



TYPE APPROVAL CERTIFICATE

형식 승인증서

Certificate No. : SHI20704-EL001 **Date of Approval** : 8th August, 2007.

Product : Electric Cable

Manufacturer : HELKAMA BICA(SHANGHAI) CO.,LTD

Plot1~2, Minhang Export Processing Zone, No.3111, West Huan Cheng Road, Fengxian District, Shanghai, China

Product Description : Halogen Free Shipboard Cables(IEC 60092 Series)

- Type : LKM-HF, LKMM-HF 0.6/1kV
- LKSM-HF, LKMSM-HF 0.6/1kV
- LKM-FRHF, LKSM-FRHF 0.6/1kV
- LKEM-HF 0.6/1kV
- LKSM-HF 250V
- RFE-HF, RFE-HF(i) 250V
- RFE-FRHF, RFE-FRHF(i) 250V

" See Appendix 1 & 2 "

- Approval Condition** :
1. This approval is granted on the basis of the test report no. CT07-0310-1,2 issued by China National Center for Quality Supervision and Test of Electric Wire and Cable.
 2. Product Certification is required.

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

Pt. 6, Ch. 1, Sec. 4 of the Rules for Classification, Steel Ships and IEC Standards.

This Certificate is valid until 7th August, 2012.

Issued at Daejeon, Korea on 8th August, 2007.



한국선급
KOREAN REGISTER OF SHIPPING

Park Moon-kyu

General Manager of
Materials and Equipment Team

- Note** :
- 1 : The approval will be automatically suspended and the Certificate become invalid from the expiry date of the Certificate in the event that the extension has not been granted or is not under attendance for completion of the renewal survey.
 - 2 : The manufacturer should notify this Society of any modification or changes that may affect the validity of this Certificate.

Appendix 1

Product Description and/or Approval Condition

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Product Description :

1. LKM-HF, LKMM-HF 0.6/1kV
 - Application : Halogen free, flame retardant, power and control cable
 - Conductor : Stranded, plain annealed copper, class 2 or class 5
 - Insulation : HF-XLPE
 - Sheath : SHF1, Halogen Free Thermoplastic
 - Temperature : Max. 90 °C
 - Rated Voltage: 0.6/1 kV(1.2kV)
2. LKSM-HF, LKMSM-HF 0.6/1kV
 - Application : Halogen free, flame retardant, screened power and control cable
 - Conductor : Stranded, plain annealed copper, class 2 or class 5
 - Insulation : HF-XLPE
 - Armour : Braided armour of annealed copper wires
 - Sheath : SHF1, Halogen Free Thermoplastic
 - Temperature : Max. 90 °C
 - Rated Voltage: 0.6/1 kV(1.2kV)
3. LKM-FRHF, LKSM-FRHF 0.6/1kV
 - Application : Fire resistant, halogen free, power and control cable
 - Conductor : Stranded, plain annealed copper
 - Insulation : HF-XLPE, Fire resistant mica tape layer under the plastic insulation
 - Armour : Braided armour of annealed copper wires(only for LKSM-FRHF)
 - Sheath : SHF1, Halogen Free Thermoplastic
 - Temperature : Max. 90 °C
 - Rated Voltage: 0.6/1 kV(1.2kV)
4. LKEM-HF 0.6/1kV
 - Application : Halogen free, flame retardant, general power, lighting and switchboard wiring cable
 - Conductor : Stranded, plain annealed copper, class 5
 - Insulation : HF90, Halogen Free Flame Retatdant
 - Temperature : Max. 90 °C
 - Rated Voltage: 0.6/1 kV(1.2kV)
5. LKSM-HF 250V
 - Application : Halogen Free, flame retardant, screened power and control cable
 - Conductor : Stranded, plain annealed copper, class 2
 - Insulation : XLPE, halogen free
 - Armour : Braided armour of annealed copper wires
An unisolated drain wire of size>0.5mm², laid in contact with the braid
 - Sheath : SHF1, Halogen Free Thermoplastic
 - Temperature : Max. 90 °C
 - Rated Voltage: 150/250V(300V)
6. RFE-HF, RFE-HF(i) 250V
 - Application : Halogen free, flame retardant, instrumentation, control and communication cable
 - Conductor : Stranded, plain annealed copper, class 2
 - Insulation : XLPE, halogen free
 - Armour : Braid of plain copper wires
 - Sheath : SHF1, Halogen Free Thermoplastic
 - Temperature : Max. 90 °C
 - Rated Voltage: 150/250V(300V)

Appendix 2

Product Description and/or Approval Condition

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7. RFE-FRHF, RFE-FRHF(i) 250V

- Application : Fire resistant, halogen free, instrumentation, control and communication cable
- Conductor : Stranded, plain annealed copper, class 2
- Insulation : XLPE, halogen free
- Armour : Braid of plain copper wires
- Sheath : SHF1, Halogen Free Thermoplastic
- Temperature : Max. 90 °C
- Rated Voltage: 150/250V (300V)

Documentation :

1. Approved Drawings

- HBKQ 9. SPEC No. : 3(1. 11. 2006/dk), 38(1. 11. 2006/dk), 5(1. 11. 2006/dk), 19(2. 10. 2006/dk)
23(2. 10. 2006/dk), 24(2. 10. 2006/dk), 53(7. 10. 2004/dk), 56(11. 5. 2005/dk)
10(7. 4. 2005/dk), 36(7. 4. 2005/dk), 25(7. 4. 2005/dk), 45(7. 4. 2005/dk)

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