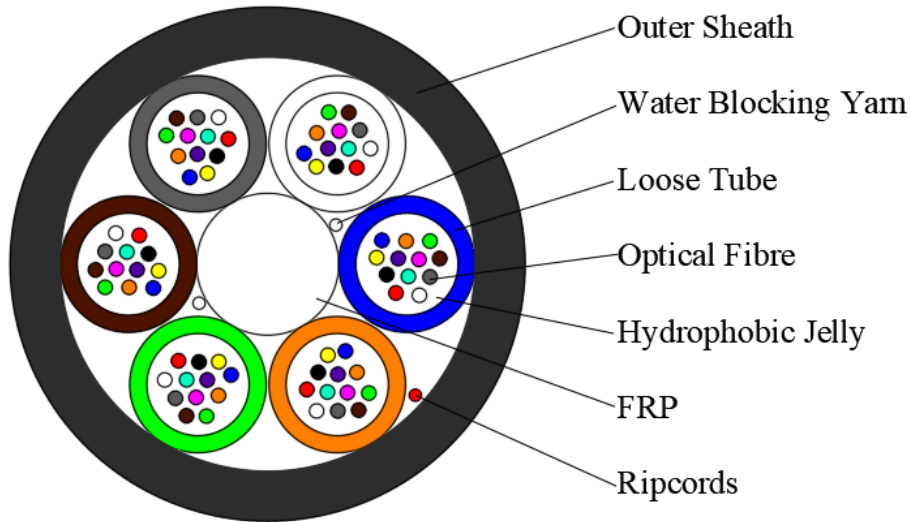


TECHNICAL DATA SHEET
FOR
OPTICAL FIBER CABLE
AIR BLOWN APPLICATION
(SM 24/36/48/72/96/144/288 FIBERS)



1. Cable Cross-section



2. Cable Identification

2.1 Fiber color code

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

2.2 Loose tube (LT) & filler rod (FR) color code

Fiber count	Element no.											
	1	2	3	4	5	6	7	8	9	10	11	12
24	LT	LT	FR	FR	FR	FR						
36	LT	LT	LT	FR	FR	FR						
48	LT	LT	LT	LT	FR	FR						
72	LT	LT	LT	LT	LT	LT						
96	LT	LT	LT	LT	LT	LT	LT	LT				
144	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
288	LT	LT	LT	LT	LT	LT	LT	LT	LT			
	LT	LT	LT	LT	LT	LT	LT	LT	LT			
	LT	LT	LT									

* "LT" means "Loose Tube";

**"FR" means "Filler Rod"



3. Cable Assembly & Dimensions

Fiber count	Max. fiber count per tube	Loose tube diameter	FRP/PE diameter	Total unit count (LT + FR)	sheath thickness (nominal*)	Overall diameter (nominal**)	Weight (Approx.) kg/km	Max. tensile strength N
		mm	mm		mm			
24	12	1.4	1.5	2LT+4FR	0.45	5.2	25	300
36	12	1.4	1.5	3LT+3FR	0.45	5.2	25	300
48	12	1.4	1.5	4LT+2FR	0.45	5.2	25	300
72	12	1.4	1.5	6LT	0.45	5.2	25	300
96	12	1.4	2.5	8LT	0.45	6.2	35	1000
144	12	1.4	2.8/4.1	12LT	0.45	7.8	55	1000
288	12	1.4	2.8	9LT+15LT	0.45	9.3	75	1000

* The nominal sheath thickness may have a tolerance with $\pm 0.1\text{mm}$.

** The nominal overall diameter may have a tolerance with $\pm 0.2\text{mm}$.

4. Performance of Cabled Optical Fiber

The performance of cabled optical fiber (ITU-T Rec. G.657.A1)

Item	Specification
Fiber type	Single mode
Fiber material	Doped silica
Attenuation coefficient @ 1310 nm @ 1550 nm	$\leq 0.36 \text{ dB/km}$ $\leq 0.23 \text{ dB/km}$
Cable cut-off wavelength	$\leq 1260 \text{ nm}$
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	$\leq 0.092 \text{ ps}/(\text{nm}^2 \cdot \text{km})$
Chromatic dispersion @ 1288 ~ 1339 nm @ 1271 ~ 1360 nm @ 1550 nm @ 1625 nm	$\leq 3.5 \text{ ps}/(\text{nm} \cdot \text{Km})$ $\leq 5.3 \text{ ps}/(\text{nm} \cdot \text{Km})$ $\leq 20 \text{ ps}/(\text{nm} \cdot \text{Km})$ $\leq 22 \text{ ps}/(\text{nm} \cdot \text{Km})$
Mode field diameter @ 1310 nm	$9.2 \pm 0.4 \text{ um}$
Core / Clad concentricity error	$\leq 0.6 \text{ um}$
Cladding diameter	$125.0 \pm 1.0 \text{ um}$
Cladding non-circularity	$\leq 1.0\%$

5. Performance of Optical Fiber Cable

5.1 Cable bending radius: 15 x cable diameter (static)

20 x cable diameter (dynamic)



5.2 Application temperature range

Operating temperature range : -10°C to +60°C
 Storage / Transport temperature range : -20°C to +70°C
 Installation temperature range : -10°C to +60°C

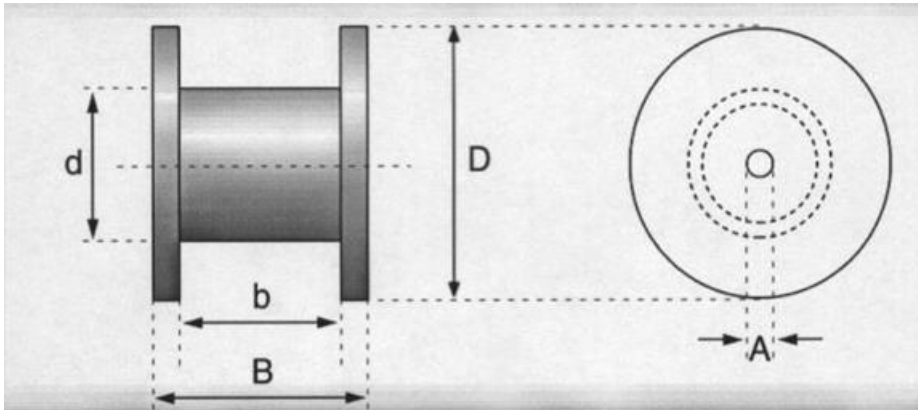
5.3 Mechanical & environmental performance test

S/N	Item	Test Method	Acceptance Condition
1	Tensile Strength IEC 60794-1-2-E1	- Load: Max. tensile strength - Length of cable under load: 50 m - load time: ≥1min.	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.
2	Crush Test IEC 60794-1-2-E3	- Load: 500N/100mm - Load time: ≥1min.	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.
3	Impact Resistance IEC 60794-1-2-E4	- Points of impact: 3 -Times of per point: 1 - Impact energy:1N*m - Radius of hammer head: 300mm	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.
4	Repeated Bending IEC 60794-1-2-E6	- Bending radius: 20 x cable diameter - Load: 50 N - No. of cycle: 25	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.
5	Torsion IEC 60794-1-2-E7	- Length: 1 m - Load: 50 N - Twist angle: ±180° - No. of cycle: 10	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.
6	Bend Radius IEC 60794-1-2-E11	- Radius:20*D - Times:3 D is the outer diameter of cable	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.
7	Water Penetration Test IEC 60794-1-2-F5B	- Height of water: 1 m - Sample length: 3 m - Test time: 24 hours	- No water shall have leaked from the opposite end of cable.
8	Temperature Cycling Test IEC 60794-1-2-F1	- Temperature step: +20°C→-20°C→+70C →+20°C - Time per each step: 12 hours - Number of cycle: 2	- Attenuation change ≤ 0.1 dB @1550 nm during and after test - No damage.



6. Packing

- 6.1 Each single cable length been wound on an iron stand-wooden composite or pure wooden drum.
- 6.2 Standard drum length is 4000m with $\pm 2\%$.
- 6.3 Covered by plastic buffer sheet.
- 6.4 Sealed by strong wooden battens.
- 6.5 At least 3m of cable inner end should be reserved for testing.



Note: The value "D" contain the seal dimension

Cable Type	Drum length	D	d	B	b
GCFY	m	mm	mm	mm	mm
24/36/48/72F	4000	730	320	550	500
96F	4000	830	320	550	500
144F	4000	930	400	680	630
288F	4000	1030	400	680	630

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