



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**

Halogen free, Low smoke, flame retardant optical fibre cable. The fibres are 2 mm- single mode or -multi mode, with 0- 4 or 0- 8 fibre located in slots - all wrapped in fire barrier tape and protected by outer sheath

**TYPES**

FXMMS and FXMMS (Alu)

FXMMS 2SMT(2MM)	Single mode 9/125
FXMMS 4SMT(2MM)	Single mode 9/125
FXMMS 6SMT(2MM)	Single mode 9/125
FXMMS 8SMT(2MM)	Single mode 9/125
FXMMS 2GKT(2MM)	Multi mode 62.5/125
FXMMS 4GKT(2MM)	Multi mode 62.5/125
FXMMS (Alu) 4GKT(2MM)	Multi mode 62.5/125
FXMMS 6GKT(2MM)	Multi mode 62.5/125
FXMMS 8GKT(2MM)	Multi mode 62.5/125
FXMMS 2OM3T(2MM)	Multi mode 50/125
FXMMS 4OM3T(2MM)	Multi mode 50/125
FXMMS 6OM3T(2MM)	Multi mode 50/125
FXMMS 8OM3T(2MM)	Multi mode 50/125
FXMMS 2OM4T(2MM)	Multi mode 50/125
FXMMS 4OM4T(2MM)	Multi mode 50/125
FXMMS 6OM4T(2MM)	Multi mode 50/125
FXMMS 8OM4T(2MM)	Multi mode 50/125

**Certificate No.**

17/20101

**Issue Date**

26 October 2017

**Expiry Date**

04 May 2022

**Sheet**

1 of 2

Lloyd's Register EMEA

71 Fenchurch Street, London EC3M 4BS

Jochen Körner  
Hamburg Technical Support Office

Lloyd's Register EMEA

LR031.1.2013.12

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<b>APPLICATION</b>	Fixed wiring in marine, offshore and industrial installations	
<b>STANDARDS</b>	IEC 60793-2-50: 2015 (B1.3) Single Mode Fibres IEC 60793-2-10: 2017 (A1a, A1b A1a.2 or A1a.3) Multimode fibres IEC 60794-2-20: 2013 Family specification for multi-fibre optical distribution cables IEC60092-360: 2014	
	Helkama specification:	HBKQ 9, spec. 75
<b>RATINGS</b>	Operating temperature: -45 - 70°C Minimum installation temperature: - 15 °C	
<b>PLACES OF PRODUCTION</b>	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 36039-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

<b>Certificate No.</b>	17/20101
<b>Issue Date</b>	26 October 2017
<b>Expiry Date</b>	04 May 2022
<b>Sheet</b>	2 of 2



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Hamburg Technical Support Office



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# Design Appraisal Document

Lloyd's Register EMEA  
Hamburg Technical Support Office  
Am Sandtorkai 41  
20457 Hamburg  
Telephone +49 (0)40 328107-0 Fax +49 (0)40 328107-480  
E-mail: hamburg-technical-support@lr.org

Date  
**26 October 2017**

Please quote this reference number on all future communications  
**HPC1762031/36039-17/JK/KW**

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2017  
ISSUED TO: HELKAMA BICA OY, KAARINA, FINLAND  
FOR: MULTICORE INSTRUMENTATION CABLE FXMMS AND FXMMS (ALU)  
TYPE APPROVAL CERTIFICATE NO. 17/20101**

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 12/70014	Marine Design Appraisal Document for certificate 12/70014, TAI00328	05.05.2012
HBKQ 9 SPEC 75	Cable Data Sheet FXMMS and FXMMS(ALU), ver. 7.1	27.09.2017

## TEST REPORTS

6F007714	FTIR Analysis on Cables, 6 pages	26.04.2016
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Jochen Körner  
Senior Specialist  
Electrotechnical Systems  
Hamburg Technical Support Office  
Lloyd's Register EMEA  
T +49 (0)40 328107-443  
E jochen.koerner@lr.org

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

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Lloyd's Register EMEA  
Hamburg Technical Support Office  
Am Sandtorkai 41  
20457 Hamburg  
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**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.*

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