Excel Enbeam OS2 Singlemode Fibre Optic Cable Loose Tube 8 Core 9/125 B2ca Black

Part Code: 295-301

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Main Features

- / Duct grade rodent resistant
- / Sequentially metre marked
- / Euroclass B2ca-s1a,d0,a1
- / Cut to length service
- / 25 year system warranty

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.

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Product Specifications

Feature	Values
Number of Cores	**8**
Type of tube	**Loose tube**
Number of fibres per tube	**8**
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**

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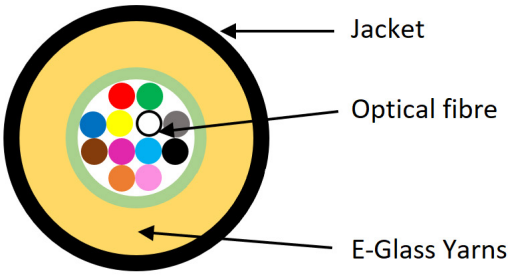
Cross-section diagram



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**

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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**

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	@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**

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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

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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
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**

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