

TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00003WN
Revision No:
3

This is to certify:

That the **Data transmission cables and systems**

with type designation(s)

HELKAMA F/UTP - Category 5E DS Armour AWG23/1 or 24/7 or 26/7 LSZH,
HELKAMA S/FTP - Category 6 AWG23/1 or 24/7 or 26/7 LSZH, single or twin versions,
HELKAMA S/FTP - Category 6A AWG23/1 or 24/7 or 26/7 LSZH, single or twin versions,
HELKAMA S/FTP - Category 7 AWG23/1 or 24/7 or 26/7 LSZH, single or twin versions

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.

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

Issued at **Høvik** on **2022-01-19**

for **DNV**

This Certificate is valid until **2025-04-21**.

DNV local station: **Turku FIS**

Approval Engineer: **Ivar Bull**

Trond Sjøvåg
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 :

DNVGL Id.: 10659766

Product description

Type(s):	HELKAMA F/UTP - Category 5E AWG23/1 or 24/7 or 26/7 LSZH, DS Armour
Standards	Category 5E , Installation cable according to IEC 61156 - 5
Conductors:	Solid or stranded, plain or tinned, annealed copper
Core insulation:	Foam PE
Screen:	Plain or tinned copper (overall screen)
Inner sheath:	SHF1
Armour:	Galvanized steel wire braid
Outer sheath:	SHF1

Type(s):	HELKAMA S/FTP - Category 6 AWG23/1 or 24/7 or 26/7 LSZH, single or twin versions
Standards	Category 6 , Installation cable according to IEC61156 - 5
Conductors:	Solid or stranded, plain or tinned, annealed copper
Core insulation:	Foam PE
Screen:	Aluminum foil (individual screen) Plain or tinned copper (overall screen)
Outer sheath:	SHF1

Type(s):	HELKAMA S/FTP - Category 6A AWG23/1 or 24/7 or 26/7 LSZH, single or twin versions
Standards	Category 6A , Installation cable according to IEC 61156-5 and EN 50288-4-1
Conductors:	Solid or stranded, plain or tinned, annealed copper
Core insulation:	Foam PE
Screen:	Aluminum foil (individual screen) Plain or tinned copper (overall screen)
Outer sheath:	SHF1

Type(s):	HELKAMA S/FTP - Category 7 AWG23/1 or 24/7 or 26/7 LSZH, single or twin versions
Standards	Category 7 , Installation cable according to IEC 61156 / EN 50288-4-1
Conductors:	Solid or stranded, plain or tinned, annealed copper
Core insulation:	Foam PE
Screen:	Aluminum foil (individual screen) Plain or tinned copper (overall screen)
Outer sheath:	SHF1 (optional PUR outer sheath)

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 Bundles 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

Data sheets: Specification HBKQ 9. SPEC. 269 18.12.2020/dk
 Specification HBKQ 9. SPEC. 265 18.12.2020/dk
 Specification HBKQ 9. SPEC. 266 19.10.2020/dk
 Specification HBKQ 9. SPEC. 239 30.04.2020/dk
 Specification HBKQ 9. SPEC. 271 15.02.2021/dk

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

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	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" F/UTP Cat 5E DS Armour "Lot-number" "month-year" and "length marking" - IEC 60332-3-22 or

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

HELKAMA LAN Cable 4PR "size of conductor" S/FTP Cat 6A
Dca-s1a, d1, a1 CE "Lot-number" "month-year" and "length marking" - IEC 60332-3-22 or

HELKAMA LAN Cable 4PR AWG 23/1 or AWG 24/7 or AWG 26/7 - S/FTP Cat 7 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