



**TYPE APPROVAL CERTIFICATE**  
No. ELE066114CS/02

**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>LKAM-FRHF 250V; LKAM-FRSHF2 250V.</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 60092-376; IEC 60331.</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/02**

Enclosure - Page 1 of 1

**LKAM-FRHF 250V**

**LKAM-FRSHF2 250V.**

### Materials/Components

Shipboard screened control and instrumentation cables, fire resistant, flame retardant, for fixed installations in marine and offshore units.

Rated voltage: 250 V

Type: LKAM-FRHF 250 V; LKAM-FRSHF2 250V.

Marking: Type of Cables - n X s mm<sup>2</sup> - 250 V - +90°C - IEC 60092-376 - 60331- 60332-3-22 HELKAMA - month-year - length marking.

#### Construction:

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

mica tape on the conductor

insulation: XLPE

stranding: cores stranded together. "Dummy core(s)" (fillers) may be used to keep circular form

covering: wrapped tape(s) of non-hygroscopic material

collective screen: laminated electrostatic screen. Aluminium polyester tape with a drain wire

sheath: SHF1 or SHF2

Max. conductor temperature: +90°C.

In accordance to rules IEC 60228 cl.2; IEC 60092-350; IEC 60092-351; IEC 60092-376; IEC 60092-359; IEC 60092-360 as applicable; IEC 60331-1; IEC 60331-2; IEC 60332-1-2; IEC 60332-3-22; IEC 60754-1; IEC 60754-2; IEC 61034-1; IEC 61034-2; RINAMIL Rules.

#### Conductor size:

cross sectional area 0.75 mm<sup>2</sup>.

Technical specification: HBKQ 9 spec.67 dated 29/07/2010/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 Certificate cancels and supersedes the previous N. ELE438910CS/01 dated November 24, 2011.

#### Other Places 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  
FIN - 10960 Hanko

**Genova April 7, 2015**

RINA Services S.p.A.  
Via Corsica, 12 - 16128 Genova  
Tel +39 010 53851  
Fax +39 010 5351000