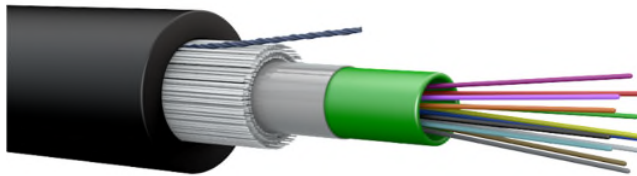


# Firetuf™ OFC-UT-NM: Fire Resistant Universal Central Tube Cable

Indoor/Outdoor, non-metallic, LSHF-FR sheathed optical cable, up to 24 fibers. VDE: A/I-DQ(ZN)H



OFC-UT-NM-12-SM-003



3rd party verification of the fire tests by BUREAU VERITAS December 2014

## Application and Installation

The application of this cable is circumstances where a very high degree of fire safety is required as the cable will function during a fire, has limited fire spread, has limited smoke generation and is halogen free.

The typical installation environment is indoor and indoor/outdoor in and between public buildings, in tunnels, metro lines and other places where one need very high degree of fire safety and support for critical communication.

This cable is also suitable shipboard application.

The primary means of installation is on cable ladders, raceways and cable trays. The cable may also be pulled or blown into ducts over short distances. The cable can be installed outdoor in the open, but shall be not be installed directly exposed the sun.

## Standards

ISO 11801-1, EN 50173-1:2002, IEC 60794-1

## Fire Rating

### Fire resistance tests

|                        |  |
|------------------------|--|
| IEC 60331-25 (120)     | Fire resistance: 120 minutes at 750 °C (No fibre break)  |
| EN 50200 PH 120        | Fire resistance with fire and impact 120 minutes 830 °C (No fibre break)   |
| EN 50200 ANNEX E PH 30 | Fire resistance until 15 minutes of fire and impact alone , followed by 15 minutes of fire , impact and water spray at 830 °C (No fibre break) |
| BS 8434 - 2            | Fire resistance until 60 minutes of fire and impact alone , followed by 60 minutes of fire , impact and water spray at 930 °C (No fibre break) |

### Flame retardant tests

|               |                           |
|---------------|---------------------------|
| IEC 60332-1-2 | Single vertical wire test |
|---------------|---------------------------|

### Flame propagation test

|                                |   |
|--------------------------------|---|
| IEC 60332-3-24 =<br>IEC 332-3C | Vertically-mounted bunched wires and cables |
|--------------------------------|---|

### Halogen acid & gas tests

|             |                 |
|-------------|-----------------|
| IEC 60754-1 | No halogens     |
| IEC 60754-2 | No acid matters |

### Smoke emission tests

|             |                |
|-------------|----------------|
| IEC 61034-2 | No dense smoke |
|-------------|----------------|

# Firetuf™ OFC-UT-NM: Fire Resistant Universal Central Tube Cable

## Construction

|                   |   |           |                                 |
|-------------------|---|-----------|---------------------------------|
| Loose tube        | Ø4.0 mm jelly filled loose tube green colored with up to 2 - 24 fibres  |           |                                 |
| Fibre colour code | 1   | Red       | 13 Yellow w/mark per 100 mm     |
|                   | 2   | Green     | 14 White w/mark per 100 mm      |
|                   | 3   | Blue      | 15 Grey w/mark per 100 mm       |
|                   | 4   | Yellow    | 16 Turquoise w/mark per 100 mm  |
|                   | 5   | White     | 17 Orange w/mark per 100 mm     |
|                   | 6   | Grey      | 18 Pink w/mark per 100 mm       |
|                   | 7   | Brown     | 19 Yellow w/mark every 50 mm    |
|                   | 8   | Violet    | 20 White w/mark every 50 mm     |
|                   | 9   | Turquoise | 21 Grey w/mark every 50 mm      |
|                   | 10  | Black     | 22 Turquoise w/mark every 50 mm |
|                   | 11  | Orange    | 23 Orange w/mark every 50 mm    |
|                   | 12  | Pink      | 24 Pink w/mark every 50 mm      |
| Fire barrier      | Tape(s)   |           |                                 |
| Strength member   | Water blocked E-Glass fibre elements  |           |                                 |
| Ripcord           | 1   |           |                                 |
| Sheath            | 2.5 mm black LSHF-FR sheath according to EN 50290-2-27, UV stabilised   |           |                                 |
| Print legend      | Draka Firetuf OFC-UT-NM <Fibre count> <Fibre type><Fibre brand><Item No>22<Batch Number> <Fibre count> <Fibre family> <Mode field diameter> /125 <Transmission Class> ><Meter mark> |           |                                 |

## Physical Properties

IEC 60794-1-21/22

| Property                              | Test method | Value  |
|---------------------------------------|-------------|--|
| Nominal outer diameter                | -           | 12.1 mm  |
| Nominal weight                        | -           | 167 kg/km  |
| Maximum installation tensile strength | E1          | 2000 N ( $\Delta l/l$ fibre $\leq 0.5\%$ , $\Delta\alpha$ reversible) *  |
| Compressive strength (crush)          | E3          | 1500 N / 100 mm, max 5 min ( $\Delta\alpha$ reversible) *  |
| Impact                                | E7          | No fibre break; 5 Nm, 3 impacts, r=300mm,  |
| Torsion                               | E7          | 5 cycles $\pm$ 1 turn  |
| Kink                                  | E10         | The cables do not form a kink when a loop is drawn together to a diameter of 20xD (Cable diameter) mm              |
| Min. bending radius, unloaded         | E11         | R = 121 mm   |
| Min. bending radius, loaded           | -           | R = 240 mm   |
| Temperature range                     | F1          | Storage: -30°C to +60°C<br>Installation: 0°C to +50°C<br>Operation: -25°C to +70°C. ( $\Delta\alpha$ 0.05 dB/km)** |
| Water penetration                     | F5B         | No water leakage after 24 hour, sample=3m, water=1m,   |

\*\*\*) Values for multi-mode fibres, all optical measurements performed at 850 nm or 1300 nm. 0.10 dB /km or 0.10 dB (tensile and crush test will not be performed for MM fibres). Please note that attenuations will be measured at only 1310 nm and 1550 nm for single mode fibre cables.

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## Product Codes

| Product code | Product description | Fibre count | Fibre type | Fibre data sheet |
|--------------|---------------------|-------------|------------|------------------|
|              |                     |             |            |                  |
|              |                     |             |            |                  |
|              |                     |             |            |                  |

**Delivery:** Wooden drum with protection.  
Standard delivery length: 4 km with a tolerance of +- 5%.

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