

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Data transmission cables and systems

with type designation(s)
HELKAMA S/FTP - Category 6 FR AWG23/1

Issued to
Helkama Bica Oy
Kaarina, Finland

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Data communication cable. Installation / Horizontal cable. Fire resistant.
Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2024-01-05**

for **DNV**

This Certificate is valid until **2029-01-04**.

DNV local station: **Finland CMC**

Approval Engineer: **Ivar Bull**

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Frederik Tore Elter
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Name and place of manufacturer :
 DNV Id.: 10659766

Product description

Type(s):	HELKAMA S/FTP - Category 6 FR AWG23/1
Standards	Category 6 , Installation cable according to IEC61156 - 5
Conductors:	Solid or stranded, plain or tinned, annealed copper
Core insulation:	Foam PE Fire resistant mica tape layer over the insulation.
Screen:	Aluminum foil (individual screen) Plain or tinned copper (overall screen)
Outer sheath:	SHF1

For details of transmission properties, please refer to technical datasheet and test report.

Application/Limitation

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Temperature window (for Cat.7 cable only):

Operation: - 20°C to +75°C.
 Installation: - 15°C to +80°C

Type Approval documentation

Data sheets: Specification HBKQ 9.SPEC. 290 Ver 1.0 / dk dated 16.11.2022

Test reports: DELTA T925313-01 16 May 2019
 Force Technology Report no.: 12032295-01 rev 1, dated 10 December 2020
 Force Technology Report no.: 12032295-02 rev 1, dated 10 December 2020
 Helkama test report IEC 60331-2 witnessed by DNV dated 2023-04-20.

Tests carried out

Standard	Issued	General description	Limitation
DNV-CP-0403	2021-09	Data communication cables - category cables	
IEC 60331-2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	Minimum 180 min+15 min cooling down time
IEC 60332-3-22	2018-07	Tests on electric cables under fire conditions - Part 3-22: Test for vertical flame spread of vertically mounted bunched wires or cables - Category A	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2	2019-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%

Marking of product

HELKAMA LAN Cable 4PR "size of conductor" S/FTP Cat 6 FR AWG23/1 "Lot - number" > "month - year" and "length marking" - IEC 60332-3-22

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine tests (RT) and selected type tests (ref. to applicable class programs) checked (if not available these tests shall be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE