DNV·GL

Certificate No:
TAE0000009

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Data transmission cables and systems

with type designation(s)
Maritime LAN 7S S/FTP

Issued to
Sohome AS
Bergen, Norway

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards
Type Approval Programme No. 6-827.50-2
IEC 61156-5 Ed. 2.1 (2012-12)
IEC 60332-3-24 (2009-02)
IEC 60754-1 (2011-11)
IEC 60754-2 (2011-11)
IEC 61034-1/2 Ed. 3.1 (2013-06)

Application :

Data communication cable, cat. 7. Installation / Horizontal cable. Flame retardant in bunch, cat. C. Halogen free. Low smoke

In order to achieve a transmission link compliant with Category 7, cables shall be installed with suitable termination equipment according to manufacturer's recommendations
Voltage (kV)
Temp. class (°C)

This Certificate is valid until **2019-07-07**.

Issued at **Høvik** on **2015-07-08**
DNV GL local station: **Bergen** for **DNV GL**

Approval Engineer: **Ludovico Gullifa**

Marit Laumann
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: **262.1-010028-4**
Certificate No: **TAE0000009**

Product description

Type(s):	**Maritime LAN 7S S/FTP**
Conductors:	Solid Copper (Class 1) (AWG23)
Core insulation:	Polyethylene foamskin
Screen:	Al/polyester tape
Metal covering:	Tinned, Copper wire braid
Outer sheath:	SHF1

Number of cores x conductor diameter [mm]	Overall diameter [mm]
4 x 2 x 0,573	7,8

Electrical data at 20°C

Frequency	Attenuation, nom	NEXT
MHz	[dB/100m]	[dB]
1	1,8	100
4	3,4	100
10	5,4	100
16	6,8	100
20	7,7	100
31,25	9,6	100
62,5	13,7	100

Frequency	Attenuation, nom	NEXT
MHz	[dB/100m]	[dB]
100	17,4	100
155	21,9	94
200	25,0	92
250	28,1	90
300	30,9	89
600	44,8	85

Characterics tic impedance :100 Ohm
DC-loop resistance: ≤ 150 Ω/km

Manufacturer place

DNV GL reference no. 10082991

Application/Limitation

Temperature window
Operation: - 40°C to +85°C
Installation: - 15°C to +50°C

The information related to EN certification from recognised test institution is taken as information only

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.

Type Approval documentation

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Tests carried out

Standard	Release	General description	Limitation
DNV TAP 6-827.50-2	2010	DNV Type approval program for data communication cables	
IEC 61156-5	2013-01	Symmetrical pair/quad cables for digital communications – Symmetrical pair/quad cables with transmission characteristics up to 1000MHz horizontal floor wiring.	Cat. 7 – 600MHz
IEC 60332-3-24	2009-02	Tests on electric and optical fibre cables under fire conditions – Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category C	Bunch test Category C
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	2005-04	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance ≥60%
ISO/IEC 11801	2010-04	Information technology – Generic cabling for customer premises, incl. Amd 1 and 2.	Ref. to requirements for category cable: 7 (600MHz)
EN 50173-1	2011-06	Information technology – Generic cabling systems – Part 1. General requirements.	
EN 50288-4-1	2013-06	Multi-element metallic cables used in analogue and digital communication and control - Part 4-1: Sectional specification for screened cables characterised up to 600MHz – Horizontal and building backbone cables	

Marking of product

Bergen Cabling Maritime LAN - Cat.7 IEC 60332-3-24 –factory code - <part no > - order no - date – meter marking

Periodical assessment

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

The main elements of the periodical assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to 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 to be performed at least every second year.

END OF CERTIFICATE