



# Product Data Sheet

E 'Manual metal-arc welding'

# OK NiFe-CI

Former OK 92.60

Prepared by A-C Thorsson	Qualified by Tero Borg	Approved by Tapio Huhtala	Reg no EN007072	Cancelling EN006253	Reg date 2016-02-16	Page 1 (2)
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## REASON FOR ISSUE

Product description amended.

## GENERAL

A nickel-iron electrode for welding normal grades of cast iron and for joining them to steel. Can be used for malleable nodular cast iron and alloy cast iron. It has a special iron jacketed Ni core wire, which gives the electrode much improved current carrying capacity compared to electrodes with a homogeneous core wire.

The electrode produces a weld metal stronger and more resistant to solidification cracking than the pure nickel electrode types.

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

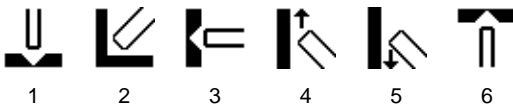
**Min AC OCV:** 45

**Polarity:** AC, DC+

**Alloy Type:** Ni-Fe alloy

**Coating Type:** Basic Special high graphite

## WELDING POSITIONS



## CLASSIFICATIONS Electrode

SFA/AWS A5.15

ENiFe-CI

EN ISO 1071

E C NiFe-1 3

## APPROVALS

Not applicable

## CHEMICAL COMPOSITION

### All Weld Metal (%)

	Min	Max
C	0.6	1.2
Si		0.8
Mn	0.5	0.9
P		0.02
S		0.01
Ni	49	59
Nb	0.1	0.3
Cu	0.6	1.2
Al	0.1	0.5
Fe	38	46
Nb+Ta	0.1	0.3

## MECHANICAL PROPERTIES OF WELD METAL

Properties	ISO
	As welded
	Typ
Rp0.2 (MPa)	380
Rm (MPa)	560
A5 (%)	>15
	Comments:
	Hardness: HB 180- 220.



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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	60	100	1.6	110	0.70	85.0	0.80	45	22	1,2,3,4,5,6
3.2 x 350	80	150	3.0	110	0.70	44.0	1.20	56	23	1,2,3,4,5,6
4.0 x 350	100	200	4.9	110	0.70	30.0	1.60	59	23	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)

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## 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. The use of a gouging electrode e.g. 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 for U-joints.

Sharp corners should be removed to avoid heat concentrations and local spots of high dilution.

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 to 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.

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