



Certificate no.:
TAE0000518

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Category cables**

with type designation(s)

BizLink SeaLine Cat 5E, Cat 6, Cat 6A - fire resistant

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.

Issued at **Hamburg** on **2025-07-17**

This Certificate is valid until **2030-07-16**.

for **DNV**

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

Approval Engineer: **Carsten Hunsalz**

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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

BizLink SeaLine Cat 5E, Cat 6, Cat 6A - fire resistant

Conductor:	Solid bare copper wire
Insulation:	PE foam with skin + fire resistant foil
Cabling:	Twisted pairs with plastic tape and copper foil overlapped plus central strain relief
Screen / Covering:	Bare copper braid 80% coverage + Plastic tape overlapped + Copper-tape (thickness 0,2mm) longitudinal welded spiral corrugated
Sheath:	SHF1, SHF2 or MUD-Res

List refers to specification Version 2025-05-09 / F45052-F8700:

CAT 5E / CAT 6 / CAT 6A cables:

BizLink Type Designation	AWG	Conductor cross section mm ²	sheath material
02XS(FE)CWKH 4X2X0.65/2.0-100 PIMF	22	0.33	SHF1
02XS(FE)CWKH 4X2X0.65/2.0-100 PIMF	22	0.33	SHF2
02XS(FE)CWKH 4X2X0.65/2.0-100 PIMF	22	0.33	MUD-RES
02XS(FE)CWKH 4X2X0.6/1.7-100 PIMF	23	0.28	SHF1
02XS(FE)CWKH 4X2X0.6/1.7-100 PIMF	23	0.28	SHF2
02XS(FE)CWKH 4X2X0.6/1.7-100 PIMF	23	0.28	MUD-RES

Application/Limitation

This type of cable is fire resistant in accordance to:

- a) 180 min. IEC 60331-23 with insulation and functional integrity
- b) 180 min. IEC 60331-2 + Water spray (EN 50200) with insulation integrity

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.

Due to the low cross section of these cables, extra precautions shall be made during installation. In order to achieve a transmission link compliant with Category 5E up to 6A, cables shall be installed with suitable termination equipment according to manufacturer's recommendations.

Horizontal cables Cat 5E / Cat 6 and Cat 6A (can also be used for work area wiring)
Flame retardant in bunch; cat A. Low smoke

Operating temperature: -50°C to +70°C

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
DNV-CP-0403	2021-09	DNV Type approval program for Data communication cables – category cables	Ref. IEC 61156-5 standard Category 5E, 6 and 6A
IEC 61156-5	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 wiring – Sectional specification	Reference to requirement for category cable: 5E (100MHz) 6 (250MHz), 6A (500MHz),
IEC 61156-6	2020-04	Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification	Reference to requirement for category cable: 5E (100MHz) 6 (250MHz), 6A (500MHz),
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	Bunch test Category A
IEC 60331-23	1999-04	Tests for electric cables under fire conditions - Circuit integrity - Part 23: Procedures and requirements – Electric data cables	180 min. with insulation and functional integrity acc. to IEC 60092-379
IEC 60331-2	2018-03	Tests for electric cables under fire conditions - Circuit integrity - Part 2: Test method for fire with shock at a temperature of at least 830 °C for cables of rated voltage up to and including 0,6/1,0 kV	180 min. + Waterspray (EN 50200) with insulation integrity
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%
NEK 606 Ed. 4	2022	Cables for offshore installations. Halogen-free and/or mud resistant. Technical specification.	Mud resistance test for cable types with SHF2 MUD sheath: IRM 902 / 903 100°C 7d. Calcium Bromide 70°C 56d. EDC 95-11 base oil 70°C 56d.
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: -50°C

Marking of product

"sequential length in meter" * BizLink SeaLine SCG * BizLink part number * nomenclature (type designation) CAT5E or CAT6 or CAT6A IEC 60331-23 IEC 60332-3-22 SHF1 or SHF2 or MUD-RES * "internal lot number"

Example:

00020m * BizLink SeaLine SCG * L45467-J416-C1026 * 02YS(FE)CKH 4X2X0.6/1.67-100 PIMF BK CAT6A
IEC 60331-23 IEC 60332-3-22 SHF1 * 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