Certificate no.:
TAE000057T

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Fiber optical cable

with type designation(s)
FIRETUFF OCEAN. Loose tube FIRE RESISTANT. 2000N, CT up to 24 fibres, glass yarns, steel tape, SHF1

issued to
Prysmian Kablo s.r.o.
Bratislava, Bratislavský, Slovakia (Slovak Republic)

is found to comply with

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

Application:

Fiber optic cable. Loose tube. Fire resistant.
Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2026-02-25**
This Certificate is valid until **2027-02-24**.
DNV local unit: **Site Office Komarno**

for **DNV**

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

FIRETUFF OCEAN. Loose tube FIRE RESISTANT. 2000N, CT up to 24 fibres, glass yarns, steel tape, SHF1

Construction	
Loose tubes:	Central loose tube with up to 24 fibres. Gel filled tube/ water blocked.
Reinforcement:	Layer of glass fibre yarns as reinforcement and rodent proteciton
Metal covering:	Steel tape armoring
Outer sheath	SHF1 Halogen free. UV Stabilized.

Fibre types:

Fiber type	E9/125µm OS2 / G.657.A1	E9/125µm OS2 / G.657.A2	G62,5/125µm OM1	G50/125µm OM2B	G50/125µm OM3B	G50/125µm OM4B	G50/125µm OM5B
Prysmian Data sheet	C17 / C53	C24	C02	C34	C31	C32	C39

For more details please see datasheet.

Application/Limitation

This type of cable is fire resistant according to IEC 60331-25 and EN 50200.

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.

Min. Installation temperature:
Operation temperature: -20°C to + 60°C
Storage temperature:

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
DNV-CP-0402	2021-09	Class programme Optical fibre cables	
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	
IEC 60331-25	1999-04	Tests for electric cables under fire conditions - Circuit integrity - Part 25: Procedures and requirements - Optical fibre cables	750˚C 120+15 min
EN50200	2015-12	Method of test for resistance to fire of unprotected small cables for use in emergency circuits	840˚C Mechanical shocks
IEC 60332-1-2	2025-06	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 - Procedure for 1 kW pre-mixed flame	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.
IEC 60754-2	2019-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	Halogen free: pH > 4,3 Conductivity < 10µS/mm
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Part 1: Test apparatus Part 2: Test procedure and requirements	Low smoke Light transmittance >60%

Marking of product

PRYSMIAN FIRETUFF OCEAN LSHF- FR CI 2.0kN <Fibre count> <Fibre type><Fibre brand><Item No><Factory Code><Batch Number><Meter mark> U-D(ZN)(SR)H <Fibre count> <Fibre family> <Mode field diameter> /125 <Transmission Class>

Manufacturing place

Prysmian Kablo s.r.o.
Záborské 517
082 53 Záborské, Slovakia