# Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 6 Core 50/125 Dca Black 



## Duct grade rodent resistant

## $x$ Cut to length service

## $\lambda$ Sequentially metre marked

## 入 25 Year system warranty

## $\lambda$ Euroclass Dca-s2-d2-a1

## Product Overview

Excel OM2 50/125 $\mu \mathrm{m}$ loose tube optical fibre cables have been designed specifically for internal and external applications. These compact, lightweight cables are extremely flexible and are quick and easy to install.

The cables are constructed around a gel filled (non-dripping and silicon free) tube containing up to 24 colour coded $250 \mu \mathrm{~m}$ primary coated fibres. This tube is covered with an E-Glass strength member.

The print legend on the cable now includes information regarding the DOP number, Test and Classification of the cable for traceability.

Product Specifications

| Feature | Values |
| :--- | :--- |
| Number of Cores | 6 |
| Type of tube | Loose tube |
| Number of fibres per tube | 6 |
| Fibre type | Multi mode 50/125 |
| Category | OM2 |
| Rodent resistant | yes |
| Outer sheath material | Copolymer, thermoplastic (LSOH) |
| Outer sheath colour | Black |
| Flame retardant according to IEC 60332-1-2 | yes |
| Low smoke (acc. IEC 61034-2) | yes |
| Reaction-to-fire class according to EN 13501-6 | Dca |

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| Smoke development class according to EN 13501-6 | s2 |
| :--- | :--- |
| Euro class flaming droplets/particles according to EN <br> 13501-6 | d2 |
| Euro class acidity according to EN 13501-6 | a1 |
| Outer diameter approx. | 6 mm |

## Cross-section diagram



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 70 mm for cores 13-24 and two marks for 25-36 and so on.

Cable specifications

| Features | Values |  |
| :--- | :--- | :--- |
| Loose Tube | Material | PBT |
|  | Diameter | $2.8 \pm 0.1 \mathrm{~mm}(2-12$ cores $)$ |
|  | Thickness | $3.5 \pm 0.20 \mathrm{~mm}(16-24$ cores $)$ |
| Strength Member | Material | $0.35 \pm 0.05 \mathrm{~mm}$ |
| Sheath | Material | E-glass Yarns |

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|  | Thickness | Typical 1.1mm |
| :---: | :---: | :---: |
| Cable Diameter | Diameter ( $\pm 0.3 \mathrm{~mm}$ ) | $6.0 \pm 0.20 \mathrm{~mm}(2-16$ cores $)$, <br> $6.5 \pm 0.20 \mathrm{~mm}$ ( $18-24$ cores) |
| Cable Weight |  | Approx. $40 \mathrm{~kg} / \mathrm{km}$ (2-16 cores), 45kg/km(18-24 cores) |
| Tensile Strength | Installation | 1000N |
|  | Working | 300N |
| Cable Impact |  | 1) |
| Crush Resistance | Installation | 1000N |
|  | Working | 300N |
| Torsion |  | Change of Attenuation $\leq 0.10 \mathrm{~dB}$ (SM fiber) |
|  |  | Change of Attenuation $\leq 0.30 \mathrm{~dB}$ (MM fiber) |
| Temperature Range | Installation | $-30^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
|  | Working | $-30^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
|  | Storage | $-40^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
| Bending Radius | Short term | $20 \times$ Diameter |
|  | Long term | $10 \times$ Diameter |
| Water Penetration |  | No water on free end |

Fibre specifications

| Features |  | Values |
| :--- | :--- | :--- |
| Attenuation | @850nm | $3.5 \mathrm{~dB} / \mathrm{km}($ Maximum $)$ |
|  | @1300nm | $1.5 \mathrm{~dB} / \mathrm{km}($ Maximum $)$ |
| Overfilled Modal Bandwidth 1000 metre | Max. $0.1 \mathrm{~dB} / \mathrm{km}$ |  |
|  | @850nm | $500 \mathrm{MHz} . \mathrm{km}$ |
| Core Diameter | $@ 1300 \mathrm{~nm}$ | $500 \mathrm{MHz} . \mathrm{km}$ |
| Core Non-circularity |  | $50 \pm 2.5 \mu \mathrm{~m}$ |
| Cladding Diameter | $\leq 5 \%$ |  |
| Cladding Non-circularity | $125.0 \pm 1.0 \mu \mathrm{~m}$ |  |
| Core - Cladding Concentricity Error |  | $\leq 1 \%$ |


| Primary coating diameter - | $242 \pm 7 \mu \mathrm{~m}$ |  |
| :--- | :--- | :--- |
| Uncolored |  |  |
| Primary Coating Diameter - Colored |  | $250 \pm 15 \mu \mathrm{~m}$ |
| Primary Coating Non-circularity |  | $\leq 5 \%$ |
| Primary Coating - Cladding <br> Concentricity Error | $\leq 12 \mu \mathrm{~m}$ |  |
| Group Index of Refraction | $@ 850 \mathrm{~nm}$ | 1.482 |
|  | $@ 1300 \mathrm{~nm}$ | 1.477 |
| Proof stress level |  | $\geq 0.7(\approx 1 \%$ strain) Gpa |
| Typical Average Strip Force | 1.7 N |  |
| Strip force(peak) | $1.3 \leq \mathrm{Fpeak} . \mathrm{strip} \leq 8.9 \mathrm{~N}$ |  |
| Numerical Aperture | $@ 850 \mathrm{~nm}$ | $0.200 \pm 0.015$ |
| Fiber Bending Loss R-7.5mm | $@ 1300 \mathrm{~nm}$ | $\leq 0.2 \mathrm{~dB}$ |
|  | $@ 850 \mathrm{~nm}$ | $\leq 0.5 \mathrm{~dB}$ |
| Fiber Bending Loss R-15mm | $@ 1300 \mathrm{~nm}$ | $\leq 0.1 \mathrm{~dB}$ |

## Standards

| Applicable standard | Subject |
| :--- | :--- |
| IEC 60794-2-20:2013 | Optical fibre cables - Part 2-20: Indoor cables - Family <br> specification for multi-fibre optical cables |
| IEC 60332-1-2:2004 | Tests on electric and optical fibre cables under fire <br> conditions. Test for vertical flame propagation for a single <br> insulated wire or cable. Procedure for 1 kW pre-mixed <br> flame |
| IEC 60754-2:2011 | Test on gases evolved during combustion of materials <br> from cables - Part 2: Determination of acidity (by pH <br> measurement) and conductivity |
| IEC 61034-2:2005+A1:2013 | Measurement of smoke density of cables burning under <br> defined conditions - Part 2: Test procedure and <br> requirements |
| IEC 60793-1-1:2022 | Optical fibres - Part 1-1: Measurement methods and test <br> procedures - General and guidance |
| IEC 60793-2-10:2017 | Sectional specification for A1 multimode fibres |
| IEC 60793-1-20:2014 | Optical fibres - Part 1-20: Measurement methods and test <br> procedures - Fibre geometry |

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IEC 60793-1-21:2001

IEC 60793-1-22:2001

IEC 60793-1-30:2010

IEC 60793-1-41:2010

ITU G.651.1

EN 50173-1:2018

EN 50575: 2014 + A1: 2016

EN 50399:2011+A1:2016

ISO/IEC 11801-1:2017

ANSI/TIA 568-3.D
ANSI/TIA/EIA 598-D
RoHS-II/-III (2011/65/EU \& 2015/863): 2023

WFD: 2023
SCIP: 2023

POPs (EU) No 2019/1021

Optical fibres - Part 1-21: Measurement methods and test procedures - Coating geometry

Optical fibres - Part 1-22: Measurement methods and test procedures - Length measurement

Optical fibres - Part 1-30: Measurement methods and test procedures - Fibre proof test

Optical fibres - Part 1-41: Measurement methods and test procedures - Bandwidth

Characteristics of a 50/125 $\mu \mathrm{m}$ multimode graded index optical fibre cable for the optical access network

Information technology. Generic cabling systems General requirements

Power, control and communication cables - Cables for general applications in construction works subject to reaction to fire requirements

Common test methods for cables under fire conditions. Heat release and smoke production measurement on cables during flame spread test. Test apparatus, procedures, results

Information technology - Generic cabling for customer premises: Part 1 General Requirements

Optical Fiber Cabling and Components Standard Optical Fibre Cable Colour Coding

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).

Compliant to Waste Framework Directive
Compliant - Does Not Contain Substances of Concern In articles as such or in complex objects (Products)

EU Regulation for the restriction of Persistent Organic Pollutants.

## Part Number Table

Part Number

## Description

200-049

200-065 Dca Black

Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 4 Core 50/125

Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 6 Core 50/125 Dca Black

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| 200-069 | Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 8 Core 50/125 <br> Dca Black <br> $200-089$ <br> Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 12 Core 50/125 <br> $200-090$ <br> Dca Black <br> $200-092$ |
| :--- | :--- |
| Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 16 Core 50/125 <br> Dca Black |  |
|  | Excel Enbeam OM2 Multimode Fibre Optic Cable Loose Tube 24 Core 50/125 |
| Dca Black |  |

