

☒ Water resistant & UV resistant

☒ Duct grade - rodent resistant

☒ Sequentially metre marked

☒ Cut to length service

☒ Euroclass: Cca-s1a-d0-a1

☒ 25 Year system warranty

☒ CIBSE TM65 Embodied Carbon: 0.175 kg CO<sub>2</sub>e

## Product Overview

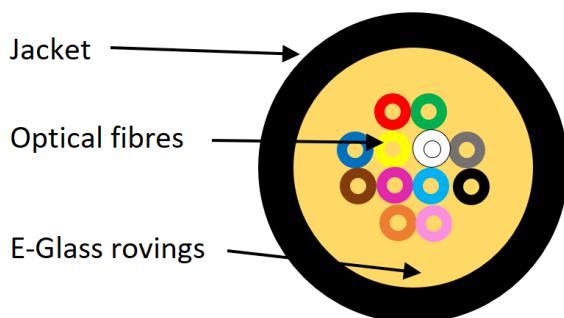
Enbeam OM4 multimode fibre optic cable tight buffered 4 core 50/125 G.657.A2 bend insensitive LSOH Cca black, part of a huge range of OM4 fibre optic cables fully stocked at Mayflex. Excel OM4 50/125 µm tight buffered optical fibre cables have been designed specifically for internal and external applications. The cables are constructed around an E-Glass strength member containing up to 24 colour coded 900 µm tight buffered fibres, covered with a flame retardant, low smoke zero halogen, outer sheath. These compact, lightweight cables are extremely flexible and are quick and easy to install.

## Product Specifications

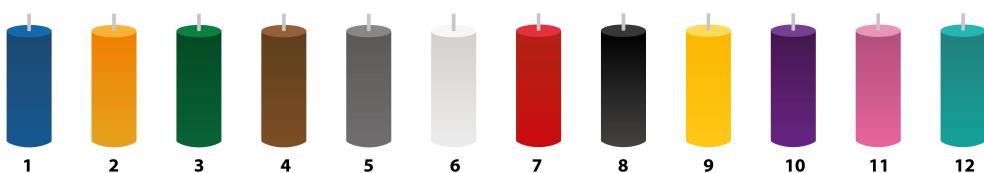
Feature	Values
Number of Cores	4
Type of tube	Tight
Fibre type	Multi mode 50/125
Category	OM4
Rodent resistant	yes
Outer sheath material	Copolymer, thermoplastic (LSOH)
Outer sheath colour	Black
Flame retardant according to IEC 60332-1-2	yes
Low smoke (acc. IEC 61034-2)	yes

Reaction-to-fire class according to EN 13501-6	Cca
Smoke development class according to EN 13501-6	s1a
Euro class flaming droplets/particles according to EN 13501-6	d0
Euro class acidity according to EN 13501-6	a1
Outer diameter approx.	6.5 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 70mm for cores 13-24 and two marks for 25-36 and so on.

### Cable specifications

Features	Values
Tight Buffered Fiber	Material
	LSZH
Strength Member	Material
	E-glass Yarns

# Excel Enbeam OM4 Multimode Fibre Optic Cable

## Tight Buffered 4 Core 50/125 LSOH Cca Black

Item Code: 204-104



Sheath	Material	LSZH
	Thickness	Typical 1.1mm
Cable Diameter	Diameter ( $\pm 0.3\text{mm}$ )	Approx. 6.5mm(4 cores), 6.6mm(6 cores), 7.0mm(8 cores)  7.0mm(12 cores), 8.0mm(16 cores), 8.5mm(24 cores)
Cable Weight		Approx. 34kg/km(4 cores), 36kg/km (6 cores), 39kg/km (8 cores)  43kg/km (12 cores), 52kg/km (16 cores), 63kg/km (24 cores)
Tensile Strength	Installation	800N( $\leq 12$ cores), 1100N( $> 12$ cores)
	Working	400N( $\leq 12$ cores), 550N( $> 12$ cores)
Cable Impact		1J
Crush Resistance	Installation	1000N
	Working	300N
Torsion		Change of Attenuation $\leq 0.10\text{dB}$ (SM fiber)  Change of Attenuation $\leq 0.30\text{dB}$ (MM fiber)
Temperature Range	Installation	-30°C to +60°C
	Working	-30°C to +60°C
	Storage	-40°C to +60°C
Bending Radius	Short term	20 x Diameter
	Long term	10 x Diameter

## Fibre specifications

Features	Values
Attenuation	@850 nm 3.5dB/km (maximum)
	@1300 nm 1.5dB/km (maximum)
	For any 1000 metre Max. 0.1dB/km
Overfilled modal bandwidth	@850 nm ≥3500 MHz/km
	@1300 nm ≥500 MHz/km
Effective modal bandwidth	@850 nm ≥4700 MHz/km
Core diameter	50±2.5 $\mu\text{m}$

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Core non-circularity	$\leq 5\%$	
Cladding diameter	$125.0 \pm 1.0 \mu\text{m}$	
Cladding non-circularity	$\leq 1\%$	
Core - cladding concentricity error	$\leq 1.5 \mu\text{m}$	
Primary coating diameter - uncolored	$242 \pm 7 \mu\text{m}$	
Primary coating diameter - colored	$250 \pm 15 \mu\text{m}$	
Primary coating non-circularity	$\leq 5\%$	
Primary coating - cladding concentricity error	$\leq 12 \mu\text{m}$	
Group index of refraction	@850 nm	1.482
	@1300 nm	1.477
Proof stress level	$\geq 0.7 (\approx 1\% \text{ strain}) \text{ Gpa}$	
Typical average strip force	1.7 N	
Strip force (peak)	$1.3 \leq F_{\text{peak,strip}} \leq 8.9 \text{ N}$	
Numerical aperture	$0.200 \pm 0.015$	
Fiber bending loss R-7.5 mm	@850 nm	$\leq 0.2 \text{ dB}$
	@1300 nm	$\leq 0.5 \text{ dB}$
Fiber bending loss R-15 mm	@850 nm	$\leq 0.1 \text{ dB}$
	@1300 nm	$\leq 0.3 \text{ dB}$

## Standards

Applicable standard	Subject
IEC 60794-2-20:2013	Optical fibre cables - Part 2-20: Indoor cables - Family specification for multi-fibre optical cables
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 60754-2:2011	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity
IEC 61034-2:2005+A1:2013	Measurement of smoke density of cables burning under defined conditions - Part 2: Test procedure and requirements

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IEC 60793-1-1:2022	Optical fibres - Part 1-1: Measurement methods and test 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 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
IEC 60793-1-41:2010	Optical fibres - Part 1-41: Measurement methods and test procedures - Bandwidth
ITU G.651.1	Characteristics of a 50/125 µm multimode graded index optical fibre cable for the optical access network
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 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
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
204-104	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 4 Core 50/125 LSOH Cca Black
204-106	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 6 Core 50/125 LSOH Cca Black
204-108	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 8 Core 50/125 LSOH Cca Black
204-112	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 12 Core 50/125 LSOH Cca Black
204-116	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 16 Core 50/125 LSOH Cca Black
204-124	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 24 Core 50/125 LSOH Cca Black
204-124-RD	Excel Enbeam OM4 Multimode Fibre Optic Cable Tight Buffered 24 Core 50/125 LSOH Cca Red

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

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**excel**  
without compromise.