

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Data transmission cables and systems**

with type designation(s)

**D02b: UCFIBRE™ distribution cable**

Issued to

**Prysmian Denmark A/S**  
**Albertslund, Denmark**

is found to comply with

**DNV GL rules for classification – Ships and offshore units**  
**Type Approval Programme No. 6-827.50-1**

## Application :

**Tight buffered Fibre Optical Cable for indoor use.**

This Certificate is valid until **2021-03-20**.

Issued at **Høvik** on **2016-03-21**

DNV GL local station: **Copenhagen**

Approval Engineer: **Ivar Bull**

for **DNV GL**

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**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.

Job Id: **262.1-021118-1**  
Certificate No: **TAE00000Y8**

## Product description

Indoor distribution or mini break-out cable with tight buffer, 2 – 24 fibres.

Construction 2– 24 tight buffered fibers stranded together  
Buffer material: LSFR Compound  
Strength member Aramid yarns  
Outer sheath SHF1 Halogen free. UV stabilized.

Fiber types:

| Fiber type | 9/125 | 50/125-OM2 | 50/125 OM3 | 62,5/125 OM1 | 50/125 OM4 |
|------------|-------|------------|------------|--------------|------------|
| Prysmian   | C03   | C34        | C31        | C02          | C11, C32   |
| Data sheet |       |            |            |              |            |

For more details please see datasheet.

## Application/Limitation

Min. Installation temperature : -20°C to + 70°C  
Operation temperature : -20°C to + 70°C  
Storage temperature : -40°C to + 70°C

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

### Tests carried out

| Standard       | Release | General description                                                                                                                                                                                                       | Limitation                                                                  |
|----------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| IEC 60092-360  | 2014-04 | Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.                                          |                                                                             |
| 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                                                   | Charred portion of sample does not exceed 2,5m above bottom edge of burner. |
| IEC 60754-2    | 2011-11 | Test on gases evolved during combustion of materials from cables – Determination of the degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity | Halogen free:<br>pH > 4,3<br>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                                                                   |

## Marking of product

Common text for Draka/Prysmian standard cable:

Draka UCFIBRE I DI N LSHF-FR ES9 <fibre count> <Fibre type><Fibre brand><Item No>05<Batch Number><Meter mark> J-V(ZN)H <fibre count> <Fibre family> <Mode field diameter> /125 <Transmission Class> IEC60332-3-22/24

Example:

DRAKA UCFIBRE I DI LSHF-FR ES9 4 OM2B 60011370 05 "Batch number" - "metermærkning" M

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J-V(ZN)H 4 G50/125 OM2 IEC60332-3-22/24.

### **Periodical assessment**

The scope of the Periodical assessment survey 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 survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routine Tests (RT) checked
- (if RT- and PST-test reports are 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
- Ensure traceability between manufacturer's product type marking and Type Approval Certificate.

Survey shall be performed at least every second year.

END OF CERTIFICATE