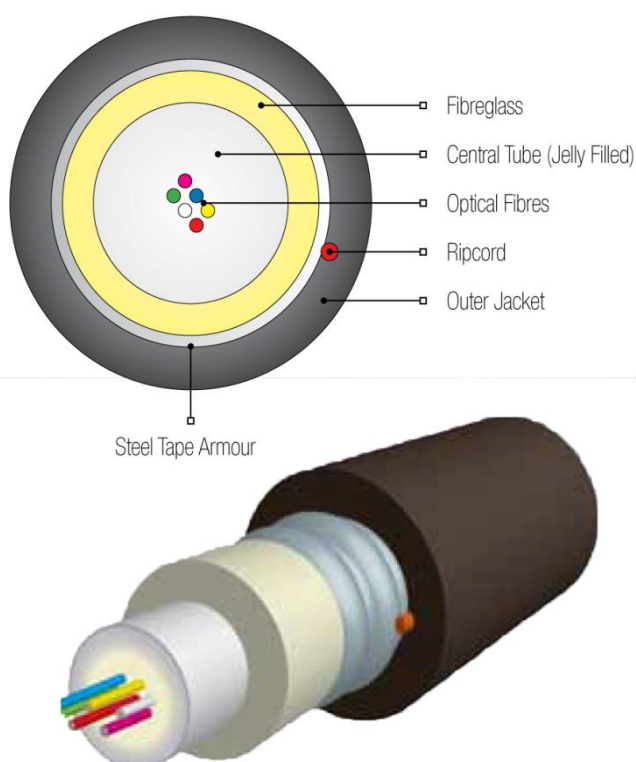




SINGLE LOOSE TUBE CABLE 2-24 CORE - ARMoured

STRUCTURE DIAGRAM



FEATURES

- Choice of fibre type
- Choice of colour coded fibres
- 100% Dielectric
- Water blocking fibreglass reinforcements
- Choice of outer jacket material and colour
- OS2, OM1, OM2, OM3 and OM4

CABLE CHARACTERISTICS

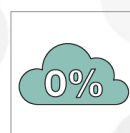
- 250µm colour-coded optical fibre
- Gel filled loose tubes for fibre lubrication and water repelling properties
- Corrugated steel tape for superior protection
- Ripcord
- Durable outer jacket

APPLICATIONS

- Ideal for water crossings e.g. rivers and lakes
- Suitable for one or both end pre-termination

STANDARDS REFERENCE

- Environmental and mechanical tests according to: EN 187000 and CEI 60794.
- Fire test according to: UNE-EN 50266 (IEC 60332-3) / UNE-EN 50267 (IEC 60754-1) / UNE-EN 50268 (IEC 61034-1/2).
- 1LSZH = Low-smoke Zero-halogen flame retardant thermoplastic compound



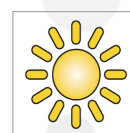
low-smoke
zero halogen



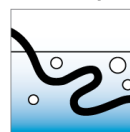
flame retardant



moisture
protected



ultraviolet
resistant

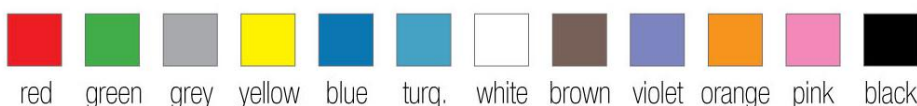


watertight



rodent
protection

Fibre Colour Options:



red green grey yellow blue turq white brown violet orange pink black

SINGLE LOOSE TUBE CABLE 2-24 CORE - ARMoured

SPECIFICATIONS

Properties of Fiber

Optical Fibers supplied in this specification meet the requirements of ITU-T G.652D

Category	Items	Units	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.34	≤0.36
	Attenuation at 1383 nm	dB/km	≤ 0.34	≤0.38
	Attenuation at 1550 nm	dB/km	≤ 0.20	≤0.22
	Attenuation at 1625 nm	dB/km	≤ 0.23	≤0.26
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm ² ·km)	≤ 0.091	
	Cable cut-off wavelength λ _{cc}	nm	≤ 1260	
	Mode field diameter (MFD) at 1310 nm	μm	8.7~9.5	
	Mode field diameter (MFD) at 1550 nm	μm	9.9~10.9	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 16mm radius)at 1550nm	dB	≤ 0.05	
	Macro-bend loss(100 turn, 25mm radius)at 1550nm	dB	≤ 0.05	
	Macro-bend loss(100turns, 30mm radius)at 1550nm	dB	≤ 0.05	
Geometrical Characteristics	Cladding diameter	μm	125 ± 1.0	
	Cladding non-circularity	%	≤ 1	
	Coating diameter	μm	245 ± 7	
	Coating/cladding concentricity error	μm	≤ 12.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 0.5	

Optical Fibers supplied in this specification meet the requirements of ITU-T G.657A1

Category	Items	Units	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.34	≤0.36
	Attenuation at 1383 nm	dB/km	≤ 0.34	≤0.38
	Attenuation at 1550 nm	dB/km	≤ 0.20	≤0.22
	Attenuation at 1625 nm	dB/km	≤ 0.23	≤0.26
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm ² ·km)	≤ 0.092	
	Cable cut-off wavelength λ _{cc}	nm	≤ 1260	
	Mode field diameter (MFD) at 1310 nm	μm	8.4~9.2	
	Mode field diameter (MFD) at 1550 nm	μm	9.3~10.3	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 10mm radius)at 1550nm	dB	≤ 0.75	
	Macro-bend loss(10turns, 15mm radius)at 1550nm	dB	≤ 0.25	
Geometrical Characteristics	Cladding diameter	μm	125 ± 0.7	
	Cladding non-circularity	%	≤ 0.7	
	Coating diameter	μm	245 ± 5	
	Coating/cladding concentricity error	μm	≤ 12.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 0.5	

SINGLE LOOSE TUBE CABLE 2-24 CORE - ARMoured

Optical Fibers supplied in this specification meet the requirements of ITU-T G. 657A2

Category	Items	Units	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 1310 nm	dB/km	≤ 0.34	≤0.36
	Attenuation at 1383 nm	dB/km	≤ 0.34	≤0.38
	Attenuation at 1550 nm	dB/km	≤ 0.20	≤0.22
	Attenuation at 1625 nm	dB/km	≤ 0.23	≤0.26
	Zero dispersion wavelength	nm	1300~1324	
	Zero dispersion slope	ps/(nm ² ·km)	≤ 0.092	
	Cable cut-off wavelength λ _{cc}	nm	≤ 1260	
	Mode field diameter (MFD) at 1310 nm	μm	8.4~9.2	
	Mode field diameter (MFD) at 1550 nm	μm	9.3~10.3	
	Group Index of Refraction (Typical) at 1310 nm	/	1.466	
	Group Index of Refraction (Typical) at 1550 nm	/	1.467	
	Macro-bend loss(1 turn, 7.5mm radius)at 1550nm	dB	≤ 0.2	
	Macro-bend loss(1 turn, 10mm radius)at 1550nm	dB	≤ 0.1	
	Macro-bend loss(10turns, 15mm radius)at 1550nm	dB	≤ 0.03	
Geometrical Characteristics	Cladding diameter	μm	125 ± 0.7	
	Cladding non-circularity	%	≤ 0.7	
	Coating diameter	μm	245 ± 5	
	Coating/cladding concentricity error	μm	≤ 12.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 0.5	

Optical Fibers supplied in this specification meet the requirements of Multimode Fibers

OM3

Category	Items	Units	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤ 2.3	≤3.0
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.0
	Zero dispersion wavelength	nm	1295~1340	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.105	
	Zero dispersion slope at 1300nm~1320nm	/	≤ 0.000375 (1590·λ _o)	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	
	Numerical Aperture	/	0.200 ± 0.015 NA	
	Overfilled Bandwidth at 850 nm	MHz·km	≥ 1500	
	Overfilled Bandwidth at 1300 nm	MHz·km	≥ 500	
	Effective Modal Bandwidth at 850 nm	MHz·km	≥ 2000	
	Macro-bend loss(100turns, 30mm radius)at 850nm	dB	≤ 0.5	
	Macro-bend loss(100turns, 30mm radius)at 1300nm	dB	≤ 0.5	
Geometrical Characteristics	Core diameter	μm	50 ± 2.5	
	Cladding diameter	μm	125.0 ± 1.0	
	Core non-circularity	%	≤ 5.0	
	Cladding non-circularity	%	≤ 1.0	
	Coating diameter	μm	245 ± 7	
	Coating/cladding concentricity error	μm	≤ 10.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 1.0	



SINGLE LOOSE TUBE CABLE 2-24 CORE - ARMoured

OM4

Category	Items	Units	Description	
			Before cabled	After cabled
Optical Characteristics	Attenuation at 850 nm	dB/km	≤ 2.3	≤ 3.0
	Attenuation at 1300 nm	dB/km	≤ 0.6	≤ 1.0
	Zero dispersion wavelength	nm	1295~1340	
	Zero dispersion slope at 1295nm~1310nm	/	≤ 0.105	
	Zero dispersion slope at 1300nm~1320nm	/	$\leq 0.000375 (1590 \cdot \lambda_o)$	
	Group Index of Refraction (Typical) at 850 nm	/	1.482	
	Group Index of Refraction (Typical) at 1300 nm	/	1.477	
	Numerical Aperture	/	0.200 ± 0.015 NA	
	Overfilled Bandwidth at 850 nm	MHz·km	≥ 3500	
	Overfilled Bandwidth at 1300 nm	MHz·km	≥ 500	
	Effective Modal Bandwidth at 850 nm	MHz·km	≥ 4700	
	Macro-bend loss(100turns, 30mm radius)at 850nm	dB	≤ 0.5	
	Macro-bend loss(100turns, 30mm radius)at 1300nm	dB	≤ 0.5	
Geometrical Characteristics	Core diameter	μm	50 ± 2.5	
	Cladding diameter	μm	125.0 ± 1.0	
	Core non-circularity	%	≤ 5.0	
	Cladding non-circularity	%	≤ 1.0	
	Coating diameter	μm	245 ± 7	
	Coating/cladding concentricity error	μm	≤ 10.0	
	Coating non-circularity	%	≤ 6.0	
	Core/cladding concentricity error	μm	≤ 1.0	

Fiber and Loose Tube Identification

The color code of fibers and loose tube will be identification in accordance with the following color sequence, other sequence also is available.

	1	2	3	4	5	6
Color Code	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Violet	Pink	Aqua



SINGLE LOOSE TUBE CABLE 2-24 CORE - ARMoured

Mechanical and Environmental Characteristics

Items	Test Standard	Descriptions	
Tensile Strength	IEC 60794-1-E1	short-term	1500 N
		long-term	600 N
Crush Resistance	IEC 60794-1-E3	short-term	3000 N
		long-term	1000 N
Cable Impact	IEC 60794-1-E4	No obvious change after test	
Repeat Bending	IEC 60794-1-E6		
Torsion	IEC 60794-1-E7		
Operation Temperature	IEC 60794-1-2-F1	-40°C~+70°C	
Storage Temperature	IEC 60794-1-2-F1	-40°C~+70°C	
Installation temperature	IEC 60794-1-2-F1	-10°C~+70°C	
Bending Radius	Static	10×Cable Diameter	
	Dynamic	20×Cable Diameter	

ORDERING INFORMATION

FC-(XX)-(XX)-(XX)-(XXX)-(XX)-(XX)

No. of Fibre

1F = 1
2F = 2
12F = 12
24F = 24

Jacket Type

PE = PE
LSZH = LZ

Jacket Colour

BLACK = B
YELLOW = YW

Strength Member

STEEL = S
FPR = F
E-GLASS = EG
AMRMID YARN = AY

Construction

LOOSE TUBE = LS
TIGHT BUFFERED = TB
STEEL TAPE ARMoured = STA
STEEL WIRE ARMoured = SWA

Fibre Type

G.652D = OS2
G.655 = S5
G.657A1 = 7A1
G.657A2 = 7A2
OM3 = OM3
OM4 = OM4

FC-(X)-LZ-YW-7A1-TB-AY:

Indoor Distribution Tight Buffer Fiber Optic Cable.

* X denotes number of fiber, i.e., 1F, 2F, 3F, 4F ...

* Y denotes type of strength member

PACKAGING

Wooden Drums Protection

DELIVERY LENGTH

Standard delivery length is 1km/drum or 2km/drum, Other lengths available on request.

SINGLE LOOSE TUBE CABLE 2-24 CORE - ARMoured

MARKING

Cable Marker every Meter by:

- Project name or Project owner
- Year of manufacture
- Type of Cable
- Number of fiber
- Cable length
- Etc.