



Certificate no.:
TAE000055J

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Data transmission cables and systems

with type designation(s)

SL900 S/F23 LSZH-SHF1 UV Protected Category 7 S/FTP 4PR AWG23 (included SHF2), SL900 S/F23 Stranded LSZH-SHF1 UV Protected Category 7 S/FTP 4PR AWG23/7 (included SHF2)

issued to

Recber Kablo A.S.
TEKİRDAĞ, Türkiye

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Category cables suitable for HORIZONTAL floor wiring.

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

Issued at **Høvik** on **2026-04-13**

This Certificate is valid until **2031-04-12**.

for **DNV**

DNV local unit: **Istanbul**

Approval Engineer: **Ivar Bull**

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 USD 300 000.

Product description

Category cables Cat 7 suitable for horizontal floor wiring.

SL900 S/F23 LSZH-SHF1 UV Protected Category 7 S/FTP 4PR AWG23 (included SHF2),

SL900 S/F23 Stranded LSZH-SHF1 UV Protected Category 7 S/FTP 4PR AWG23/7 (included SHF2)

Construction

Conductor	Bare annealed or tinned copper solid or stranded
Insulation	Foam PE, wire color according to IEC 60189-2
Individual screen	Aluminium/Polyester tape (aluminium side in)
Common screen	Aluminium/Polyester tape (aluminium side in)
Outer sheath	SHF1 or SHF2

Electrical data at 20°C: See technical datasheet.

Application/Limitation

Temperature window

Operation : -40°C to +85 °C

Installation: -15°C to +50°C

Bending radius: 8XD

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.

In order to achieve a transmission compliant with Category 7 and above, cables shall be installed with suitable termination equipment according to manufacturer's recommendations.

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
IEC 61156-5 Ed. 3.0	2020-04	Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Horizontal floor wiring – Sectional specification	Reference to requirement for category cable: 6 (250MHz), 6A (500 MHz), 7 (600MHz), 7A (1000 MHz)
IEC 60092-350 Ed.5.0	2020-01	Electrical installations in ships - Part 350: General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-360 Ed. 2.0	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-3-22 Ed.2.0	2018-07	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables – Category A	Bunch test Category A
IEC 60754-1 Ed.3.1	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Low Halogen:
IEC 60754-2 Ed.2.1	2019-11	Test on gases evolved during combustion of materials from cables – Determination	Halogen free: pH > 4,3

Standard	Release	General description	Limitation
		of the degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity	Conductivity < 10µS/mm
IEC 61034-1/2 Ed.3.2	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke
IEC 60332-1-2(2004) AMD1(2015)	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable.	Flame retardant small scale. Distance between the lower edge of the top support and the onset of charring > 50 mm and charring not to extend downwards > 540 mm from the lower edge of the top support.

Marking of product

RECBER – PRODUCT NUMBER – SL900 S/F23 LSZH-- SHF1 or SHF2 – Category 7 S/FTP 4PR AWG 23/1 or AWG 23/7 ISO/IEC 11801 – IEC 61156-5 – EN 50288-4-11 – IEC 60092-360 – Category A/IEC 60332-3-22 Batch number ww/yy MMM

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