



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER	Helkama Bica Oy Lakimiehenkatu 4 FI-20780 Kaarina Finland
DESCRIPTION	Flame retardant, halogen free, cross-linked polyethylene (XLPE) insulated, screened, polyolefin sheathed instrumentation, control and communication cable 150/250 V (300 V).
TYPES	RFA-HF Collectively screened RFA-SHF2
	RFA-HF(i) Collectively and individually screened RFA-SHF2(i)
APPLICATION	Fixed wiring on ships, offshore and industrial installations.
ADDITIONAL TESTS	Flame retardancy: IEC 60332-3-22: 2009 IEC 60332-1-2: 2015 Acid gas emission: IEC 60754-1: 2011 pH and conductivity: IEC 60754-2: 2011 Fluorine content: IEC 60684-2:2011 Smoke emission: IEC 61034-1: 2013 and IEC 61034-2: 2013

Certificate No.	13/20033 (E1)
Issue Date	23 May 2016
Expiry Date	11 January 2021
Sheet	1 of 3

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS



Jochen Körner
Hamburg Technical Support Office
Lloyd's Register EMEA

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STANDARDS

Construction: IEC 60092-376: 2003 and IEC 60092-350: 2014
 Conductor: IEC 60228: 2004 Plain or tinned to class 2
 Insulation: IEC 60092-360: 2014 XLPE
 Sheathing: IEC 60092-360: 2014 SHF1 or SHF2

Helkama Bica Oy specification: HBKQ-9

RFA-HF 41 (Version: 30.12.2014/dk)
 RFA-SHF2 119 (Version: 13.11.2014/dk)
 RFA-HF(i) 40 (Version: 30.12.2014/dk)
 RFA-SHF2(i) 120 (Version: 13.11.2014/dk)

RATINGS

Rated voltage: $U_o/U (U_m)$: 150/250 V (300 V)
 Maximum conductor temperature: 90° C
 Minimum installation temperature: -15° C

RFA-HF / RFA-SHF2:

<u>Number of conductors</u>	<u>Conductor cross section</u>
Pairs 1-37	0,5 / 0,75 / 1,5
Triples 1	0,5 / 0,75 / 1,5
Quads 1	0,5 / 0,75 / 1,5

RFA-HF(i) / RFA-SHF2(i):

<u>Number of conductors</u>	<u>Conductor cross section</u>
Pairs 1-37	0,5 / 0,75 / 1,5
Triples 1	0,5 / 0,75 / 1,5
Quads 1	0,5 / 0,75 / 1,5

<u>Cable type</u>	<u>Insulation</u>	<u>Sheath</u>
RFA-HF / RFA-HF(i)	XLPEe-x	SHF1-x
RFA-SHF2 / RFA-SHF2(i)	XLPEe-x	SHF2-x

x = material composition no.

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LR031.1.2013.12

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**PLACES OF
PRODUCTION**

Helkama Bica Oy
Lakimiehenkatu 4
FI- 20780 Kaarina
Finland

Helkama Bica Oy
Lasitehtaankatu 12
FI- 10960 Hanko
Finland

Helkama Bica (Shanghai) CO., LTD
Plot 1-2, Minhang Export Processing Zone
No. 3111 Huan Cheng West Road
Fengxian District, Shanghai 201401, China

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 33624-16 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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