



Product Data Sheet

OK 74.46

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 EN007340 | Cancelling EN007089 | Reg date 2016-08-01 | Page 1 (2) |
|------------------------------|---------------------------|----------------------------|--------------------|------------------------|------------------------|---------------|

REASON FOR ISSUE

Coating and alloy type amended.

GENERAL

OK 74.46 is an LMA electrode alloyed with 0.5% Mo for welding steels for pressure vessels. The running characteristics make it suitable for welding joints in the inclined positions. The composition of the coating is adapted for welding with low currents , making it very suitable for the welding of pipes.

Min AC OCV: 65

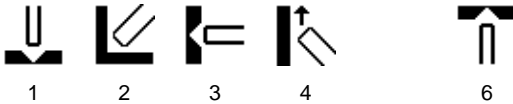
Polarity: AC, DC+

Alloy Type: Low alloyed (0.5 % Mo)

Coating Type: Basic covering

Diff Hydrogen: < 5ml/100g

WELDING POSITIONS



CLASSIFICATIONS Electrode

SFA/AWS A5.5

E7018-A1

EN ISO 3580-A

E Mo B 3 2 H5

APPROVALS

CE

EN 13479

VdTÜV

01043

CHEMICAL COMPOSITION

All Weld Metal (%)

| | Min | Max |
|----|------|-------|
| C | 0.02 | 0.10 |
| Si | 0.25 | 0.65 |
| Mn | 0.40 | 0.90 |
| P | | 0.020 |
| S | | 0.020 |
| Cr | | 0.2 |
| Ni | | 0.29 |
| Mo | 0.40 | 0.60 |
| V | | 0.03 |
| Nb | | 0.009 |
| Cu | | 0.29 |

MECHANICAL PROPERTIES OF WELD METAL

| Properties | ISO | | AWS |
|----------------------|---|-----|---------------|
| | Min | Typ | Min |
| | PWHT 620°C 1h | | PWHT 620°C 1h |
| Rp0.2 (MPa) | 420 | 460 | 390 |
| Rm (MPa) | 530 | 560 | 490 |
| A4 (%) | | | 22 |
| A5 (%) | 22 | 27 | |
| Charpy V at 20°C (J) | 47 | 175 | |
| | Comments: EN standard requires Rp0.2 min 355 MPa and Rm min 510 MPa. | | Comments: |



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ECONOMICS & CURRENT DATA

| Dimension (mm) Ø x Length | Current (A) | | W | η | N | B | H | T | U | Welding Positions |
|------------------------------|-------------|-----|------|-----|------|-------|-----|-----|----|----------------------|
| | Min | Max | | | | | | | | |
| 2.0 x 300 | 55 | 80 | 1.3 | 115 | 0.59 | 136.0 | 0.7 | 40 | 22 | 1,2,3,4,6 |
| 2.5 x 350 | 75 | 110 | 2.3 | 115 | 0.59 | 73.0 | 0.9 | 55 | 23 | 1,2,3,4,6 |
| 3.2 x 350 | 105 | 150 | 3.5 | 100 | 0.54 | 53 | 1 | 66 | 23 | 1,2,3,4,6 |
| 3.2 x 450 | 105 | 150 | 4.6 | 110 | 0.59 | 37.0 | 1.2 | 81 | 25 | 1,2,3,4,6 |
| 4.0 x 450 | 140 | 200 | 6.9 | 110 | 0.65 | 22.5 | 1.8 | 90 | 26 | 1,2,3,4,6 |
| 5.0 x 450 | 190 | 270 | 10.6 | 110 | 0.65 | 14.5 | 2.4 | 104 | 27 | 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

Welding and heat treatment conditions:

All-weld specimens, welded at <=150 DEGC interpass temperature as welded or stress relieved:

.....+100DEGC ...+200DEGC...+300DEGC...+400DEGC...+500DEGC...+600DEGC

Rp0.2.. (N/mm2)430.....400.....390.....360.....340.....300

Rm.....(N/mm2)530.....520.....560.....530465.....365

A5..(%).....27.....22.....21.....24.....2328

Z...(%)75.....71.....68.....69.....73.....80

All-weld specimens, normalized 0.5h at 900-940DEGC

.....+20DEGC....+400DEGC....+550DEGC

ReL..(N/mm2).....300 - 350.....170.....165

Rm ..(N/MM2).....420 - 480.....440.....320

A10..(%).....3519.....20

Z...(%).....75.....74.....82

KV..(J).....185

Creep-rupture properties (Values within brackets are extra-polated):

.....Stress, N/mm2 at a rupture time of

Temp (DEGC)50h.....100h.....500h.....1000h.....2000h.....5000h

500..... -385.....335.....295.....(245)

600..... .172.....149.....107..... 92.....(80).....-