

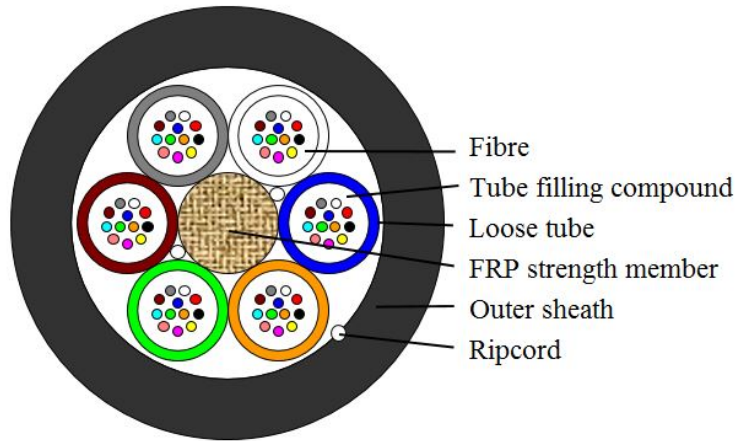
Optical Fiber Cable Technical Specification

**Micro duct Cable with HDPE Sheath  
for Installation by Blowing**

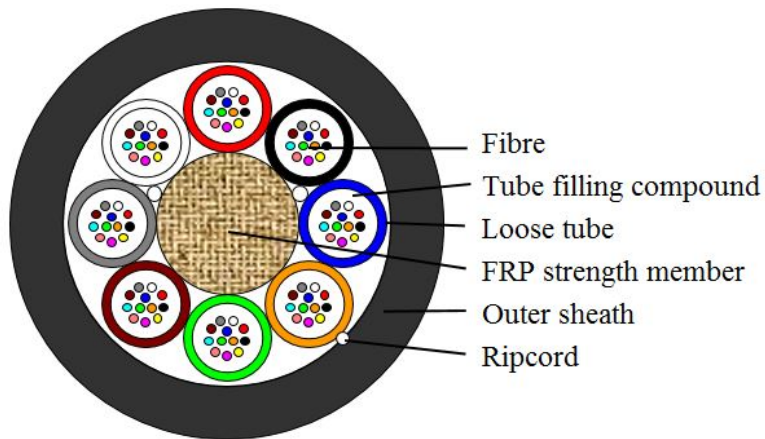
**NEXTRA MICRO-12/24/48/72/96/144 x SM G657A1 (B6a1)**

NextaCom Optical Fibre Cable

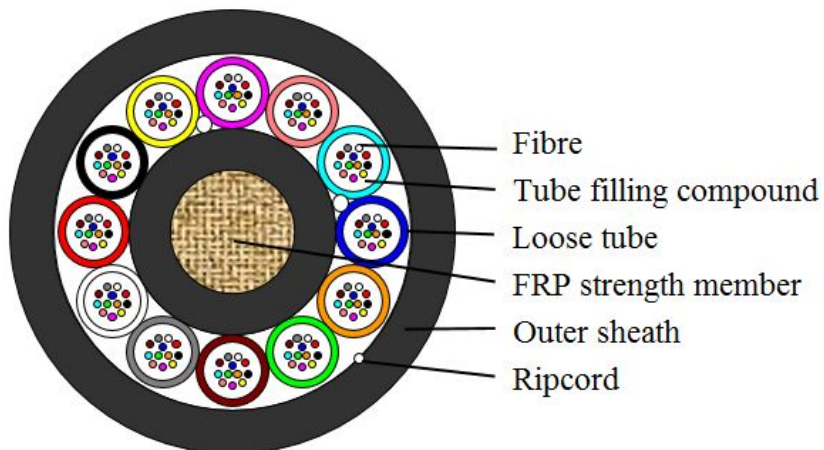
**1. Cross Section of Cable**



**MICRO-12~72xSM G657A1 (B6a1)**



**MICRO-96xSM G657A1 (B6a1)**



**GCYFY-144xSM G657A1 (B6a1)**

**2. Optical Fibre (G.657.A1)**

Category	Description	Specification	
		Before cable	After cable
Geometrical Characteristics	Cladding diameter	125.0 ± 0.7 μm	
	Cladding non-circularity	≤ 0.7 %	
	Core concentricity error	≤ 0.5 μm	
	Coating diameter	245± 5 μm(Before Colored) 250 ± 15 μm (Colored)	
	Coating/cladding concentricity error	≤ 12μm	
Optical Characteristics	Mode field diameter at 1310 nm	8.8 ± 0.4 μm	
	Point discontinuity	≤ 0.05dB	
	Attenuation at 1310 nm	≤ 0.35 dB/km	≤ 0.36 dB/km
	Attenuation at 1383 nm	≤ 0.35 dB/km	≤ 0.35 dB/km
	Attenuation at 1550 nm	≤ 0.21 dB/km	≤ 0.22dB/km
	Dispersion in 1285 – 1340 nm	≤ 3.4 ps/(nm·km)	
	Dispersion at 1550 nm	≤ 18 ps/(nm·km)	
	Dispersion at 16250 nm	≤ 22 ps/(nm·km)	
	Zero dispersion wavelength	1300 – 1324 nm	
	Zero dispersion slope	≤ 0.092 ps/(nm <sup>2</sup> ·km)	
	Cable cut-off wavelength	≤ 1260 nm	
	Polarization mode dispersion individual fiber	≤ 0.2 ps/√km	
	Polarization mode dispersion design link value (M=20, Q=0.01%)	≤ 0.1 ps/√km	
	Macro-bend loss (10 turns, 30 mm radius, 1550 nm)	≤ 0.25 dB	
Mechanical Specification	Proof stress level	≥100kpsi (0.69 GPa)	
	Coating strip force(peak value)	1.3~8.9N	
	Fiber curl (Radius)	≥ 4 m	

**3. Cable Constructions**

Item	contents	Value					
		12	24	48	72	96	144
Loose tube	Number	1	2	4	6	8	12
	Outer diameter (±0.1mm)	1.5					
Filler	Number	5	4	2	0	0	0
Fibre counts per tube	G.652D	12					
Central strength member	Material	1.8			2.4	2.4	
	Diameter (mm)	--			--	4.1	
Outer sheath	Material	HDPE					
	Color	Black					
	Thickness (mm)	Approx.0.5					
Cable diameter (±0.2mm)		5.7			6.1	7.9	
Cable weight (kg/km) Approx.		28			36	52	
For micro –duct inside (mm)		8~12			8~12	10~14	
Max. tensile strength (N)		800			1000		
Crush(N/100mm)		Short term: 500 Long term: 200					
Minimum Allowable Bending Radius		Static: 10D Dynamic: 20D (D is the out diameter of the cable)					
Max. Blowing distance		2.000m					

**4. Color Code of the Fiber**

Each fiber can be identifiable throughout the length of the cable in accordance with the following color sequence.

Tube color code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Slate	White
Tube color code	7	8	9	10	11	12
	Red	Black	Yellow	Purple	Pink	Aqua

### 5. Color Code of the Loose Tube

The loose tubes will be identifiable in accordance with the following color sequence. The color of the filler is natural.

Tube color code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Slate	White
	7	8	9	10	11	12
	Red	Black	Yellow	Purple	Pink	Aqua

### 6. Mechanical, Physical and Environmental Test Characteristics

Items	Test Standard	Specified Value	Requirements
<b>Tension</b>	IEC 60794-1-2-E1	Load: According to 3. Duration time: 1min.	Fibre strain: $\leq 0.6\%$ Additional attenuation: $\leq 0.1\text{dB}$ after test
<b>Crush</b>	IEC 60794-1-2-E3	Load: According to 3 Duration time: 1min	Additional attenuation: $\leq 0.1\text{dB}$ after test
<b>Impact</b>	IEC 60794-1-2-E4	R=300mm, 1J one in 3 different places	Additional attenuation: $\leq 0.1\text{dB}$ after test
<b>Repeat Bending</b>	IEC 60794-1-2-E6	R=20*D, 25 cycles, Load: 25N	Additional attenuation: $\leq 0.1\text{dB}$ after test
<b>Torsion</b>	IEC 60794-1-2-E7	Length under test=1m, 5 cycles, Turns: $\pm 180^\circ$ , Load: 40N	Additional attenuation: $\leq 0.1\text{dB}$ after test
<b>Water Penetration</b>	IEC 60794-1-2-F5	Sample length=3m, Water height=1m, 24 hours	No water leakage
<b>Temperature Cycling</b>	IEC 60794-1-2-F1	-40 °C ~ +70 °C, 2 cycles, dwell time: 12h	Attenuation change: $\leq 0.05\text{dB/km}$ after test