DNV·GL

Certificate No:
TAE00003WN

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Data transmission cables and systems

with type designation(s)
HELKAMA S/FTP-Category 7 AWG23/1 LSZH,
HELKAMA S/FTP-Category 7 AWG24/7 LSZH

Issued to
Helkama Bica Oy
Hanko, Finland

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

Application :

Data communication cable. Installation / Horizontal cable.

Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2020-04-22**
This Certificate is valid until **2025-04-21**.
DNV GL local station: **Turku FIS**

Approval Engineer: **Ivar Bull**

for **DNV GL**

Marta Alonso Pontes
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.

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Job Id: **262.1-032114-1**
Certificate No: **TAE00003WN**

Name and place of manufacturer :
DNVGL Id.: 10659766

Product description

Type(s):	**HELKAMA S/FTP-Category 7 AWG23/1 LSZH,** **HELKAMA S/FTP-Category 7 AWG24/7 LSZH**
Standards	**Category 7,** Installation cable according to IEC 61156 / EN 50288-4-1
Conductors:	Plain, solid copper or Plain stranded copper
Core insulation:	Solid PE
Screen:	Aluminum foil (individual screen) tinned copper (overall screen)
Outer sheath:	SHF1

Characterics tic impedance 100 ± 5 Ohm
DC-loop resistance 190 Ohm/km

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: - 65°C to +80°C
Installation: - 15°C to +80°C

Type Approval documentation

Tests carried out

Standard	Issued	General description	Limitation
DNVGL-CP-0403	2019-07	Data communication cables - category cables	
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	2011-11	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	2011-11	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	2013-07 2013-09	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 AWG 23/1 or AWG 24/7 - S/FTP Dca-s1a, d1, a1 CE "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