



Product Data Sheet

E 'Manual metal-arc welding'

OK NiFe-CI-A

Former OK 92.58

| | | | | | | |
|-----------------------------|---------------------------|------------------------------|--------------------|------------------------|------------------------|---------------|
| Prepared by A-C Thorsson | Qualified by Tero Borg | Approved by Tapio Huhtala | Reg no EN007071 | Cancelling EN006250 | Reg date 2016-02-16 | Page 1 (2) |
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REASON FOR ISSUE

Product description amended.

GENERAL

A nickel-iron cored electrode for joining normal grades of cast iron, such as grey-, ductile- and malleable irons. It is also suitable for rectification and repair of these grades and for joining them to steel. Deposition is done on cold or slightly preheated cast iron. The electrode produces a weld metal stronger and more resistant to solidification cracking than that of the pure nickel electrode type.

It is specially suited for high duty welds in ductile irons and for welding grey irons with increased contents of sulphur and phosphorous.

Typical applications include repair of pump bodies, heavy machine sections, gear teeth, flanges and pulleys.

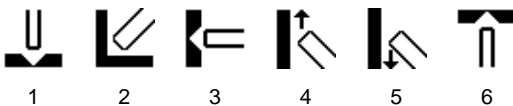
Min AC OCV: 50

Polarity: AC, DC+-

Alloy Type: Ni-Fe alloy

Coating Type: Basic Special high graphite

WELDING POSITIONS



CLASSIFICATIONS Electrode

SFA/AWS A5.15

ENiFe-CI-A

EN ISO 1071

E C NiFe-CI-A 1

APPROVALS

Not applicable

CHEMICAL COMPOSITION

All Weld Metal (%)

| | Min | Max | Nom |
|----|-----|-------|-------|
| C | 1.4 | 2.0 | 1.5 |
| Si | 0.4 | 1.0 | 0.7 |
| Mn | 0.3 | 1.2 | 0.8 |
| P | | 0.020 | 0.006 |
| S | | 0.010 | 0.003 |
| Ni | 47 | 56 | 51 |
| Al | 1.0 | 3.0 | 1.4 |
| Fe | 42 | 48 | 46 |

MECHANICAL PROPERTIES OF WELD METAL

| | |
|-------------------|------------|
| | AWS |
| | As welded |
| Properties | Typ |
| Rm (MPa) | 375 |

Comments:

Hardness approx. 180 HB.



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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 | | | | | | | | |
| 2.5 x 300 | 55 | 75 | 1.6 | 105 | 0.70 | 90 | 0.6 | 70 | | 1,2,3,4,5,6 |
| 3.2 x 350 | 75 | 100 | 3.2 | 105 | 0.70 | 45 | 0.9 | 90 | | 1,2,3,4,5,6 |
| 4.0 x 350 | 85 | 160 | 4.8 | 105 | 0.70 | 30 | 1.8 | 70 | | 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 procedure recommendations for cast iron:

Dirt, cast skin, paint, oil and grease should be removed.

Parts impregnated with oil may be treated by high pressure steam, chemically or by heating to ca 450 °C for 1 hour. Gouging with OK GPC might also be a solution, by local burn out of the oil.

When butt welding, joint angles should be wider than for mild steel, around 70 degrees for V-joints and 30 degrees U-joints.

Sharp corners shall be removed to avoid heat concentrations and local spots of high dilution when welding.

Cracks must be fully opened to allow accessibility. OK GPC is useful for this purpose. To prevent the cracks from propagating it is advisable to drill holes at the ends before any action.

Cold welding can be applied in many cases when using this electrode. However a preheat and interpass temperature of about 250 °C is recommended.

The following actions have also been found useful:

To apply moderate amperage and shortest possible arc length.

To deposit stringer beads (no weaving). Maximum length 50 mm.

To hammer the bead immediately after welding while it is still dull red.

To cool slowly after welding is completed, in saw dust, vermiculite or oven.

Machinability: Good

Redrying of the electrodes: 200 °C, 2 hours.
