

Applications

Non-metallic optical fibre external use as a short span aerial cable or in underground conduits or ducts.

Sector – BT Optical-Tec®

Multi loose tube cable

Design

1. Loose Buffer Tube

PBT,
12 optical fibres per tube

1.1 Fibre Colour Code

Fibre Colours:(1) Blue; (2) Orange;
(3) Green; (4) Brown; (5) Grey;
(6) White; (7) Red; (8) Black; (9) Yellow;
(10) Violet; (11) Pink; (12) Turquoise
(acc. IEC 60304).

1.2 Tube Colour Code

acc. IEC 60304 – refer to table.

2. Central Strength Member

FRP, Water Blocked, Dielectric central strength member.

3. Cable Core

FRP + Loose Tubes

4. Water Blocking

Dry Yarns and tapes.

5. Aramid Yarns

High Modulus strength reinforcement.

6. Outer Sheath

Polyethylene



Version shown is 96f

Sheath Markings

As per customer requirement.
e.g. Product details and metre marking
BT Cables
Manufacturer Year
Operator Identification
Number of Fibres and Fibres per tube

Note: © BT Optical-Tec is a registered trade mark of British Telecommunications public limited company.

Loose Tube Colour Scheme

No. of Fibres	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
72	Blue	Orange	Green	Brown	Grey	White	-	-	-	-	-	-
96	Blue	Orange	Green	Brown	Grey	White	Red	Black	-	-	-	-
108	Blue	Orange	Green	Brown	Grey	White	Red	Black	Yellow	-	-	-

Cable Structure, Dimensions and Weights

No. of Fibres	Number of Tubes and Fillers		Number of Fibres per Tube	Nominal Diameter (mm)	Nominal Weight (kg/km)
72	6	0	12	10.5	95
96	8	0	12	13.0	130
108	9	0	12	13.5	140

Optical and Geometric Characteristics – Type Singlemode 9/125 G.652D

Attenuation (Typical/Maximum)			Cable Cut-off Wavelength	Zero Dispersion point	Zero Dispersion Slope	Chromatic Dispersion				Individual Fibre PMD	PMDq
1310 nm	1383 nm	1550 nm				1285 - 1330 nm	1270 - 1350 nm	1550 nm	1625 nm		Q=0.01%, N=20
dB/km	dB/km	dB/km	nm	nm	(ps/nm ² .km)	(ps/(nm.km))				(ps/√km)	(ps/√km)
≤0.37	≤0.37	≤0.24	≤1260	1300 - 1324	≤0.092	≤3.5	≤5.3	≤18.0	≤22.0	≤0.15	≤0.08

Mode Field Diameter		Concentricity error core/cladding	Cladding Diameter	Concentricity error coating/cladding	Non-circularity coating	Cladding Diameter Coloured)
1310 nm	1550 nm					
µm	µm	µm	µm	µm	%	µm
9.20 ± 0.40	10.50 ± 0.80	≤0.4	125 ± 0.50	≤12	≤10	250 ± 15

Mechanical / Environmental Characteristics of Cable

CHARACTERISTIC	Test Specification	REQUIREMENT	VALUE/PERFORMANCE
TENSILE LOAD (MAX.)	IEC 60794-1-E1	- No change in attenuation, before and after load.	3000 N
CRUSH RESISTANCE	IEC 60794-1-E3	- No attenuation increase	30 N/mm
IMPACT RESISTANCE	IEC 60794-1-E4	- No attenuation increase	3 J
BENDING RESISTANCE	IEC 60794-1-E11 Proc.1	- No attenuation increase	Bend Radius: 15 X Cable Diameter
TEMPERATURE RANGE	IEC 60794-1-F1	- Operation	-25 °C to + 70 °C
WATER PENETRATION	IEC 60794-1-F5	- 3m Sample of cable with 1m	No water leakage in 24 hours under first layer.