

**POTVRDA O TIPNOM ODOBRENJU**
TYPE APPROVAL CERTIFICATE

Br /No	03-001509/031224
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Potvrđuje se da je ovaj proizvod, u skladu s Pravilima za klasifikaciju brodova, Dio 1. - Opći propisi, Odjeljak 3. - Tipno odobrenje proizvoda, odobren za ugradnju na brodove i postrojenja pod nadzorom Hrvatskog registra brodova.

This is to certify that this product, on the basis of the Rules for the classification of ships, Part 1 - General requirements, Chapter 3 - Type approval of products, is approved for use on board ships and installations under supervision of the Croatian Register of Shipping.

TIP I OPIS PROIZVODA:*TYPE AND DESCRIPTION OF PRODUCT:***BRODSKI INSTRUMENTACIJSKI, KOMUNIKACIJSKI I KONTROLNI KABEL BEZHALOGENI I VATROOTPORNI***SHIPBOARD INSTRUMENTATION, COMMUNICATION AND CONTROL CABLE HALOGEN FREE AND FIRE RESISTANT***RFE-FRHF / RFE-FRHF(i) 150/250 V (300 V)**
RFE-FRSHF2 / RFE-FRSHF2(i) 150/250 V (300 V)**PROIZVOĐAČ:***MANUFACTURER:*

HELKAMA BICA Oy
Lakimiehenkatu 4
FI-20780 Kaarina
FINLAND

DODATNO MJESTO PROIZVODNJE:*ADDITIONAL PLACES OF PRODUCTION:**HELKAMA Bica Oy, Lasitehtaankatu 12, FI-10960 Hanko, FINLAND***PROIZVOD UDOVOLJAVA SLIJEDEĆIM PRAVILIMA/PROPISIMA:***THE PRODUCT MEETS FOLLOWING RULES/REGULATIONS:***HRB PRAVILA ZA KLASIFIKACIJU BRODOVA: DIO 12 - ELEKTRIČNA OPREMA**
CRS RULES FOR THE CLASSIFICATION OF SHIPS: PART 12 - ELECTRICAL EQUIPMENT

Helkama specification: HBKQ 9 spec. 25, 45, 117 and 118

Technical specification:

Design standard: IEC 60092-376 (2nd ed. 2003-05),

Cable for control and instrumentation circuits 150/250 V (300 V)

Other standards:

- testing: IEC 60092-350 Ed.4.0 (2014-08), General constructions and testing requirements
- insulation: IEC 60092-360 (1.0 ed. 2014-04), Insulating materials for shipboard power cables
- sheathing: IEC 60092-360 (1.0 ed. 2014-04),
Sheathing materials for shipboard power and telecommunication cables

DETALJI O PROIZVODU I UVJETIMA CERTIFIKACIJE DANI SU NA POLEĐINI.*FURTHER DETAILS OF THE PRODUCT AND CONDITIONS FOR CERTIFICATION ARE GIVEN OVERLEAF.***ODOBRENJE VRIJEDI DO: 2020-02-10***APPROVAL IS VALID UNTIL:***Mjesto i datum: Split, 2016-04-04***Place and date:***M.P.***(Seal)*

Marinko Popović, dipl.ing.

NAPOMENA: Ova potvrda nije valjana ako se proizvod ili način njegove proizvodnje promijenio u odnosu na tipno ispitani proizvod. Proizvođač treba obavijestiti Hrvatski registar brodova o bilo kojoj izmjeni na proizvodu kako bi ishodio valjanu potvrdu.

NOTE: This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Croatian Register of Shipping of any modification or changes to the product in order to obtain a valid certificate.

PODROBNIJI OPIS PROIZVODA:*DETAILED PRODUCT DESCRIPTION:*

Flame retardant, fire resistant, halogen free, crosslinked polyethelene (XLPE) insulated, (armoured) screened, polyolefine sheathed, instrumentation, control cable 150/250 V (300 V).

RFE-FRHF/RFE-FRSHF2 – Collectively screened

RFE-FRHF(i)/ RFE-FRSHF2(i) –Individually and collectively screened

RFE-FRHF/RFE-FRSHF2

<u>No of pairs</u>	<u>Cross sectional area (mm²)</u>
1, 2, 4, 7, 8, 10, 12, 14, 16, 19, 24, 32 and 37	0.5, 0.75 & 1.5
1x3, 1x4 (quadruple)	0.5, 0.75 & 1.5

RFE-FRHF(i)/ RFE-FRSHF2(i)

<u>No of pairs</u>	<u>Cross sectional area (mm²)</u>
1, 2, 3, 4, 7, 8, 10, 12, 14, 16, 19, 24, 27, 30, 32 & 37	0.5, 0.75 & 1.5
1x3, 1x4 (quadruple)	0.5, 0.75 & 1.5

PODRUČJE PRIMJENE / POSEBNI GRANIČNI UVJETI:*APPLICATION / LIMITATIONS:*

Fixna ugradnja na pomorskim brodovima, odobalnim objektima i industriji.

Fixed installations in marine, offshore and industrial use.

DOKUMENTACIJA ZA TIPNO ODOBRENJE:*TYPE APPROVAL DOCUMENTATION:*

Helkama RFE-FRHF 150/250 V (300 V) Cable Data Sheet Specification HBKQ 9. Spec 25 incl. App 2	2014-11-13
Helkama RFE-FRHF(i) 150/250 V (300 V) Cable Data Sheet Specification HBKQ 9. Spec 45 incl. App 2	2014-11-13
Helkama RFE-FRSHF2 150/250 V (300 V) Cable Data Sheet Specification HBKQ 9. Spec 117 incl. App 2	2016-03-21
Helkama RFE-FRSHF2(i) 150/250 V (300 V) Cable Data Sheet Specification HBKQ 9. Spec 118 incl. App 2	2016-03-21

Izveštaj o ispitivanju/ test report:

2.MC1_i_comp/FR075TT67579;2.MC1_S/FR075TT67579; 3a.Hotdet_s/FRO
755TT67579; 4b.HST_S/FR075TT67579; 3bCold_S/FRO
755TT67579; 4E.IEC 332-1_S/FR075TT67579

IEC 60332-3A/FR075TT67579; IEC 61034-2/FR075TT67579

IEC 331_i/FR075TT67579; IEC 331_c/FR075TT67579

Helkama Test report for SHF2 sheathed cables dated 19.03.2012.

OZNAČAVANJE PROIZVODA:*MARKING OF PRODUCT:*

LOT ##### RFE-FRHF/ RFE-FRSHF2/ RFE-FRHF(i)/ RFE-FRSHF2(i) "number of core" x "size of conductor" mm²
250 V + 90°C IEC 60092-376, 60331-2 (90) or 60331-1 (90), 60332-3-22 HELKAMA "month-year" and "length marking"

UVJETI ZA CERTIFIKACIJU:*CONDITIONS FOR CERTIFICATION:*

NON

Račlana

12.05.01

Zamjenjuje potvrdu

03-001296/030962