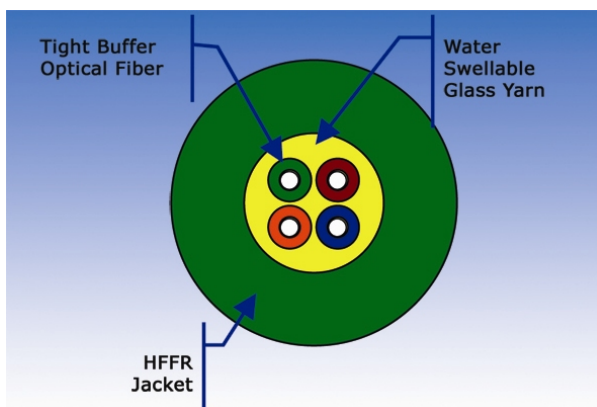


Fiber-Optic Glass Yarn Cable

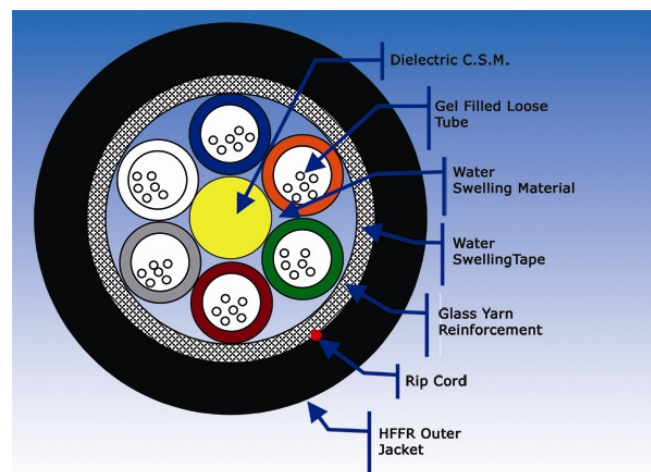
Single Loose Tube and Multi Loose Tube

Features

Single Loose



Multi Loose



- Single Loose Tube: a compact loose tube cable contains a single loose tube with up to 12 fibers
 - Multi Loose Tube: A loose tube cable with a dielectric central member contains up to 12 tubes, each tube contains up to 12 fibers
 - Color coded fibers for easy identification
 - Operating temperature range:
 - Single Loose Tube: -20oc+70oc
 - Multi Loose Tube: -40oc+70oc
 - Water blocking thixotropic gel prevents ingress of water
 - Dry water swelling glass yarn for strength and prevention of water penetration
 - Available with four fiber types – Single-Mode, Multi-Mode 50/125, Multi-Mode 50/125 OM3 and Multi-Mode 62.5/125
- Single Loose Tube: A central loose tube cable with up to 12 fibers

Fiber-Optic Glass Yarn Cable Single Loose Tube and Multi Loose Tube

Description

A central loose tube cable with up to 12 fibers for single loose and up to 144 in a multi tube design. All are color coded for easy identification. (Refer to table in Specifications). The glass yarns are protected by a UV resistant LSZH (low smoke, zero halogen) jacket.

Fiber-Optic Glass Yarn Cable

Single Loose Tube and Multi Loose Tube

Specifications

Mechanical and Environmental Characteristics

Single Loose

Test	Detail Specifications	Test Procedure	
		IEC-60794-1-2 Test Method	TIA/EIA-455 FOTP No
Maximum Pulling Load	1500 N	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. Compressive Loading	3,000N	E3	41
Repeated Impact	4.4 N.m (J) 3x2 impacts	E4	25
Twist (Torsion)	20 times the cable O.D.	E7	85
Storage Temperature Range	-40°C to +70°C	F1	3
Operating Temperature Range	-20°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-60794-1-2 Test Method	TIA/EIA-455 FOTP No
Maximum Pulling Load	2700 N or 1 cable weight per km, the higher.	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. Compressive Loading	5,000N	E3	41
Repeated Impact	4.4 N.m (J) 3x2 impacts	E4	25
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

Fiber-Optic Glass Yarn Cable

Single Loose Tube and Multi Loose Tube

Specifications

Nominal Dimensions and Weight

Single Loose

Tubes nominal diameter:	3.3mm
Outer jacket nominal thickness:	1.5mm
Nom. Cable Weight	55kg/km
Nom. Cable Diameter	7.5mm

Technical Characteristics

Multi Loose

No. of fibers	No. of tubes	Nom. Cable Weight (kg/km)	Nom. Cable Diameter (mm)
2-60	1-5	90	11.0
24-72	6	100	11.5
32-96	8	130	12.5
40-120	10	160	14.0
48-122	12	180	15.5

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

Fiber-Optic Glass Yarn Cable

Single Loose Tube and Multi Loose Tube

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

Fiber-Optic Glass Yarn Cable

Single Loose Tube and Multi Loose Tube

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: @850 nm @1300 nm	≤2.8 ≤0.8		≤3.0 ≤1.0	db/km
Bandwidth ⁽²⁾ @850 nm @1300 nm	≤500 ⁽³⁾ ≤800 ⁽³⁾	≤2000 ⁽⁴⁾ ≤500	≤200 ≤500	MHz*km
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

Fiber-Optic Glass Yarn Cable

Single Loose Tube and Multi Loose Tube

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	550m	970 m
@ 1300 nm (1000BASE-LX)	550m	550m	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.