## Excel Enbeam OS2 Fibre Optic Cable Loose Tube 48 Core Eca Black

Item Code: 205-310











- X Water resistant & UV resistant
  X Duct grade rodent resistant
  X Sequentially metre marked
  X Cut to length service
  - X Euroclass Eca
  - X 25 Year system warranty
  - X CIBSE TM65 Embodied Carbon: 0.975 kg CO2e

#### **Product Overview**

Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 48 Core 9/125 Copolymer Eca Black, part of a huge range of OS2 fibre optic cables fully stocked at Mayflex.

Excel OS2 9/125 µm loose tube optical fibre cables have been designed specifically for internal and external applications.

The singlemode fibre is G.652.D compliant low water peak grade. A layer of water blocking tape provides interstitial water blocking. The cables are constructed around multiple gel filled (non-dripping and silicon free) tubes containing up to 12 colour coded 250  $\mu$ m primary coated fibres.

### **Product Specifications**

| Values                          |
|---------------------------------|
| 48                              |
| Loose tube                      |
| 12                              |
| Single mode 9/125               |
| OS2                             |
| yes                             |
| Copolymer, thermoplastic (LS0H) |
|                                 |

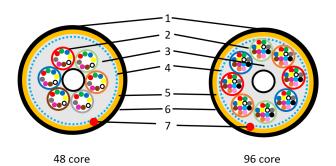
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| Outer sheath colour                            | Black |
|--|-------|
| Flame retardant according to IEC 60332-1-2     | yes   |
| Reaction-to-fire class according to EN 13501-6 | Eca   |
| Outer diameter approx.                         | 11 mm |

## **Cross-section diagram**



- 1 Central strength member
- 2 Loose tube
- 3 Flooding Gel
- 4 Polyester tape & binder
- 5 Glass roving yarns
- 6 LSOH Outer sheath
- 7 Ripcord

## Colour coding (as per TIA-598-C)



For fibre core counts above 12 the colour sequence is repeated with the addition of a mark every 70mm for cores 13-24 and two marks for 25-36 and so on.

## **Cable specifications**

| Features                               | Values  | 48 Core | 96 Core |
|--|---------|---------|---------|
| Fibre Colour Code<br>Standard          | TIA 598 |         |         |
| Tensile Strength (during installation) | 4000N   |         |         |
| Tensile strength (installed)           | 2000N   |         |         |
| Torsion                                | ± 180 ° |         |         |

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| Tube inner diameter              |                 | 1.5mm                        | 1.7mm                      |
|----------------------------------|-----------------|------------------------------|----------------------------|
| Tube outer diameter              |                 | 2.1mm                        | 2.3mm                      |
| Central strength member          |                 | $2.1 \pm 0.1  \text{mm}$     | $2.5 \pm 0.1  \text{mm}$   |
| Minimum bend radius (long term)  | 20 x Diameter   |                              |                            |
| Minimum bend radius (short term) | 10 x Diameter   |                              |                            |
| Moisture barrier                 | Flooding gel    |                              |                            |
| Number of ripcords               | 2               |                              |                            |
| Outer sheath diameter            | 2mm (nominal)   |                              |                            |
| Strength members                 | E-Glass Rovings |                              |                            |
| Temperature range (installed)    | -30°C to +70°C  |                              |                            |
| Temperature range (operation)    | -30°C to +70°C  |                              |                            |
| Temperature range (storage)      | -30°C to +70°C  |                              |                            |
| Cable weight                     |                 | $135.0 \pm 15 \text{ kg/km}$ | $170 \pm 20  \text{kg/km}$ |

## **Fibre specifications**

| Features                          |                | Values               |
|-----------------------------------|----------------|----------------------|
| Fibre Type                        |                | G.652D (OS2)         |
| Attenuation                       | at 1310 nm     | ≤ 0.36 dB/km         |
|                                   | at 1550 nm     | ≤ 0.23 dB/km         |
| Chromatic Dispersion              | 1285 - 1330 nm | ≤ 3.5 ps/nm.km       |
|                                   | 1550 nm        | ≤ 18 ps/nm.km        |
| Zero Dispersion Wavelength        |                | 1300 - 1324 nm       |
| Zero Dispersion Slope             |                | ≤ 0.092 ps/nm2.km    |
| Polarisation Mode Dispersion      |                | ≤ 0.2 ps/√km         |
| Cut-off Wavelength                |                | ≤ 1260 nm            |
| Mode Field Diameter               | at 1310 nm     | $9.3 \pm 0.5  \mu m$ |
| Core Cladding Concentricity Error |                | ≤ 0.8 µm             |
| Cladding Diameter                 |                | $125 \pm 1  \mu m$   |

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Cladding Non-circularity  $\leq 1 \%$ Coating Diameter  $245 \pm 10 \, \mu m$ 

### **Standards**

| Applicable standard       | Subject  |
|---------------------------|--|
| IEC 60332-1-2:2004        | Tests on electric and optical fibre cables under fire conditions. Test for vertical flame propagation for a single insulated wire or cable. Procedure for $1\mathrm{kW}$ pre-mixed flame |
| IEC 60754-2:2014+A1:2020  | Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity   |
| IEC 61034-2:2005+A2:2020  | Measurement of smoke density of cables burning under defined conditions – Part 2: Test procedure and requirements  |
| IEC 60793-1-1:2022        | Optical fibres - Part 1-1: Measurement methods and test procedures - General and guidance  |
| IEC 60793-1-20:2014       | Optical fibres - Part 1-20: Measurement methods and test procedures - Fibre geometry   |
| IEC 60793-1-21:2001       | Optical fibres - Part 1-21: Measurement methods and test procedures - Coating geometry   |
| IEC 60793-1-22:2001       | Optical fibres - Part 1-22: Measurement methods and test procedures - Length measurement   |
| IEC 60793-1-30:2010       | Optical fibres - Part 1-30: Measurement methods and test procedures - Fibre proof test   |
| ITU G.652.D               | Characteristics of a single-mode optical fibre and cable   |
| EN 50173-1:2018           | Information technology. Generic cabling systems -<br>General requirements  |
| EN 50575: 2014 + A1: 2016 | Power, control and communication cables — Cables for general applications in construction works subject to reaction to fire requirements   |
| EN 50399:2011+A1:2016     | Common test methods for cables under fire conditions.<br>Heat release and smoke production measurement on<br>cables during flame spread test. Test apparatus,<br>procedures, results     |
| ISO/IEC 11801-1:2017      | Information technology - Generic cabling for customer premises: Part 1 General Requirements  |
| ANSI/TIA 568-3.D          | Optical Fiber Cabling and Components Standard  |
| ANSI/TIA/EIA 598-D        | Optical Fibre Cable Colour Coding  |

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| RoHS-II/-III (2011/65/EU & 2015/863): 2023 | Our products, demonstrate full adherence to the regulatory stipulations of the EU Directive 2011/65/EU (RoHS-II) and its corresponding delegated directive 2015/863 (RoHS-III). |
|--|---|
| WFD: 2023                                  | Compliant to Waste Framework Directive  |
| SCIP: 2023                                 | Compliant - Does Not Contain Substances of Concern In articles as such or in complex objects (Products)   |
| POPs (EU) No 2019/1021                     | EU Regulation for the restriction of Persistent Organic Pollutants.   |

#### **Part Number Table**

| Part Number | Description   |
|-------------|---|
| 205-310     | Excel Enbeam OS2 Fibre Optic Cable Loose Tube 48 Core Eca Black |
| 205-312     | Excel Enbeam OS2 Fibre Optic Cable Loose Tube 96 Core Eca Black |

Excel is a world class premium performing end to end infrastructure solution designed, Manufactured, supported and delivered without compromise.

