Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 4 Core 9/125 B2ca Black

Item Code: 295-300

- Duct grade rodent resistant
- Cut to length service
- Sequentially metre marked
- 25 year system warranty
- Euroclass B2ca-s1a,d0,a1
- CIBSE TM65 Embodied Carbon: 1.616 kg CO2e

Product Overview

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 and offers OS2 performance and OS1 backwards compatibility. These compact, lightweight cables are extremely flexible and are quick and easy to install.

The cables are constructed around a tube containing up to 24 colour coded 250 µm primary coated fibres. This tube is covered with an E-glass strength member.

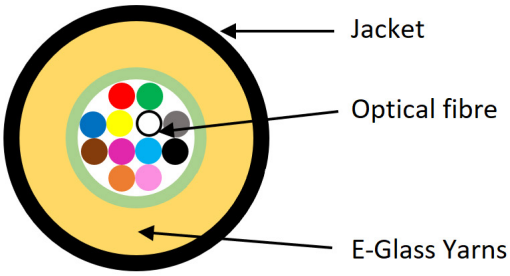
The print legend on the cable now includes information regarding the DOP number, test and classification of the cable for traceability.

Product Specifications

Feature	Values
Number of Cores	4
Type of tube	Loose tube
Number of fibres per tube	4
Fibre type	Single mode 9/125
Category	OS2
Rodent resistant	yes
Outer sheath material	Copolymer, thermoplastic (LS0H)
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	B2ca
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 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
Loose tube	Material	LSZH
Diameter	2.8 ± 0.1 mm (2-12 cores), 3.5 ± 0.20 mm (16-24 cores)	
Thickness	0.35 ± 0.05 mm	

Strength member	Material	E-glass Yarns
Sheath	Material	LSZH
Thickness	Typical 1.1 mm	
Cable diameter	Diameter (± 0.3 mm)	6.0 ± 0.20 mm (2-16 cores), 6.5 ± 0.20 mm (18-24 cores)
Cable weight		Approx. 40kg/km (2-16 cores), 45kg/km (18-24 cores)
Tensile strength	Installation	660 N
Working	200 N	
Crush resistance	Installation	1000 N
Working	300 N	
Torsion		Change of attenuation ≤ 0.10dB (SM fiber)
	Change of attenuation ≤ 0.30dB (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	
Water penetration		No water on free end

Fibre specifications

Features		Values
Attenuation	@1310nm	0.39 dB/km (Maximum)
@1550nm	0.25 dB/km (Maximum)	
For any 1000 metre	Max. 0.1 dB/km	
Reflex Index	@1310nm	1.467
@1550nm	1.468	
Cladding Diameter		125.0 ± 0.7 µm
Cladding Non-circularity		≤1%
Core – Cladding Concentricity Error		≤0.6 µm
Primary Coating Diameter		242 ± 7 µm

Primary Coating Non-circularity		≤5%
Primary Coating – Cladding Concentricity Error		≤12 µm
Chromatic Dispersion Coefficient	In 1285-1330nm	≤3.4 ps/km·nm
@1550nm	≤18.0 ps/km·nm	
@1625nm	≤22.0 ps/km·nm	
Zero Dispersion Wavelength, λ0		1300-1324 nm
Zero Dispersion Slope		≤0.092 ps/(km·nm2)
Cut-off Wavelength, λcc		≤1260 nm
Mode Field Diameter	@1310nm	9.0±0.5 µm
@1550nm	10.4±0.5 µm	
Macro Bending Loss(100 turns)	25mm mandrel	≤0.05 dB @1310 nm & 1550 nm
30mm mandrel	≤0.05 dB @1625 nm	
PMD Coefficient, Max. Uncabled		≤0.5 ps/√km
PMDQ Link Design Value		≤0.2 ps/√km
Proof Stress Level		≥ 0.69 Gpa (≈1% strain)
Fibre Curl Radius		>4 m
Stripe Force(peak)		1.3 ≤ Fpeak.strip ≤ 8.9 N
Dynamic Fatigue Resistance Aged and Unaged		≥20
Static Fatigue Resistance		≥23

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 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
295-300	Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 4 Core 9/125 B2ca Black
295-301	Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 8 Core 9/125 B2ca Black

295-302	Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 12 Core 9/125 B2ca Black
295-303	Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 16 Core 9/125 B2ca Black
295-304	Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 24 Core 9/125 B2ca Black