



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, Finland Lakimiehenkatu 4 FI- 20780 Kaarina Finland
DESCRIPTION	Single core non-sheathed cable, flame retardant, halogen-free, low smoke emission cross-linked insulation for switchboard wiring.
TYPE	LKEM-HF 300/500V
APPLICATION	Fixed wiring in ships, offshore and industrial installations for low voltage power, lighting and switchboard wiring.
STANDARDS	Design IEC 50525-3-41: 2011 Testing IEC 60092-350: 2014 Conductor IEC 60228: 2004-Class 5 Insulation EN 50363-5: 2005/EI5, cross-linked polyolefine plastic Flame retardant IEC 60332-1-2: 2004 Helkama specification: HBKQ-9, spec. 68
RATINGS	Rated Voltage $U_0/U (U_m)$: 300/500 V Maximum conductor temperature: 90°C Minimum installation temperature: - 15 °C
Certificate No.	17/20102
Issue Date	26 October 2017
Expiry Date	22 March 2022
Sheet	1 of 2

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


Jochen Körner
Hamburg Technical Support Office
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Lloyd's Register EMEA
LR031.1.2013.12

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RATINGS
continued

Range:

Number of conductors:
1

Conductor cross section
0.5, 0.75, 1 mm²

PLACES OF PRODUCTION

Helkama Bica Oy, Finland
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 36040-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No. 17/20102
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Design Appraisal Document

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Date
26 October 2017

Please quote this reference number on all future communications
HPC1762032/36040-17/JK/KW

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2017
ISSUED TO: HELKAMA BICA OY, KAARINA, FINLAND
FOR: MULTICORE INSTRUMENTATION CABLE, LKEM-HF
TYPE APPROVAL CERTIFICATE NO. 17/20102**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System Procedure TA14 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Unnumbered	Application checklist	27.02.2017
TA 12/70012	Marine Design Appraisal Document for certificate 12/70012, TA\I099909	23.03.2012
HBKQ-9, SPEC 68	Cable Data Sheet LKEM-HF ,	27.09.2017

TEST REPORTS

6F007714	FTIR Analysis on Cables, 6 pages	26.04.2016
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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Date
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HPC1762032/36040-17/JK/KW

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

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

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Part 1B

Subject: Electrical Equipment (Not Environmentally Tested)

Product: Cables Power (Part 1B)

Producer/Licence No.	Description of Product				Cert. No.
	Type	Details of Approval	Application	Remarks	
Helkama Bica Oy, Lakimiehenkatu 4, FIN-20780 Kaarina, Finland.	Low Voltage power, lighting and switchboard wiring <u>Type</u> <u>LKEM-HF 300/500V</u>	Single core, non-sheathed, flame retardant, low smoke, halogen free, cross linked polyolefine plastic insulated wiring cable with stranded, plain annealed Cu conductor Conductor size (mm ²): 1 x 0.5 mm ² ; 1 x 0.75 mm ² ; 1x1.0 mm ² U0/U= 300V/ 500V Maximum conductor temperature: 90°C Minimum installation temperature: -15°C	Fixed wiring in marine, offshore and industrial switchboard installations	Expires: 22 March 2022 Comply with: IEC 50525-3-41: 2011 IEC 60092-350: 2014 IEC 60228: 2004- class 5 EN 50363-5: 2005/ EI5, Cross-linked polyolefine plastic IEC 60332-1-2: 2004	17/20102




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