

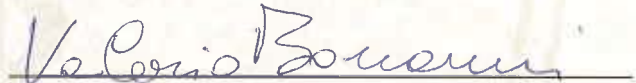


**TYPE APPROVAL CERTIFICATE**  
No. ELE066114CS/007

**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>	<b>ELECTRIC CABLES</b>
<i>Type</i>	<b>LKMM-HF 0.6/1 kV; LKMM-SHF2 0.6/1 kV</b>
<i>Applicant</i>	<b>HELKAMA BICA OY LAKIMIEHENKATU 4 FIN 20780 KAARINA FINLAND</b>
<i>Manufacturer</i>	<b>HELKAMA BICA OY</b>
<i>Place of manufacture</i>	<b>LAKIMIEHENKATU 4 FIN 20780 KAARINA FINLAND</b>
<i>Reference standards</i>	<b>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.</b>

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



RINA Services S.p.A.  
**Valerio Bonanni**

This certificate consists of this page and 1 enclosure



**TYPE APPROVAL CERTIFICATE**

No. **ELE066114CS/007**

Enclosure - Page 1 of 1

**LKMM-HF 0.6/1 kV**

**LKMM-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: LKMM-HF 0.6/1 kV; LKMM-SHF2 0.6/1 kV

Marking: Cables type - n X s mm<sup>2</sup> - 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

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 mm<sup>2</sup>

number of cores 3 - cross sectional area from 1 to 300 mm<sup>2</sup>

number of cores 4 - cross sectional area from 1 to 300 mm<sup>2</sup>

number of cores 5 - cross sectional area from 1 to 300 mm<sup>2</sup>

number of cores 7,12,19,24 - cross sectional area from 15 to 2.5 mm<sup>2</sup>

number of cores 27,37 - cross sectional area from 1.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup>

Technical specification: HBKQ 9 spec.38 20.1.2010/dk

**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/007 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 BIKA Oy

Lasitehtaankatu 12, FI-10960 Hanko, Finland.

**Genova April 7, 2015**