

TECHNICAL SPECIFICATIONS

DUCT OPTICAL FIBRE CABLE



72F MULTITUBE UNARMoured OPTICAL FIBRE CABLE

Cable Description

Duct cables are designed considering the ease of installation required for the cables to be blown in duct systems. In this cable, optical fibres and filling gel is placed inside buffer tubes. The core is constructed by stranding the buffer tubes around FRP rod, the central strength member. Water swellable yarn is provided over the FRP Rod and the core is wrapped in water swellable tape. The core is then covered with outer HDPE sheathing which protects the cable from the external environment. Ripcords are provided under the jacket for ease of entry.

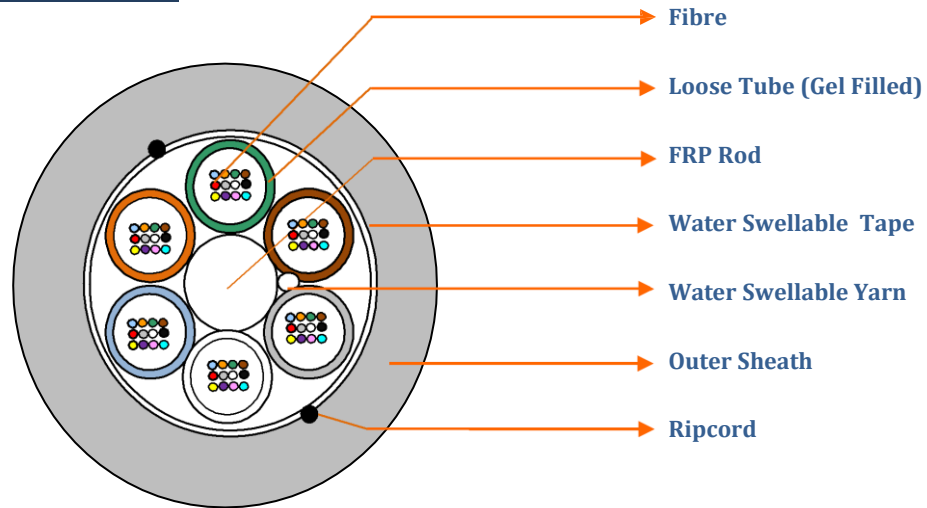
Applications

- Underground duct and lashed aerial
- Trunk, Distribution, Feeder Cables
- Local loop, Metro & Long Haul.

Features

- Multiple Fibre types including hybrids
- Wet Core Standard (Optional)

Cross Section



Construction

Parameter	Dimensions/Layout	Type
Fibre Count	72	
Number of fibres per tube	12	Glass Fiber
Number of Loose Tubes	6	PBTP
Central Strength Member	2.3 ± 0.1 mm	FRP Rod
Moisture Barrier	Over FRP Rod	WS Yarn
Core Wrapping	Over SZ core	WS Tape
Outer Sheath	1.5 mm (Nominal)	HDPE - Black
Number of Ripcords	2	Polyester
Cable Diameter	10.0 ± 0.5 mm	
Cable Weight	80 ± 10 kg/km	

Color Coding

Fiber Color	1	2	3	4	5	6	7	8	9	10	11	12
EIA/TIA 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Tube Color	1	2	3	4	5	6	7	8	9	10	11	12
EIA/TIA 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Cable Characteristics

Mechanical Characteristics		
Tensile Strength	1500 N	IEC 60794-2-E1
Crush Resistance	1000 N	IEC 60794-1-2-E3
Impact Strength	10 N.m	IEC 60794-1-2-E4
Torsion	± 360 °	IEC 60794-1-2-E7
Kink	10 x D	IEC 60794-1-2-E10
Minimum Bend Radius	20 x D	IEC 60794-1-2-E11
Water Penetration Test	1m water head, 3 m sample, 24 hours	IEC 60794-1-2-F5

Environmental Characteristics		
Installation	-30 ° C to + 70°C	IEC 60794-1-22-F1
Operation	-30 ° C to + 70°C	
Storage	-30 ° C to + 70°C	

Fiber Characteristics

Fiber Type		ITU-T G.652D		
Optical				
Attenuation	1310 nm	≤ 0.36 dB/km		
	1550 nm	≤ 0.23 dB/km		
Chromatic Dispersion	1285 – 1330 nm	≤ 3.5 ps nm.km		
	1550 nm	≤ 18.0 ps nm.km		
Cable cut-off wavelength	λ_{cc}	≤ 1260 nm		
Zero Dispersion Wavelength		1300 – 1324 nm		
Zero Dispersion Slope		≤ 0.092 ps nm ² x km		
Polarization mode dispersion	Fibre	≤ 0.10 ps / km		
	Link Design Value	≤ 0.08 ps km		
Mechanical				
Bending induced attenuation	1 turn	ϕ 32 mm	1550 nm	≤ 0.05 dB
	100 turns	ϕ 50 mm	1310 nm	≤ 0.05 dB
			1550 nm	≤ 0.05 dB
	100 turn	ϕ 60 mm	1625 nm	≤ 0.05 dB
Proof Stress Level		1.0 % (100 kpsi)		
Geometrical				
Mode Field Diameter	1310 nm		9.2 ± 0.4 μ m	
	1550 nm		10.4 ± 0.5 μ m	
Core – Cladding Concentricity Error		≤ 0.5 μ m		
Cladding Diameter		125 ± 0.7 μ m		
Cladding Non – Circularity		≤ 0.7 %		
Coating – Cladding Concentricity Error		≤ 12 μ m		
Primary Coating Diameter		245 ± 5 μ m		
Primary Coating Material	(Uncolored)		UV Cured Acrylate	
Fibre Curl	Radius		≥ 4 m	