

Stranded Micro Cable (4-144Cores)

Introduction

FCST has been devoted to developing and producing the air blown fibre cable since 2003. So far, we have produced various air blown cable types, in that, the air blown microcable and the air blown fibre unit are the main products.

It is proved that FCST products are superior to the other ones in several product performance tests, and the cables are praised by all the customers during its blowing installation. Till 2010, FCST has exported microcables to Europe about 10000 km and supplied to domestic customers nearly 1500 km.

Features and Benefits

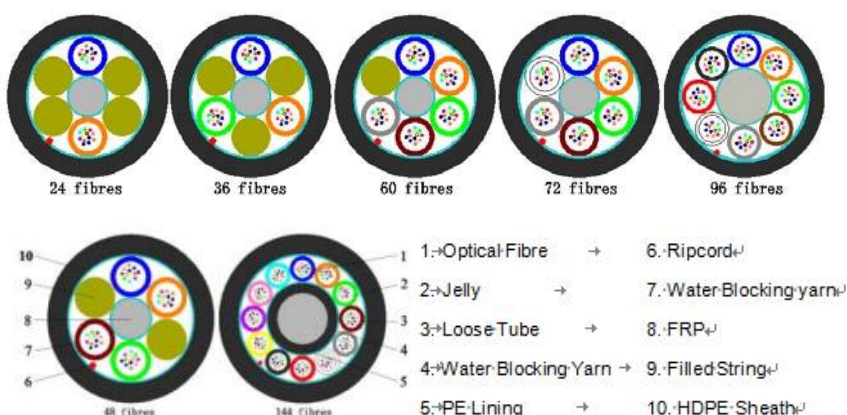
- Optimum cable structure, high fibre density.
- Accurate fibre length balance, ensure stable performance.
- Structure Innovation in sheath, enhancing the blowing performance
- No gel in cable core for water blocking, low carbon and environmental.

Standards

Unless otherwise specified in this specification, all requirements shall be mainly in accordance with the following standard specifications.

Optical fibre	ITU-T G.652D、G657、IEC 60793-2-50
Optical cable	IEC 60794-5、IEC 60794-1-2

The Structure Of Cable



Technical Index

Cable Type		Layer Cable								
Fibre Count		4	12	24	36	48	60	72	96	144
Number of loose tube		1	1	2	3	4	5	6	8	12
Number of filled string		5	5	4	3	2	1	0	0	0
Number of fiber/tube		12								
Water blocking method	FRP or PE Lining	Water Blocking yarn								
	Cable Core	Water Blocking yarn								
Thickness of HDPE sheath		Nominal: 0.50mm, Average: 0.45mm, Minimum:0.40mm								
Overall Diameter		5.6±0.1 mm						6.4±0.1 mm		7.8±0.1 mm
Weight		27kg/km						40kg/km		55 kg/km
Max. Tensile Strength		500N						1000N		1000N
Max. Crushing Resistance		800N/100mm								
Min. Bending radius -Static		12 outer Φ								
Min. Bending radius-Dynamic		20 outer Φ								
Cable Fiber Attenuation (single mode)		0.35dB/km max @1310nm						0.22dB/km max@1550nm		
Temperature range		Storage -40~+70℃； Installation -10~+40℃； Operation -40~+70℃								
Cable service life (estimate value)		25 years								

Mechanic Performance

Item	Testing Method	Testing Results	Specified Value
Tension performance	IEC 60794-1-2-E1	Short term: $\Delta a < 0.10$ dB, Δa reversible; Long term: $\Delta a \leq 0.03$ dB;	Short term: see technical index Long term = 0.5 Short term
Crush	IEC 60794-1-2-E3	Short term: $\Delta a < 0.10$ dB, Δa reversible; Long term: $\Delta a \leq 0.03$ dB; The outer sheath has no visible crack.	Short term crushing force =800 N Long term crushing force =400 N
Repeated bending	IEC 60794-1-2-E6	After test, $\Delta a \leq 0.03$ dB; The outer sheath has no visible crack.	R=20 outer Φ Bending load =50N Bending times =30
Torsion	IEC 60794-1-2-E7	After test, $\Delta a \leq 0.03$ dB; The outer sheath has no visible crack.	Torsion angle=±180° Torsion load =50N Torsion times =10
Cable bend	IEC 60794-1-2-E11A	After test, The optical fiber can't be broken; The outer sheath has no visible crack.	R=20 outer Φ 10Turns Cycles times =5
All optical testing proceeded at 1550 nm			

Blowing Performance

Blowing Tool	Typical blowing length		
PLUMETTAZ: PR-140, MiniJet-400 etc. Air pressure : 15bar	Fiber Count	Duct type 8.0/10.0mm	Duct type 10.0/12.0m m
	12~72 Fibers	≥180 0m	≥2300m
	96 Fibers	≥180 0m	≥2300m
	144 fibers	/	≥1200m

Environment Performance

Item	Testing Method	Testing Results
Temperature cycling	IEC 60794-1-2-F1	Allowable additional attenuation (1550nm)
		G.652D/G657
		a ≤0.05 dB/km, a reversible;
Water penetration	IEC 60794-1-2-F5B	Water column: 1m, 3m cable, Period:24 hours No water leak through the open end of cable
Filling compound flow	IEC 60794-1-2-E14	70℃, Period:24 hours No compound flow from the cable

Fiber Colors

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

Loose Tube Colors (Loose tube colors can be determined by the requirement of customer)

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

12~72 Fibers: 1~6 colors, 96 Fibers: 1~8 colors, 144 Fibers: 1~12 colors.

Filled String Colors

All filler string are uncolored. (natural).

Cable core:

SZ stranding.

Sheath Color

Black

Sheath Marking

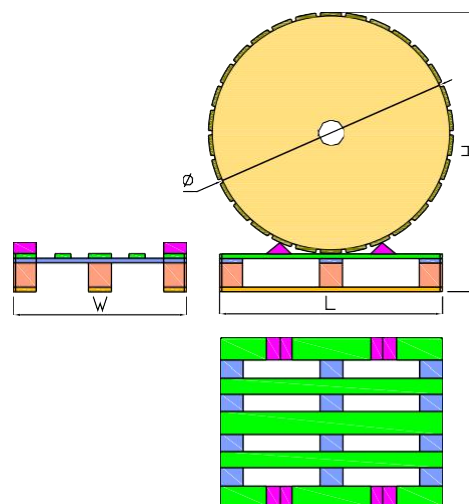
The outer sheath is marked in 1 meter intervals as follows:FCST ABC number and type of fiber
Fibers Per Tube×Tube Count [MM-YYYY] =length marking in meter=

Example: FCST ABC 48 G652D 12×4 [04- 2014] =6888m=

Delivery Lengths

Standard delivery lengths are 2km, 4km, 6km, 8km with a tolerance of -1%~+3%.

Fibre Count	Drum Length (m)	Drum Size $\Phi \times W$ (mm)	Packing Size $L \times W \times H$ (mm)	Weight (Gross) (kg)
12~72 Fibers	2000	$\Phi 600 \times 450$	$640 \times 450 \times 805$	95
	4000	$\Phi 700 \times 570$	$740 \times 570 \times 905$	160
	6000	$\Phi 800 \times 570$	$840 \times 570 \times 1005$	230
	8000	$\Phi 800 \times 750$	$840 \times 750 \times 1005$	280
96 Fibers	2000	$\Phi 600 \times 570$	$640 \times 570 \times 805$	120
	4000	$\Phi 800 \times 570$	$840 \times 570 \times 1005$	220
	6000	$\Phi 800 \times 750$	$840 \times 750 \times 1005$	300
	8000	$\Phi 900 \times 750$	$940 \times 750 \times 1105$	390
144 Fibers	2000	$\Phi 800 \times 570$	$840 \times 570 \times 1005$	190
	4000	$\Phi 900 \times 750$	$940 \times 750 \times 1105$	330
	6000	$\Phi 1000 \times 750$	$1050 \times 750 \times 1315$	480



Packing

Wooden or plywood drums with protection.