



HFCL Limited

(FORMERLY - HIMACHAL FUTURISTIC COMMUNICATIONS LIMITED) - GOA

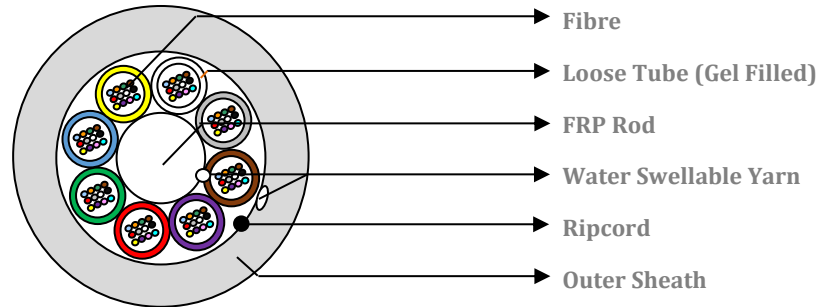
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Technical Specifications

48/96/144/288F Micro 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			
	48F	96F	144F	288F
Fibre Count	48F	96F	144F	288F
Number of fibres per tube	12			
Number of loose tubes - PBT	4	8	12	Layer I : 9 Layer II : 15
Number of Fillers - HDPE Black	2	0		
Central Strength Member	FRP Rod			
Moisture Barrier	Water Swellable Yarn - (FRP+Core)			
Outer Sheath	HDPE - Black			
Ripcords	1 - Polyester			
Cable Diameter	5.7 ± 0.2 mm	6.5 ± 0.2 mm	7.6 ± 0.2 mm	8.2 ± 0.2 mm
Cable Weight	25 ± 5 kg/km	40 ± 5 kg/km	55 ± 5 kg/km	65 ± 5 kg/km
Fibre Type	G.657A1-250µm			G.657A1-200µm

Colour Coding

Fibre Colour DIN VDE 0888	Rd	Gr	Bl	Yl	Wh	Sl	Br	Vi	Aq	Bk	Or	Pk
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Tube Colour DIN VDE 0888	Rd	Gr	Bl	Yl	Wh	Sl	Br	Vi	Aq	Bk	Or	Pk
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For 288F :

Tube Colour Layer I	Rd	Gr	Bl	Yl	Wh	Sl	Br	Vi	Aq			
Layer II	Rd	Gr	Bl	Yl	Wh	Sl	Br	Vi	Aq	Bk	Or	Pk
Layer II	Rd#	Gr#	Bl#									

#Stripe mark tubes from 13-15.

Cable & Fibre Characteristics

Tensile Strength	48F : 600 N 96/288F : 1000 N 144F : 1500 N		IEC-60794-1-21-E1
Crush Resistance	1000 N		IEC-60794-1-21-E3
Impact Strength	1 Nm		IEC-60794-1-21-E4
Torsion	± 360 °		IEC-60794-1-21-E7
Minimum Bend Radius	20 x D		IEC-60794-1-21-E11
Kink	10 x D		IEC-60794-1-21-E10
Environmental Performance	Installation	- 5 °C to + 50 °C	IEC-60794-1-22-F1
	Operation	- 20 °C to + 60 °C	
	Storage	- 20 °C to + 70 °C	

Fibre Type	G.657A1			
Attenuation	1310 nm		≤ 0.36 dB/km	
	1550 nm		≤ 0.23 dB/km	
Chromatic Dispersion	1550 nm		≤ 17.5 ps/nm.km	
PMD (Max. Individual)	≤ 0.1 ps/√km			
PMD (Link design value)	≤ 0.06 ps /√km			
Cable cut off wavelength λ _{cc}	≤ 1260 nm			
Bending induced attenuation	1 turn	φ 20 mm	1550 nm	≤ 0.75 dB
			1625 nm	≤ 1.50 dB
	10 turns	φ 30 mm	1550 nm	≤ 0.25 dB
			1625 nm	≤ 1.00 dB
MFD	1310 nm		8.8 ± 0.4 μm	
Core-Cladding Concentricity Error	≤ 0.5 μm			
Cladding Diameter	125 ± 0.7 μm			
Cladding Non Circularity	≤ 0.7 %			
Primary Coating Diameter (coloured)	200 ± 10 μm			

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 λ _{cc}	≤ 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			

Cable Marking

HFCL Ltd 48/96/144/288F LT SM G.657A1/G.657A1 200 um MICROCABLE Year of manufacture Length Code Meter Marking Or As per customer requirement.

Cable Length

4 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