

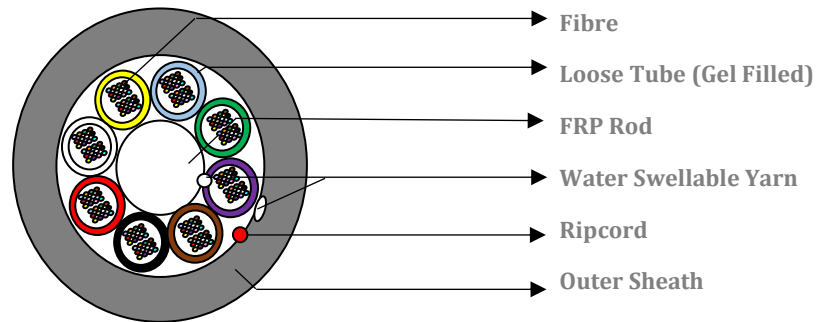


HFCL Limited

(FORMERLY - HIMACHAL FUTURISTIC COMMUNICATIONS LIMITED) - GOA

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Technical Specifications 192F Multitube Micro OFC



Product

Details

Optical Fibre containing elements laid up around central strength member
Water blocked loose tubes
Water blocked core interstices
Polyethylene sheath as outer protection

Cable Construction

Parameter	Structure/Layout/Material
Fibre Count	192F
Number of fibres per tube	24
Number of loose tubes	8
Loose Tube OD	1.9 ± 0.1 mm
Central Strength Member	FRP Rod
Moisture Barrier	Water Swellable Yarn
Outer Sheath	0.5 mm (nom.) - HDPE - Black - UV Resistant
Number of Ripcords	1 - Polyester
Cable Diameter	7.8 ± 0.3 mm
Cable Weight	56 kg/km ± 10 %

Colour Coding

Fibre Colour 1-12	Rd	Wh	Yl	Bl	Gr	Vi	Br	Bk	Or	Aq	Pk	Sl
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Fibre Colour 13-24	Rd*	Wh*	Yl*	Bl*	Gr*	Vi*	Br*	Nt*	Or*	Aq*	Pk*	St*
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*Ring marking on fibres from 13-24 at every 50 mm distance. Natural ring marked fibre instead black fibre.

Tube Colour	Rd	Wh	Yl	Bl	Gr	Vi	Br	Bk
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Cable & Fibre Characteristics

Tensile Strength	1500 N	IEC-60794-1-21-E1
Crush Resistance	500 N/100 mm	IEC-60794-1-21-E3
Impact Strength	2 N.m	IEC-60794-1-21-E4
Torsion	± 180 °	IEC-60794-1-21-E7
Minimum Bend Radius	During Installation : 20 x OD After Installation : 15 x OD	IEC-60794-1-21-E11
Drip Test	30 cm, 70 °C , 24 hours	IEC-60794-1-21-E14
Water Penetration Test	1 m water head, 3m sample, 24 hours	IEC-60794-1-22-F5
Environmental Performance	Installation	-20 °C to + 60 °C
	Operation	-30 °C to + 70 °C
	Storage	-40 °C to + 70 °C
		IEC-60794-1-22-F1

Note: All tests shall be carried out as per IEC standards. Change in attenuation after and before testing shall be ≤ 0.1 dB/km.

Fibre Type	G.657A1			
Attenuation	1310 nm	≤ 0.35 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)	≤ 0.2 ps/√km			
PMD (Link design value)	≤ 0.1 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

As per customer requirement.

Cable Length

6 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.