# Excel Enbeam OM1 SWA Direct Burial Fibre Optic Cable Loose Tube 8 Core Eca Black

**Part Code: 205-342**

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CIBSE TM65 Embodied Carbon: 1.245 kg CO2e



## Main Features

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

## Product Overview

Excel steel wire (SWA) OM1 62.5/125 µm armoured loose tube optical fibre cables have been designed specifically for direct burial and the most demanding of installations.

These cables are constructed from standard single loose tube cables which are then packed into a flexible but strong fibreglass water blocking strength member. An internal sheath of material is then applied, a rip cord is inserted under this sheath to ease cable stripping. Lengths of steel wire armouring are then applied and an oversheath is added.

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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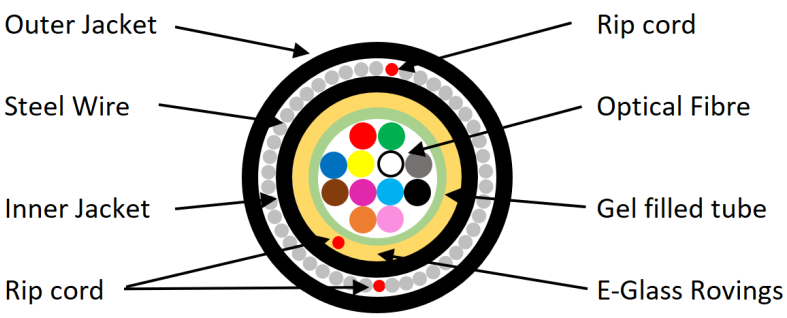
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## Product Specifications

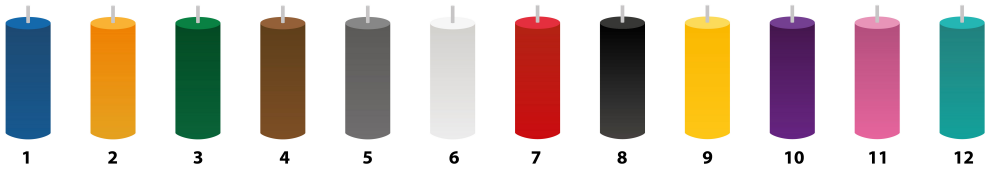
| Feature | Values |
|---|---|
| Number of Cores | **8** |
| Type of tube | **Loose tube** |
| Number of fibres per tube | **8** |
| Fibre type | **Multi mode 62.5/125** |
| Category | **OM1** |
| Rodent resistant | **yes** |
| Outer sheath material | **Copolymer, thermoplastic (LS0H)** |
| Outer sheath colour | **Black** |
| Longitudinal water blocking cable | **yes** |
| Flame retardant according to IEC 60332-1-2 | **yes** |
| Reaction-to-fire class according to EN 13501-6 | **Eca** |
| Outer diameter approx. | **10.5 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 |
|---|---|---|
| Tensile Strength | | **3000 N** |
| Crush Resistance | | **1500 N/m** |
| Torsion | | **± 180 $^0$** |
| Temperature performance | **Installation** | **-30$^0$C to +70$^0$C** |
| | **Operation** | **-30$^0$C to +70$^0$C** |


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| | | |
|---|---|---|
| | **Storage** | **-30$^0$C to +70$^0$C** |
| Loose tubes | **Number** | **1** |
| | **Material** | **PBT** |
| Loose Tube ID/OD | **4-16 Cores** | **2.2/3.2 ± 0.1 mm** |
| | **24 Cores** | **2.6/3.5 ± 0.1 mm** |
| Peripheral Strength Member | | **Glass Yarn** |
| Armoring | **Thickness** | **0.8 mm** |
| | **Material** | **Soft Zinc Coated Steel Wires** |
| Outer Sheath | **Thickness** | **1.4 mm (Nominal)** |
| | **Material** | **LSZH** |
| Ripcord | **Number** | **3** |
| | **Material** | **Polyester** |
| Overall Cable Diameter | **4-16 Cores** | **10.0 ± 0.5 mm** |
| | **24 Cores** | **10.5 ± 0.5 mm** |
| Cable Weight | **4-16 Cores** | **165 ± 15 kg/km** |
| | **24 Cores** | **180 ± 15 kg/km** |
| Bending Radius | **Short term** | **20 x Diameter** |
| | **Long term** | **10 x Diameter** |


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## Fibre specifications

| Features | | OM1 | OM2 |
|---|---|---|---|
| Attenuation | @850 nm | ≤ 3.0 dB/km | ≤ 2.7 dB/km |
| | @1300 nm | ≤ 1.0 dB/km | ≤ 0.8 dB/km |
| Bandwidth | @850 nm | ≥ 200 MHz.km | ≥ 500 MHz.km |
| | @1300 nm | ≥ 600 MHz.km | ≥ 550 MHz.km |
| Core Diameter | | 62.5 ± 2.5 µm | 50 ± 2.5 µm |
| Core Cladding Concentricity Error | | ≤ 1 µm | ≤ 1 µm |
| Cladding Diameter | | 125 ± 1 µm | 125 ± 1 µm |
| Cladding Non-circularity | | ≤ 1 % | ≤ 1 % |
| Coating Diameter (Coloured) | | 250 ± 15 µm | 250 ± 15 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 60754-2:2011 | 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 |
| IEC 60794-1-2/F5 | Generic specification – Optical fibre cable test procedures – Bending test (Method F5) |
| IEC 60794-1-205 | Optical fibre cables – Part 1-205: Generic specification – Basic optical cable test procedures – Water penetration test |


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| 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). |
| 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. |
| 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. |

## Part Code Table

| Part Code | Description |
|---|---|
| 205-340 | **Excel Enbeam OM1 SWA Armoured Fibre Optic Cable Loose Tube 4 Core Eca Black** |
| 205-342 | **Excel Enbeam OM1 SWA Direct Burial Fibre Optic Cable Loose Tube 8 Core Eca Black** |
| 205-344 | **Excel Enbeam OM1 SWA Direct Burial Fibre Optic Cable Loose Tube 12 Core Eca Black** |
| 205-346 | **Excel Enbeam OM1 SWA Direct Burial Fibre Optic Cable Loose Tube 24 Core Eca Black** |


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|---|---|
| 205-372 | **Excel Enbeam OM1 SWA Direct Burial Fibre Optic Cable Loose Tube 16 Core Eca Black** |



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