120	190	5.5	118	70	29	1.63 kg/h (3.6 lb/h)	75	24	1,2,3,4,6
4.0 x 450 mm (5/32 x 17.7 in)	120	190	7.0	118	71	22	1.76 kg/h (3.9 lb/h)	92	24	1,2,3,4,6
5.0 x 450 mm (0.197 x 17.7 in)	190	260	10.6	119	75	13	2.61 kg/h (5.8 lb/h)	99	24	1,2,3,4
6.0 x 450 mm (0.236 x 17.7 in)	220	340	14.6	120	80	9	3.88 kg/h (8.6 lb/h)	97	26	1,2,3
7.0 x 450 mm	280	410	19.6	118	79	7.0	4.83 kg/h (10.6 lb/h)	104	27	1,2,3

- W** = Weight (kg / 100 electrodes)
 η = Filler metal efficiency (g weld metal x 100 / g wire)(%)
N = Deposition efficiency (g weld metal x 100 / g electrode)(%)
B = Changes (number of electrodes / kg weld metal)
H = Deposition 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)