



TYPE APPROVAL CERTIFICATE
No. ELE066114CS/024

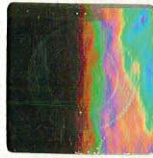
This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

| | |
|-----------------------------|---|
| <i>Description</i> | ELECTRIC CABLES |
| <i>Type</i> | LKSM-EMC-FRHF 0.6/1 kV; LKSM-EMC-FRSHF2 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; IEC 60331. |

Issued in **Genova** on **April 27, 2015**. *This Certificate is valid until* **April 27, 2020**

RINA Services S.p.A.
Valerio Bonanni

This certificate consists of this page and 1 enclosure



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LKSM-EMC-FRHF 0.6/1 kV

LKSM-EMC-FRSHF2 0.6/1 kV

Materials/Components

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

Rated voltage: 0.6/1 kV

Type: LKSM-EMC-FRHF 0.6/1 kV; LKSM-EMC-FRSHF2 0.6/1 kV

Marking: Cables type - n X s mm² - 0.6/1 kV - +90°C - IEC 60092-353 - IEC 60331 - IEC 60332-3-22 - HELKAMA - month-year - length marking.

Construction:

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

mica tape on the conductor

insulation: XLPE

bedding: separator tape wrapping

screen: collective metallic screen of copper tape, coverage 100%

sheath: SHF1 or SHF2

Max. conductor temperature: +90°C.

In accordance to rules IEC 60228 cl.2; IEC 60092-350; IEC 60092-351; IEC 60092-353; 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 601034-1; IEC 61034-2; EN 50289-1-6:2002; RINAMIL Rules.

Technical specification: HELKAMA SPECIFICATION HBKQ 9 spec.84 6.7.2012/dk.

EMC tests:

DELTA Test Report N. DANAK-19J2399; Project N. 312910, dated 25 January 2011.

DELTA Test Report N. DANAK-19J2493; Project N. 312990, dated 15 June 2011.

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.

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 27, 2015