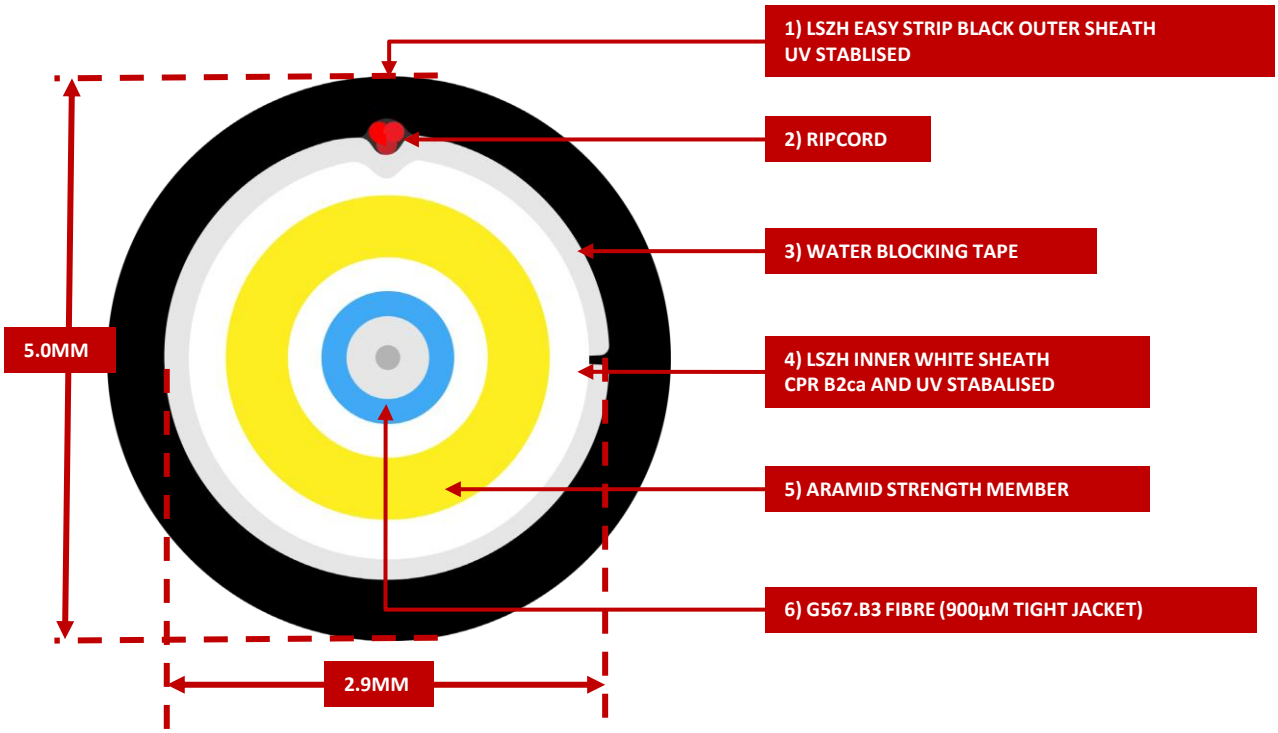
CABLE STRUCTURE



DESCRIPTION

- **Suitable for both indoor and outdoor use.**
- **Double sheathed cable construction:**
  - **White Inner LSZH sheath,** *diameter = 2.9mm*, CPR reaction to fire B2ca s1a d0 a1, UV resistant. Staple / tacking gun compatible for wall fixing. Contains aramid strength member (Kevlar) providing tensile strength and crush resistance for optimum installation, bending & stapling.
  - **Outer Black LSZH sheath,** *diameter = 5.0mm*, suitable for outdoor use, easy peel (tool less) UV stabilised (minimum 25 years), low gravimetric water absorption, fungus stabilised. Moisture barrier below sheath for water resistance plus prevents mutual adhesion with inner sheath.
  - **Fibre properties –*G657.B3,*** (bend insensitive), primary coating 250µm with 900 µm tight Jacket.
- **Stapling / fixing / tacking to surface,** confirmed as suitable for application, tested around multiple bends (e.g. door frames) using approved fireproof fixings with attenuation loss monitoring.
- **Labelling:** *See page 5*
- **Lengths & Ordering:** *See page 6*

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LEAD IN CABLE | 1 FO INSIDE/ OUT

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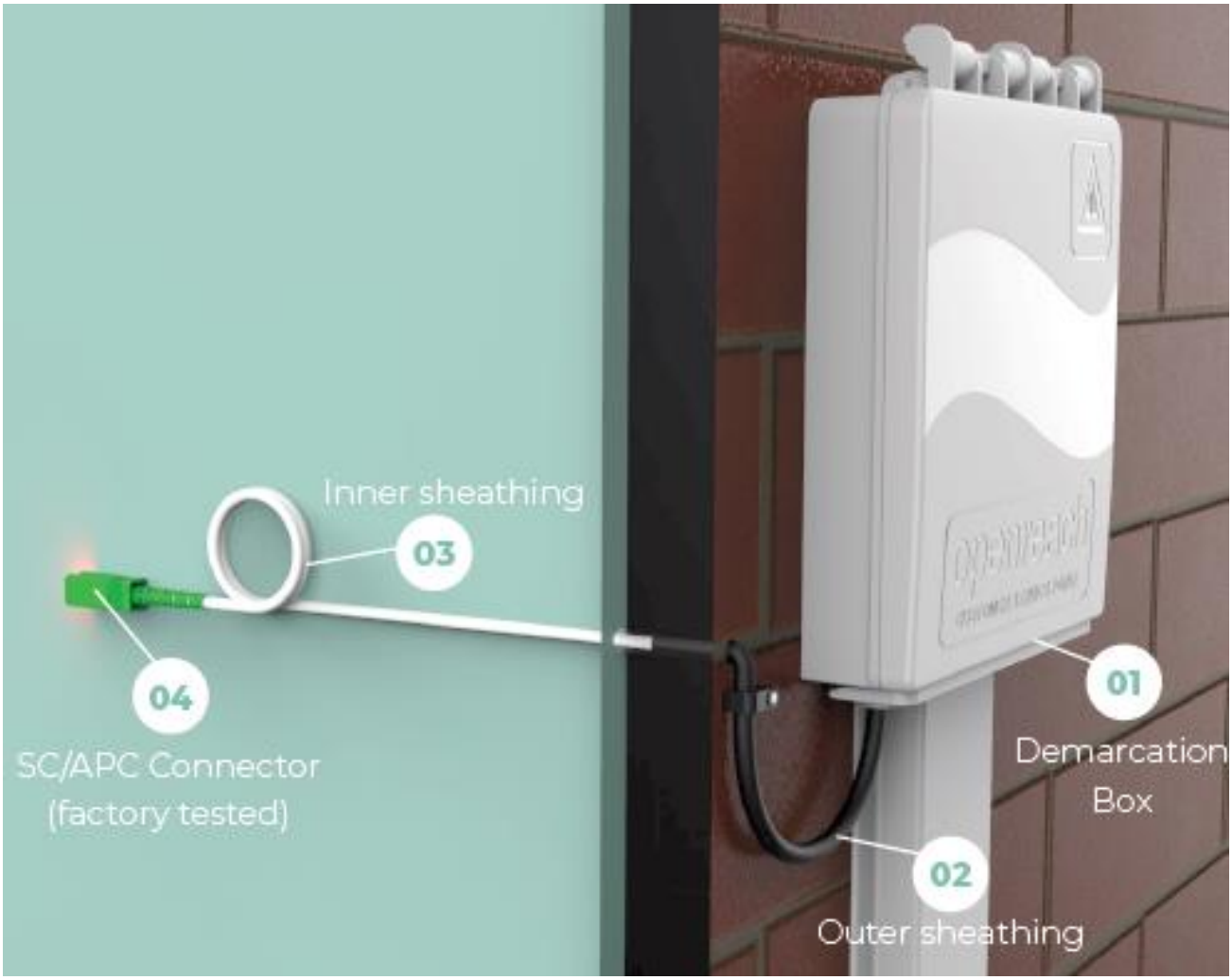
APPLICATION



1. Demarcation Box
2. Outer Sheathing
3. Inner sheathing
4. SC/APC Connector (Factory Tested)

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LEAD IN CABLE | 1 FO INSIDE/ OUT

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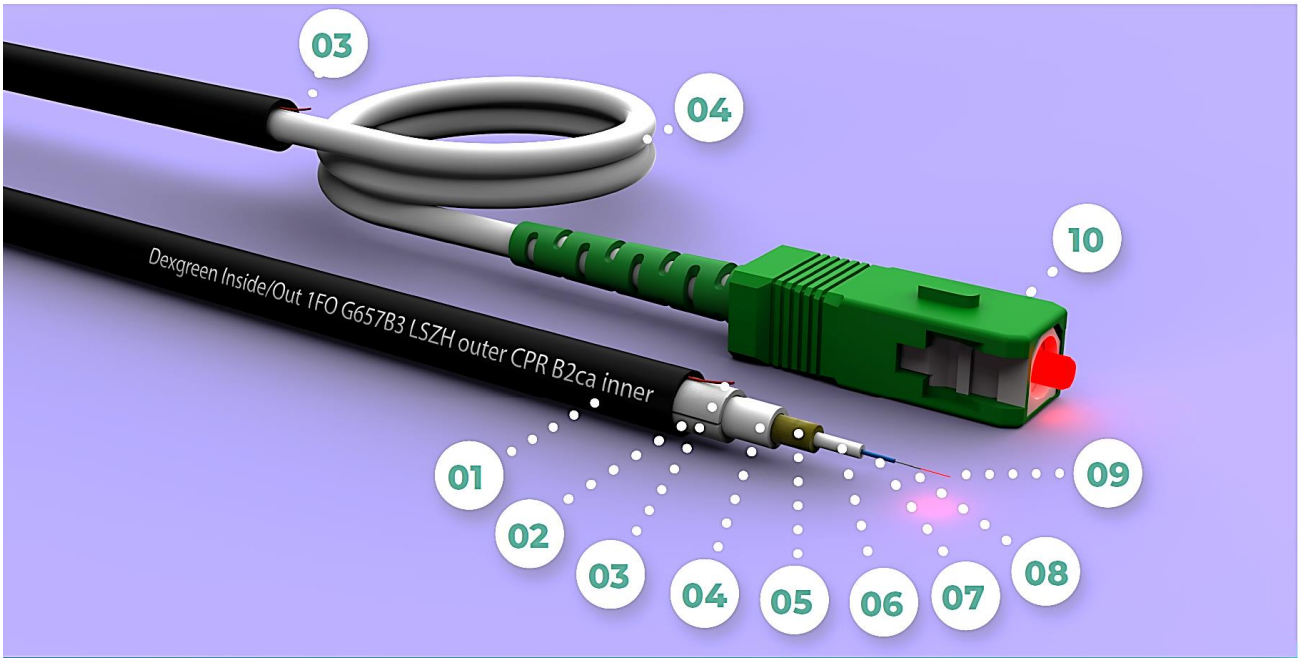
APPLICATION *CONTINUED*



1. Outer sheath –
- Material: LSZH. UV resistant and water repellent.
- Outer Diameter: 5mm

2. Water blocking tape – Provides moisture barrier & prevents mutual adhesion / sticking between inner and outer sheath

3. Ripcord - Facilitates easier stripping of outer sheathing. Cable can also be stripped by hand.

4. Inner sheath –
- Flame retardant: CPR Euroclass B2ca (s1a d0 a1).
- UV resistant
- Material: White LSZH. Meets all internal cabling building regulations with respect to fire performance, BS6701: 2016 + A1: 2017 Telecommunications equipment and telecommunications cabling.
- Diameter: 2.9mm

5. Aramid strength member/ Kevlar - Provides inner sheathed section with tensile strength and crush resistance for optimum installation, bending & stapling to various surfaces within a building premises

6. Fibre tight jacket - 900µm.

7. Fibre primary coating - 235-245µm.

8. Fibre cladding

9. Fibre type - ITU-T G657.B3 (bend insensitive).

10. Connectorized - at one end for quick & more reliable connection with factory tested SC/APC connector.

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nqa ISO 9001 QUALITY MANAGEMENT

nqa ISO 14001 ENVIRONMENTAL MANAGEMENT

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PACKAGING

5) RIP CORD EXPOSED FOR EASIER STRIPPING

4) OUTER SHEATH LSZH (EASY PEEL)

3) PRE-CUT SLIT FOR RIP CORD

2) INNER SHEATH LSZH (UV RESISTANT)

1) SC/APC CONNECOTR FACTORY TESTED

MULTIPLE LENGTHS POSSIBLE (I.E. 5M, 10, 20M, 30M, 50M)

PRE-EXPOSED INNER SHEATHING 150MM (MILLIMETRE)

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LEAD IN CABLE | 1 FO INSIDE/ OUT

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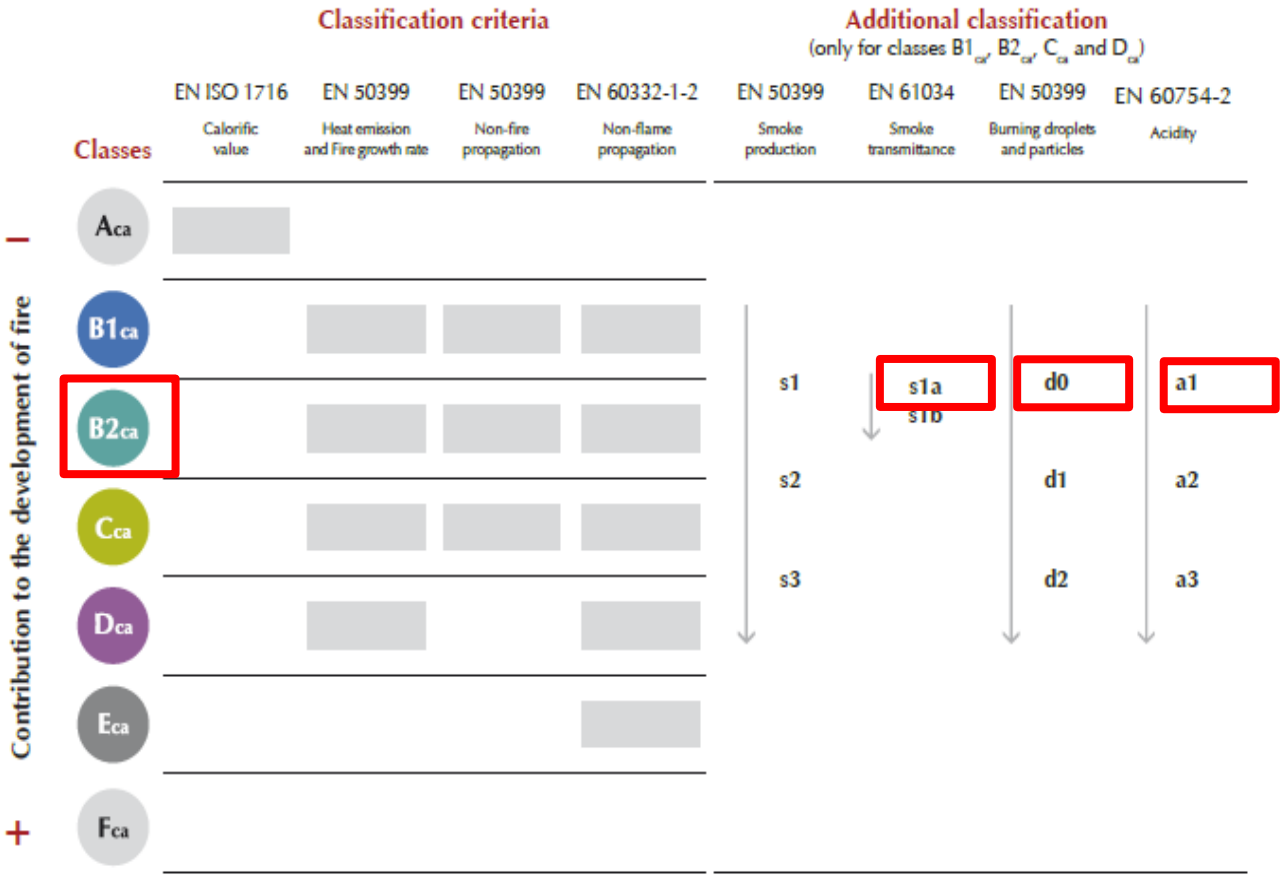
CPR EXPLANATION

- **CPR Explanation** - CPR Euroclass **B2ca - s1a d0 a1**
  - **Smoke protection – s1a – Low + light transmission > 60%**
  - **Flaming droplets / particles – d0 – few**
  - **Acidity (pH and conductivity) – a1 (limited)**

EUROCLASS CLASSIFICATION



- **Outer sheathing 5mm –**
  Dexgreen Inside/Out 1FO G657B3 LSZH <Production Date> <metres>

- **Inner sheathing 2.9mm –**
  Dexgreen Inside 1FO G657B3 LSZH CPR B2ca (s1a d0 a1) UV inner <Production Date> <metres>

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FIBRE PROPERTIES

- ITU-T G.657.B3 fibre, bending radius 5mm and full compatibility with ITU-T fibres G.652.D, G657.A1 and G.657A2. G.657B3
- Cable bending radius – 10 x D (Short term) / 20 x D (Long term) @ D = Cable Diameter
- Low attenuation satisfying the operation demand of O-E-S-C-L band
- Low bending loss for highly demanding cable designs.
- Accurate geometrical parameters and MFD which ensure low splicing loss and high splicing efficiency

ORDERING INFORMATION

Code	Description	Length
100627	2.9mm inner 5mm outer. RIP CORD - 5m	5
100628	2.9mm inner 5mm outer. RIP CORD - 10m	10
100629	2.9mm inner 5mm outer. RIP CORD - 20m	20
100630	2.9mm inner 5mm outer. RIP CORD - 30m	30
100631	2.9mm inner 5mm outer. RIP CORD - 50m	50

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LEAD IN CABLE | 1 FO INSIDE/ OUT

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SPECIFICATIONS

Characteristics	Conditions	Specified Values	Units
Fibre Optical & Mechanical Characteristics			
Attenuation	1310nm	≤0.35	[dB/km]
	1383nm (after H_2-anging)	≤0.35	[dB/km
	1550nm	≤0.21	[dB/km]
	1625nm	≤0.23	[dB/km]
Attenuation vs. Wavelength Max. α difference	1285-1330nm, in reference to 1310nm	≤0.03	[dB/km]
	1525-1575nm, in reference to 1550nm	≤0.02	[dB/km]
Zero Dispersion Wavelength (λ_0)	--	1300-1324	[nm]
Zero Dispersion Slope (S_0)	--	≤0.092	[ps/(nm^2-km)]
PMD	--	--	--
Maximum Individual Fibre	--	≤0.1	[ps/√km]
Link Design Value (M=20, Q=0.01%)	--	≤0.06	[ps/√km]
Typical Value	--	0.04	[ps/√km]
Cable Cut-off Wavelength (λ_{cc})	--	≤1250	[nm]
Mode Field Diameter (MFD)	1310nm	8.8±0.4	[μm]
	1550nm	9.8±0.5	[μm]
Effective Group Index of Refraction (N_{eff})	1310nm	1.468	--
	1550nm	1.469	--
Point Discontinuities	1310nm	≤0.05	[dB]
	1550nm	≤0.05	[dB]
Proof Test	--	≥1.0	{%}
Macro-bend Induced Loss	--	--	--
1 turn around 10mm radius mandrel	1550nm	≤0.03	[dB]
1 turn around 10mm radius mandrel	1625nm	≤0.1	[dB]
1 turn around 7.5mm radius mandrel	1550nm	≤0.08	[dB]
1 turn around 7.5mm radius mandrel	1625nm	≤0.25	[dB]
1 turn around 5mm radius mandrel	1550nm	≤0.15	[dB]
1 turn around 5mm radius mandrel	1625nm	≤0.45	[dB]
Coating Strip Force	Typical Average Force	1.5	[N]
	Peak Force	1.3-8.9	[N]
Dynamic Fatigue Parameter (nd)	--	≥20	--

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SPECIFICATIONS *CONTINUED*

Fibre Geometrical Characteristics			
Cladding Diameter	--	125.0±0.7	[µm]
Cladding Non-Circularity	--	≤0.7	[%]
Coating Diameter	--	235-245	[µm]
Coating-Cladding Concentricity Error	--	≤12.0	[µm]
Coating Non-Circularity	--	≤6.0	[%]
Core-Cladding Concentricity Error	--	≤0.5	[µm]

Environmental Characteristics			
Temperature Dependence Induced Attenuation	-60℃ to +85℃	≤0.05	[dB/km]
Temperature-Humidity Cycling Induced Attenuation	-10℃ to +85℃, 98% RH	≤0.05	[dB/km]
Water soak Dependence Induced Attenuation	23℃, for 30 days	≤0.05	[dB/km]
Damp Heat Dependence Induced Attenuation	85℃ and 85% RH, for 30 days	≤0.05	[dB/km]
Dry Heat Aging	85℃, for 30 days	≤0.05	[dB/km]

Cable Mechanical Performance IEC 60794-1-21, testing at 1550nm or otherwise stated			
Tensile Strength	Long term 80N *(Max strain value < 0.2%)*	Short term 150N *(Max strain value < 0.4%)*	[N]
Elongation Attachment Attenuation	Long term 80N *(Max strain value < 0.1%)*	Short term 150N *(Max strain value < 0.3%)*	[N]
Crush Strength	Long term 300N *(Max Attenuation value < 0.3dB)*	Short term 1000N *(Max Attenuation value < 0.4dB)*	[N]
Impact	10Nm impact x 5 impacts *(Max Attenuation value < 0.4dB)*		[Nm]
Repeated Bending	Load 150N; Mandrel radius: 25 x D, Bending times; 25 times *(Max Attenuation value < 0.4dB)*		[N]
Torsion / Twist	Axial tension 150N , angle: ±180 degrees; Number of twists – 10 times *(Max Attenuation Value < 0.4dB)*		[N]
Temperature Cycling	Temperature Cycling -20°C ~ +65°C *(Max Attenuation Value < 0.25dB)*		[°C]

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SPECIFICATIONS *CONTINUED*

Connector Properties, testing at 1550nm or otherwise stated		
Insertion Loss	0.25dB	[dB]
Return Loss	60dB	[dB]
Mechanical Pull Out Force	50	[N]

Geometric Parameters		
Contact Type	APC	[-]
ROC – Radius of Curvature	5 – 12	[mm]
Fibre Height	100	[um]
Apex offset	0 – 50	[um]
APC angle	8 ± 0.5	Degrees
Key Error	-0.5 - +0.5	Degrees

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