

OK 76.18

Signed by P-O Oskarsson	Approved by Rune Pedersen/Barbro Karlström	Reg no EN002422	Cancelling EN000888	Reg date 2004-09-22	Page 1 (3)
----------------------------	-----------------------------------------------	--------------------	------------------------	------------------------	---------------

REASON FOR ISSUE

Adjustment in economy data

GENERAL

Basic DC electrode for welding creep resisting steels of the type 1% Cr 0.5% Mo. Also suitable for root runs in joints welded with a filler material of the higher alloyed type 2.25% Cr 1% Mo.

Polarity: DC(+/-)

Alloy Type: Creep resisting

Coating Type: Lime Basic

WELDING POSITIONS



CLASSIFICATIONS Electrode

EN 1599 ECrMo1 B 42 H5
SFA/AWS A5.5 E8018-B2

APPROVALS

ABS For high temperature applications
BV UP
CL EN 1599
DNV -H10 For NV 1Cr0.5Mo
DS EN 1599
Sepros
SFS EN 1599
SS EN 1599
UDT DIN 8575
VdTÜV 01387

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max
C	0.05	0.10
Si	0.20	0.50
Mn	0.40	0.80
P		0.015
S		0.020
Cr	1.25	1.40
Ni		0.1
Mo	0.50	0.65
V		0.03
Nb		0.01
Cu		0.1
Al		0.03
Sn		0.01
Ti		0.03
Pb		0.02
As		0.01
Sb		0.01

OK 76.18

Signed by P-O Oskarsson	Approved by Rune Pedersen/Barbro Karlström	Reg no EN002422	Cancelling EN000888	Reg date 2004-09-22	Page 2 (3)
----------------------------	-----------------------------------------------	--------------------	------------------------	------------------------	---------------

MECHANICAL PROPERTIES OF WELD METAL

Properties	All Weld Metal			
	ISO		ISO	
	As welded		Stress relieved	
	Min	Typ	Min	Typ
Rp0.2 (MPa)	460		460	520
ReL (MPa)		530		
Rm (MPa)	550	620	550	610
A4-A5 (%)		20	20	24
Charpy V at 20°C (J)		55	47	120
Charpy V at -20°C (J)		38		80
Charpy V at -40°C (J)		19		50
	Comments:		Comments: S R 700 °C, 1h	

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	N	B	H	T	U
	Min	Max							
Ø x Length									
2.0 x 300	55	80	1.3	115	0.58	136.0	0.70	40	22
2.5 x 300	70	110	2.0	115	0.58	88.0	0.80	52	24
3.2 x 350	95	150	3.5	105	0.59	49.0	1.10	65	25
4.0 x 350	130	190	5.4	113	0.61	30	1.46	82	22
4.0 x 450	130	190	6.9	110	0.64	23.0	1.70	90	27
5.0 x 450	150	260	10.7	110	0.64	14.5	2.70	95	28
6.0 x 450	200	350	14.9	110	0.64	10.5	3.70	93	30

- 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)

OK 76.18

Signed by P-O Oskarsson	Approved by Rune Pedersen/Barbro Karlström	Reg no EN002422	Cancelling EN000888	Reg date 2004-09-22	Page 3 (3)
----------------------------	-----------------------------------------------	--------------------	------------------------	------------------------	---------------

OTHER DATA

Welding and heat treatment conditions:

All weld specimens, welded at 250 °C interpass temperature.

Annealed 2 h at 700 °C, furnace cooled.

(+100 °C):.....Rp 0.2= 480 N/mm², Rm= 565 N/mm², A5= 23%, Z= 73%

(+200 °C):.....Rp 0.2= 465 N/mm², Rm= 550 N/mm², A5= 21%, Z= 71%

(+300 °C):.....Rp 0.2= 450 N/mm², Rm= 540 N/mm², A5= 21%, Z= 70%

(+400 °C):.....Rp 0.2= 420 N/mm², Rm= 520 N/mm², A5= 22%, Z= 70%

Creep rupture properties (values within brackets are extra-polated)

All weld specimens, welded at 250 °C interpass temperature.

Annealed 0.5 h at 700 °C, furnace cooled.

Stress N/mm², at a rupture time of:

500 h:.....(335) (at 500 °C), 183 (at 550 °C)

1000 h:.....295 (at 500 °C), 227 (at 525 °C), 154 (at 550 °C)

5000 h:.....210 (at 500 °C), 147 (at 525 °C), 105 (at 550 °C)

10000 h:.....183 (at 500 °C), (122) (at 525 °C), 88 (at 550 °C)

20000 h:.....75 (at 550 °C)