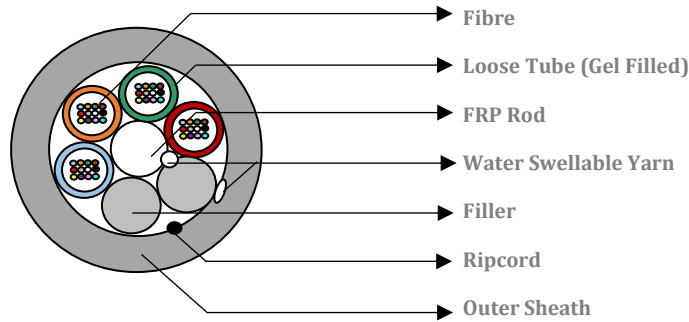


## Technical Specifications

### 12/24/48/96/144/192/216/288F Multitube Micro OFC

#### 48F Cable Shown



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				
	12/24/48F	96F	144F	192F	216F
Fibre Count	12/24/48F	96F	144F	192F	216F
Number of fibres per tube	12				
Number of loose tubes	1/2/4	8	12	Layer I : 4 Layer II : 12	Layer I : 6 Layer II : 12
Central Strength Member	FRP Rod		FRP Rod PE Upcoated	FRP Rod	
Number of Fillers - HDPE - Black	5/4/2	0		Layer I : 2	0
Moisture Barrier	(FRP + Core) Water Swellable yarn				
Outer Sheath	HDPE - Black				
Number of Ripcords	1 - Polyester				
Cable Diameter	5.3 ± 0.3 mm	6.3 ± 0.3 mm	8.0 ± 0.3 mm	8.3 ± 0.3 mm	
Cable Weight	25 ± 5 kg/km	40 ± 5 kg/km	65 ± 10 kg/km	55 ± 10 kg/km	

Parameter	Structure/Layout/Material
Fibre Count	288F
Number of fibres per tube	12
Number of loose tubes	Layer I : 9 Layer II : 15
Central Strength Member	FRP Rod
Moisture Barrier	(FRP + Core) - Water Swellable Yarn
Outer Sheath	HDPE - Black
Number of Ripcords	1 - Polyester
Cable Diameter	9.3 ± 0.3 mm
Cable Weight	80 ± 10 kg/km

### Colour Coding

Fibre Colour EIA/TIA - 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq
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### For 12-192F

Tube Colour EIA/TIA - 598	Bl	Or	Gr	Br	Sl	Wh	Rd	Bk	Yl	Vi	Pk	Aq
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### For 288 F:

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

# denotes single black stripe marking via inkjet printing.

### Cable & Fibre Characteristics

Tensile Strength	12-48/192/216F : 500 N 96/144/288F : 1000 N		IEC-60794-1-21-E1
Crush Resistance	1000 N		IEC-60794-1-21-E3
Impact Strength	1 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
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	$\leq 0.36$ dB/km		
	1550 nm	$\leq 0.23$ dB/km		
Chromatic Dispersion	1285-1330 nm	$\leq 3.5$ ps/nm.km		
	1550 nm	$\leq 18$ ps/nm.km		
	1625 nm	$\leq 22$ ps/nm.km		
PMD (Max. Individual)	$\leq 0.15$ ps/ $\sqrt{\text{km}}$			
PMD (Link design value)	$\leq 0.06$ ps/ $\sqrt{\text{km}}$			
Cable cut off wavelength $\lambda_{cc}$	$\leq 1260$ nm			
MFD	1310 nm	$9.1 \pm 0.3$ $\mu\text{m}$		
	1550 nm	$10.3 \pm 0.5$ $\mu\text{m}$		
Bending Induced Attenuation	1 Turn	$\phi$ 20	1550 nm	$\leq 0.75$ dB
			1625 nm	$\leq 1.5$ dB
	10 Turn	$\phi$ 30	1550 nm	$\leq 0.25$ dB
			1625 nm	$\leq 1.0$ dB
Core-Cladding Concentricity Error	$\leq 0.5$ $\mu\text{m}$			
Cladding Diameter	$125 \pm 0.7$ $\mu\text{m}$			
Cladding Non Circularity	$\leq 0.8$ %			
Primary Coating Diameter (Uncoloured)	$242 \pm 5$ $\mu\text{m}$			

Fibre Type	G.652D			
Attenuation	1310 nm	$\leq 0.36$ dB/km		
	1550 nm	$\leq 0.23$ dB/km		
Chromatic Dispersion	1285-1330 nm	$\leq 3.5$ ps/nm.km		
	1550 nm	$\leq 18$ ps/nm.km		
PMD (Max. Individual)	$\leq 0.2$ ps/ $\sqrt{\text{km}}$			
PMD (Link design value)	$\leq 0.1$ ps/ $\sqrt{\text{km}}$			
Cable cut off wavelength $\lambda_{cc}$	$\leq 1260$ nm			
MFD	1310 nm	$9.2 \pm 0.4$ $\mu\text{m}$		
	1550 nm	$10.4 \pm 0.5$ $\mu\text{m}$		
Core-Cladding Concentricity Error	$\leq 0.5$ $\mu\text{m}$			
Cladding Diameter	$125 \pm 0.7$ $\mu\text{m}$			
Cladding Non Circularity	$\leq 0.7$ %			
Primary Coating Diameter (Uncoloured)	$245 \pm 10$ $\mu\text{m}$			

Cable Marking

HFCL Ltd 12/24/48/96/144/192/216/288F LT SM G.657A1/G.652D MICRO *Year of manufacture, Length Code, Meter Marking*  
*Or As per customer requirement*

Cable Length

2 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.