



Certificate No:
TAE00004GC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)
LI9YCH

Issued to

BizLink Special Cables Germany GmbH
Friesoythe, Niedersachsen, Germany

is found to comply with

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

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Rated voltage (kV) 0,6/1

Temp. class (°C) 90

Issued at **Hamburg** on **2022-05-17**

This Certificate is valid until **2027-05-16**.

for **DNV**

DNV local station: **Hamburg – CMC North/East**

Approval Engineer: **Carsten Hunsalz**

Arne Schaarmann
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.



Form code: TA 251

Revision: 2021-03

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Product description

PP insulated and SHF1 sheathed shipboard power cables

Rated voltage:	0,6/1 kV
Maximum operating conductor temperature:	90° C
Conductor:	Plain or tinned stranded copper, class 2 or 5
Insulation:	PP + optional plastic tapes and inner jacket
Screen:	Bare or tinned-plated copper wires + optional plastic tape
Outer sheath:	Drain wire of bare or tinned-plated copper is optional. SHF1
No. of cores:	Nominal cross section mm ²
1 to 10	1; 1,5; 2,5
1 to 5	4; 6; 10; 16; 25; 35
1	50; 70; 95; 120; 150; 185

Application/Limitation

General power and lighting. Control.

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.

Flame retardant Cat. A.

Environmental temperature: -30°C up to 90 °C

Type Approval documentation

Specification: Version 2022-02-03 / F45052-F8000

Test report : Leoni Type Test dated 2022-02-03

Tests carried out

Standard	Release	General description	Limitation
IEC 60228	2004-11	Conductors of insulated cables	
UL Style		11785	
IEC 60092-353	2016-09	Electrical installations in ships - Part 353: Power cables for rated voltages 1 kV and 3 kV	partly
IEC 60092-360	2021-01	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	For SHF1 Sheath
EN 50290-2-25	2013-12	Common design rules and construction Polypropylene insulation compounds	For PP Insulation
IEC 60332-1-2	2015-07	Tests on electric cables under fire conditions. Test for vertical flame propagation for a single insulated wire or cable.	
IEC 60332-3-22	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	
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	Annex E Cold bend: -30°C
CSA C22.2 No. 2556-15	2015-01	Wire and cable test methods	Cold impact: -30°C

Marking of product

Example:

00020m * BizLink SeaLine SCG * LI9YCH 3X1X4.0 0.6/1kV * 130180

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) checked (if not available tests according to 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 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