



TYPE APPROVAL CERTIFICATE
No. **ELE066114CS/008**

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	ELECTRIC CABLES
<i>Type</i>	LKMSM-HF 0.6/1 kV; LKMSM-SHF2 0.6/1 kV
<i>Applicant</i>	HELKAMA BICA OY LAKIMIEHENKATU 4 FIN 20780 KAARINA FINLAND
<i>Manufacturer</i>	HELKAMA BICA OY
<i>Place of manufacture</i>	LAKIMIEHENKATU 4 FIN 20780 KAARINA FINLAND
<i>Reference standards</i>	RINA Rules for the Classification of Ships, Part C, Chapter 2, Section 9; RINA Rules for Testing and Certification of Marine Materials and Equipment; IEC 60092-350; IEC 60092-353.

Issued in **Genova** on **April 7, 2015**. This Certificate is valid until **April 7, 2020**

Valerio Bonanni

RINA Services S.p.A.
Valerio Bonanni

This certificate consists of this page and 1 enclosure



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LKMSM-HF 0.6/1 kV

LKMSM-SHF2 0.6/1 kV

Materials/Components

Shipboard power and control cables, halogen free with low smoke emission, flame retardant, for fixed installation.

Rated voltage: 0.6/1 kV

Type: LKMSM-HF 0.6/1 kV; LKMSM-SHF2 0.6/1 kV

Marking: Cables type - n X s mm² - 0.6/1 kV - +90°C - IEC 60092-353 - IEC 60332-3-22 - HELKAMA - month-year - length marking.

Construction:

conductor: stranded plain or tinned copper (IEC 60228 Class 2 or Class 5)

insulation: XLPE

filler: extruded halogen-free compound

screen: annealed plain or tinned copper wire braid

sheath: SHF1 or SHF2

Max. conductor temperature: +90°C.

In accordance to rules IEC 60228 cl.2 and cl.5; IEC 60092-350; IEC 60092-351; IEC 60092-353; IEC 60092-359; IEC 60092-360 as applicable; IEC 60332-1-2; IEC 60332-3-22; IEC 60754-1; IEC 60754-2; IEC 601034-1; IEC 61034-2; RINAMIL Rules.

Conductor size:

number of cores 2 - cross sectional area from 1 to 300 mm²

number of cores 3 - cross sectional area from 1 to 300 mm²

number of cores 4 - cross sectional area from 1 to 300 mm²

number of cores 5 - cross sectional area from 1 to 300 mm²

number of cores 7,12,19,24 - cross sectional area from 1.5 to 2.5 mm²

number of cores 27,37 - cross sectional area 1.5 mm² and 2.5 mm²

Technical specification: HBKQ 9 spec.19 20.1.2010/dk.

Note/Remarks:

The product is subject to the compliance with RINA Rules and Standards mentioned on the certificates

Type Approval certifies that a representative sample of the products has been found to meet the applicable design criteria

Any modification of change shall not be valid until approval is granted by RINA as a result of due assessment.

The present statement cancel and supersedes the previous N. ELE196009CS/008 dated April 8, 2010.

Other Place of Manufacturing:

a) HELKAMA BICA (SHANGHAI) Co.,Ltd.

Plot 1-2 Minghang Export Processing Zone, Shanghai, 201401 P.R.C.

b) HELKAMA BICA Oy

Lasitehtaankatu 12, FI-10960 Hanko, Finland

Genova April 7, 2015