

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

excel  
without compromise.

Part Code: 205-310

sales@excel-networking.com  
excel-networking.com

CIBSE TM65 Embodied Carbon: 0.975 kg CO2e



## Main Features

- / Water resistant & UV resistant
- / Duct grade - rodent resistant
- / Sequentially metre marked
- / Cut to length service
- / Euroclass Eca
- / 25 Year system warranty

## 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 µm primary coated fibres.

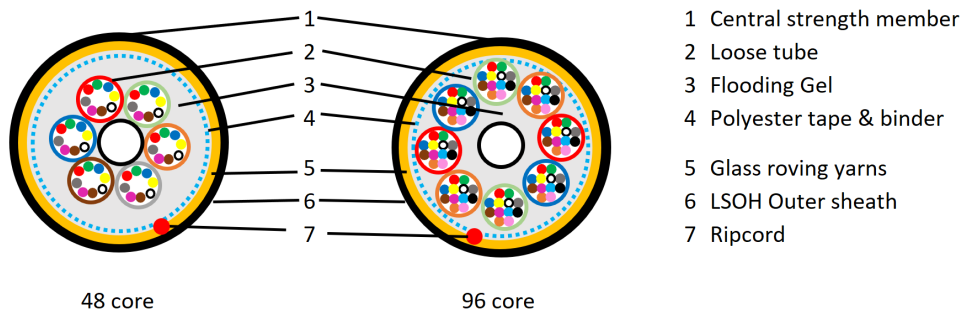
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## Product Specifications

Feature	Values
Number of Cores	48
Type of tube	Loose tube
Number of fibres per tube	12
Fibre type	Single mode 9/125
Category	OS2
Rodent resistant	yes
Outer sheath material	Copolymer, thermoplastic (LSOH)
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

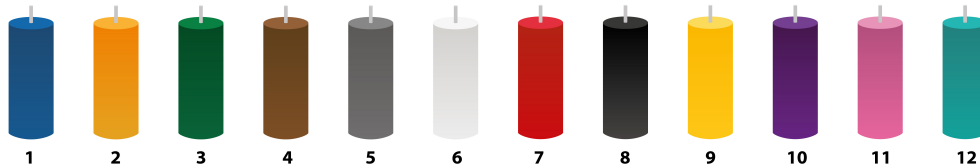


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## Colour coding (as per TIA-598-C)



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 Standard	<b>TIA 598</b>		
Tensile Strength (during installation)	<b>4000N</b>		
Tensile strength (installed)	<b>2000N</b>		
Torsion	<b>± 180°</b>		
Tube inner diameter		<b>1.5mm</b>	<b>1.7mm</b>
Tube outer diameter		<b>2.1mm</b>	<b>2.3mm</b>
Central strength member		<b>2.1 ± 0.1 mm</b>	<b>2.5 ± 0.1 mm</b>
Minimum bend radius (long term)	<b>20 x Diameter</b>		
Minimum bend radius (short term)	<b>10 x Diameter</b>		
Moisture barrier	<b>Flooding gel</b>		
Number of ripcords	<b>2</b>		

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Outer sheath diameter	<b>2mm (nominal)</b>	
Strength members	<b>E-Glass Rovings</b>	
Temperature range (installed)	<b>-30°C to +70°C</b>	
Temperature range (operation)	<b>-30°C to +70°C</b>	
Temperature range (storage)	<b>-30°C to +70°C</b>	
Cable weight	<b>135.0 ± 15 kg/km</b>	<b>170 ± 20 kg/km</b>

## Fibre specifications

Features		Values
Fibre Type		<b>G.652D (OS2)</b>
Attenuation	<b>at 1310 nm</b>	<b>≤ 0.36 dB/km</b>
	<b>at 1550 nm</b>	<b>≤ 0.23 dB/km</b>
Chromatic Dispersion	<b>1285 - 1330 nm</b>	<b>≤ 3.5 ps/nm.km</b>
	<b>1550 nm</b>	<b>≤ 18 ps/nm.km</b>
Zero Dispersion Wavelength		<b>1300 - 1324 nm</b>
Zero Dispersion Slope		<b>≤ 0.092 ps/nm<sup>2</sup>.km</b>
Polarisation Mode Dispersion		<b>≤ 0.2 ps/√km</b>
Cut-off Wavelength		<b>≤ 1260 nm</b>
Mode Field Diameter	<b>at 1310 nm</b>	<b>9.3 ± 0.5 μm</b>
Core Cladding Concentricity Error		<b>≤ 0.8 μm</b>
Cladding Diameter		<b>125 ± 1 μm</b>

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Cladding Non-circularity	≤ 1 %
Coating Diameter	245 ± 10 μm

## 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 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 - General requirements
EN 50575: 2014 + A1: 2016	Power, control and communication cables — Cables for general applications in construction works subject to

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	reaction to fire requirements
EN 50399:2011+A1:2016	Common test methods for cables under fire conditions. Heat release and smoke production measurement on cables during flame spread test. Test apparatus, 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
Directive 2011/65/EU (RoHS II)	Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment — compliant. Applies within EU member states).
Directive (EU) 2015/863 (RoHS III)	Amending Directive 2011/65/EU to add four phthalates (DEHP, BBP, DBP, DIBP) to Annex II — compliant.
Directive 2008/98/EC (WFD)	Waste Framework Directive — compliant. Implemented in the UK through the Waste (England and Wales) Regulations 2011 (SI 2011 No. 988).
ECHA SCIP Database	Compliant; product does not contain SVHCs (Substances of Very High Concern) as defined under REACH Article 33(1). Submission obligations met under EU REACH and UK REACH.
Regulation (EU) 2019/1021 (POPs)	EU Regulation on Persistent Organic Pollutants — compliant. For Great Britain, compliance is aligned with the Persistent Organic Pollutants (Amendment) (EU Exit) Regulations 2020 (SI 2020 No. 1355).
UK SI 2012 No. 3032	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (UK RoHS) — compliant for Great Britain. Retained EU law, as amended by the Product Safety and Metrology (Amendment etc.) (EU Exit) Regulations 2019.

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## Part Code Table

Part Code	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