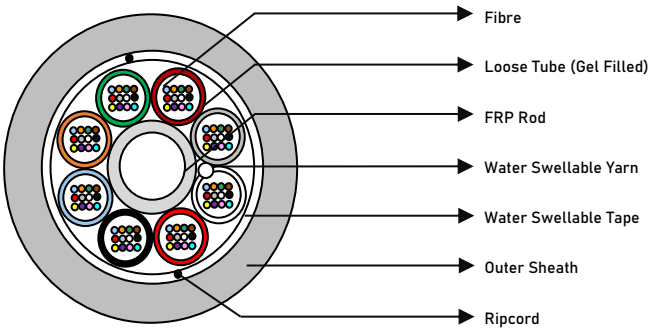
Technical Specifications

12/24/48/96/144/288F Duct Optical Fibre Cable

96F Cable Shown



Product Details
Optical Fibre containing elements laid up around central strength member
Gel Filled Water blocked loose tubes
Water blocked core interstices
HDPE sheath as external protection

Cable Construction

Parameter	Structure/Layout/Material		
Fibre Count	12/24/48F	96F	144F
Number of fibres per tube	12		
Number of loose tubes – PBT	1/2/4	8	12
Number of fillers – HDPE - Black	5/4/2	0	
Central Strength Member	FRP Rod	FRP Rod PE upcoated	FRP Rod PE upcoated
Moisture Barrier	Water Swellable Tape & Water Swellable Yarn		
Outer Sheath	HDPE – Black		
Ripcords - Polyester	2		
Cable Diameter	8.5 ± 0.5 mm	10.0 ± 0.5 mm	12.5 ± 0.5 mm
Cable Weight	55 ± 10 kg/km	80 ± 10 kg/km	125 ± 15 kg/km

Parameter	Structure/Layout/Material
Fibre Count	288F
Number of fibres per tube	12
Number of loose tubes – PBT	Layer I: 9 Layer II: 15
Central Strength Member	FRP Rod PE upcoated
Moisture Barrier	Water Swellable Tape & Water Swellable Yarn
Outer Sheath	HDPE – Black
Ripcords - Polyester	2
Cable Diameter	14.7 ± 0.5 mm
Cable Weight	170 ± 15 kg/km

Colour Coding

Fibre Colour EIA/TIA - 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Loose Tube Colour EIA/TIA – 598 1-12	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq

Loose Tube Colour EIA/TIA – 598 13-15	Bl#	Or#	Gr#

Tubes 13 to 15 are a repeat of the above colours but with the addition of stripe marking.

Cable & Fibre Characteristics

Tensile Strength (Short Term)	12-48F: 1000 N 96F: 1500 N 144/288F: 2000 N		IEC-60794-1-21-E1
Crush Resistance	2000 N		IEC-60794-1-21-E3
Impact Strength	10 N.m		IEC-60794-1-21-E4
Torsion	± 360 °		IEC-60794-1-21-E7
Minimum Bend Radius	20 x D		IEC-60794-1-21-E11
Kink	15 x D		IEC-60794-1-21-E10
Water Penetration Test	1 m water head, 3 m sample, 24 hours		IEC-60794-1-22-F5
Environmental Performance	Installation	- 20 °C to +70 °C	IEC-60794-1-22-F1
	Operation	- 30 °C to + 70 °C	
	Storage	- 30 °C to + 70 °C	

Fibre Type	G.657A1			
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 ps/nm.km		
	1625 nm	≤ 22 ps/nm.km		
PMD (Max. Individual)	≤ 0.15 ps/√km			
PMD (Link design value)	≤ 0.06 ps /√km			
Cable cut off wavelength λcc	≤ 1260 nm			
MFD	1310 nm	9.1 ± 0.3 µm		
	1550 nm	10.3 ± 0.5 µm		
Bending Induced Attenuation	1 Turn	ϕ 20	1550 nm	≤ 0.75 dB
			1625 nm	≤ 1.5 dB
	10 Turn	ϕ 30	1550 nm	≤ 0.25 dB
			1625 nm	≤ 1.0 dB
Core-Cladding Concentricity Error	≤ 0.5 µm			
Cladding Diameter	125 ± 0.7 µm			
Cladding Non Circularity	≤ 0.8 %			
Primary Coating Diameter (Uncoloured)	242 ± 5 µm			

Fibre Type	G.652D	
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 ps/nm.km
PMD (Max. Individual)	≤ 0.2 ps/√km	
PMD (Link design value)	≤ 0.1 ps/√km	
Cable cut off wavelength λcc	≤ 1260 nm	
MFD	1310 nm	9.2 ± 0.4 µm
	1550 nm	10.4 ± 0.5 µm
Core-Cladding Concentricity Error	≤ 0.5 µm	
Cladding Diameter	125 ± 0.7 µm	
Cladding Non Circularity	≤ 0.7 %	
Primary Coating Diameter (Uncoloured)	245 ± 10 µm	

Cable Marking	HFCL Ltd 12/24/48/96/144/288F LT SM G.657A1/G.652D DUCT OFC *Month & Year of manufacture Length Meter Marking*
Cable Length	4.0 km ± 5 %
Packaging	Wooden drums or reels Cable end sealed *Drum marking: Drum number, User name*, HFCL Limited, *Fibre count, Cable Length, Date of manufacture, Net weight, Gross weight*
Cable Performance Standards	IEC 60793, ANSI/ICEA S-87-640, Telcordia GR-20, ITU-T, RoHS, REACH