

Fiber-Optic Blown Cable Single Loose Tube and Multi Loose Tube

Features



- Ideally for blown installation into Microducts, Campus backbone and Centralized cabling
- Single Loose Tube: a central loose tube cable with 6 or 12 optical fibers
- Multi Loose Tube: a loose tube cable with a dielectric central member containing up to 12 tubes, each containing 12 fibers
- Dielectric central strength member to enable mid-sheath entry
- Color coded fibers for easy identification
- Operating temperature range:
 - Single Loose Tube: -30°C-+70°C
 - Multi Loose Tube: -30°C-+70°C
- Contains water blocking gel
- HDPE jacket

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Description

Optimized cable for blown fiber installations, the cable contains optical fibers each with 250um outer diameter. Groups of 12 optical fibers are contained in a loose tube filled with water blocking gel. The loose tubes (and fillers if required) are SZ stranded around a dielectric central strength member to enable mid-sheath entry.

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Specifications

Mechanical and Environmental Characteristics

Single Loose

Test	Detail Specifications	Test Procedure	
		IEC-60794-1-1 Test Method	TIA/EIA-455 FOTP No
Maximum Pulling Load	See table below	E1	33
Maximum Operating Load	60% of pulling load	E1	33
Minimum Bending Radius Installation Long Term	20 x cable O.D 10 x cable O.D	E11	104
Max. crush resistance	100 N/cm		
Twist (Torsion)	20 times the cable O.D.	E7	85
Storage Temperature Range	-30°C to +60°C	F1	3
Operating Temperature Range	-30°C to +70°C	F1	3
Core Fluid Penetration	1 m sample, 1m water head for 24 hours	F5	82

Multi Loose

Test	Detail Specifications	Test Procedure	
		IEC-60794-1-1 Test Method	TIA/EIA-455 FOTP No
Maximum Pulling Load	See table below	E1	33
Maximum Operating Load	60% of pulling load	E1	33
Minimum Bending Radius Installation Long Term	20 x cable O.D 10 x cable O.D	E11	37
Max. crush resistance	100 N/cm		
Twist (Torsion)	125 x cable O.D	E7	85
Storage Temperature Range	-40°C to +70°C	F1	3
Operating Temperature Range	-50°C to +70°C	F1	3
Fluid Penetration	1 m sample, 1m water head for 24 hours	F5	82

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Specifications

Nominal Dimensions and Weight

No. of fibers	Nom. Outer diameter (mm)	Nom. Cable Weight (kg/km)	Max. Installation Load (N)
12	6	28	700
24	6	28	700
36	6	28	700
48	6	28	700
60	6	28	700
72	6	28	700
96	7.2	44	1000
144	9.7	77	1200
192	10.6	85	1200

Unit Number	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Grey
6	White

Unit Number	Color
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Turquoise

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Specifications

Single Mode Fibers Standard Specifications

Parameter	Standard per ITU-T G.652D	Units
Attenuation, Loose Tube Cables: @1310 nm @1550 nm @1625 nm	≤ 0.35 ≤ 0.22 ≤ 0.25	dB/km
Dispersion: between 120 and 1360 nm (O Band): between 1530 and 1565 nm (C Band) between 1565 and 1625 nm (L Band)	≤3.5 ≤18 ≤22	ps/(nm*km)
Zero Dispersion Wavelength	1311±11	nm
Mode Field Diameter @ 1300 nm	9.2±0.5	μm
@1550 nm	10.4±1.0	
Cable Cut-off Wavelength	≤1260	nm
PMD (Individual fiber)	≤0.2	ps/km ^{1/2}
Cladding Diameter	125±1.0	μm
Core/Cladding Concentricity Error	≤0.5	μm
Cladding Non-Circularity	≤1.0	%
Coating Diameter (un-dyed)	245±10	μm
Proof-Test Level	0.7	GN/m ²

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Specifications

Multi-Mode Fibers Standard Specifications

Parameter	50/125 µm	50/125 µm	62.5/125 µm	Units
ISO/IEC 11801 Classification ⁽²⁾	OM2	OM3	OM1	-
Attenuation, Loose Tube Cables:				db/km
@850 nm	≤2.8		≤3.0	
@1300 nm	≤0.8		≤1.0	
Bandwidth ⁽²⁾				MHz*km
@850 nm	≤500 ⁽³⁾	≤2000 ⁽⁴⁾	≤200	
@1300 nm	≤800 ⁽³⁾	≤500	≤500	
Numerical Aperture	0.20>±0.015		0.275±0.015	
Core Diameter	50±3		62.5±3	µm
Cladding Diameter	125±2		125±2	µm
Core Non Circularity	≤6		≤6	%
Cladding Non-Circularity	≤2		≤2	%
Core/Cladding Offset	≤3		≤3	µm
Coating Diameter (Un-dyed)	245±10		245±10	µm
Proof-Test Level	0.7		0.7	GN/m2

1. Overfill launch measurement as per TIA-445-204
2. Effective Modal Bandwidth as per IEC 60793-2.10

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Specifications

Multi-Mode Fiber GbE and 10 GbE Link Lengths

Fiber Type	62.5/125 μm	50/125 μm	50/125 μm
11801 Code ⁽²⁾	OM-1	OM-2	OM-3
Bandwidth ⁽³⁾ :			
@850 nm	200 MHz.km	500 MHz.km	2000 MHz.km
@1300 nm	500 MHz.km	500 MHz.km	500 MHz.km
Link Length for GbE ⁽⁵⁾			
@ 850 nm (1000BASE-SX)	220 m	550 m	970 m
@ 1300 nm (1000BASE-LX)	550 m	550 m	550 m
Link Length for 10 GbE ⁽⁶⁾			
@ 850 nm (10GBASE-SR)	33 m	82 m	300 m ⁽⁸⁾
@1300 nm (10GBASE-LX4)	300m	300m	300m

1. For other fiber specification and additional details, consult RiT's sales department.
2. As per ISO/IEC 11801:2002 or EN 50173.
3. Overfill launch measurement as per TIA-455-204
4. Effective Modal Bandwidth as per IEC 60793-2.10
5. Per IEEE 802.3z, assuming the requirements of the Standard and associated documents are met.
6. Per IEEE 802.3ae, assuming the requirements of standard and associated documents are met.
7. Calculated using the 10GbE link model
8. This link length is assured provided that:
 - a. It is installed per the maximum channel insertion loss requirement of 2.6dB as outlined in the TIA 568 B.3-1, ISO 11801 2nd Ed, and IEEE 802.3ae. The maximum channel insertion loss requirement of 2.6 dB assumes a maximum connection loss of 1.5 dB and a maximum cable attenuation of 3.5 dB/km at 850nm.
 - b. It is used with an IEEE 802.3ae compliant 10GBASE-SR or 10GBASE-SW ports meeting the specifications, among other, for encircled flux as defined in Table 52.7 in IEEE 802.3ae.