AIR BLOWN MICRO CABLE (PE)

Introduction

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

It is proved that DYS 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 2015, DYS has exported microcables to Europe about 20000 km and supplied to domestic customers nearly 6000 km.

Features and Benefits

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

Standards

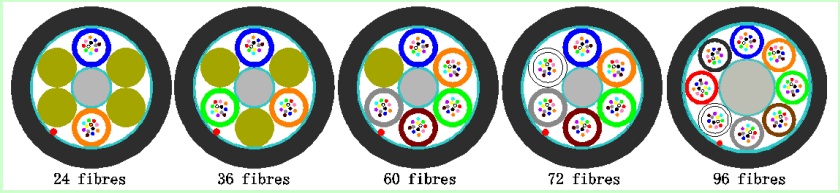
Unless otherwise specified in this specification, all requirements shall be mainly in accordance with the following standard specifications.

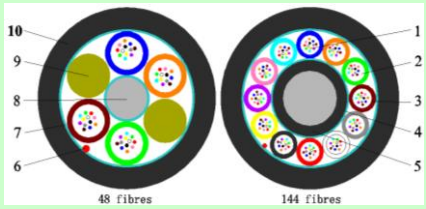
Optical fiber …..ITU-T G.652D、G657、IEC 60793-2-50

Optical cable ….IEC 60794-5、IEC 60794-1-2

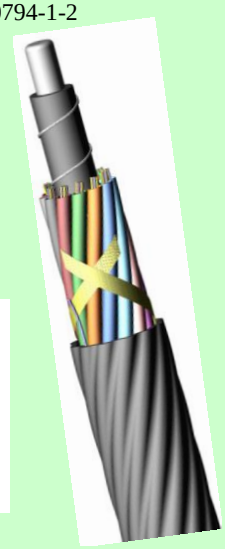
Technical Index

The structure of cable





1. Optical Fiber
2. Jelly
3. Loose Tube
4. Water Blocking Yarn
5. PE Lining
6. Ripcord
7. Water Blocking yarn
8. FRP
9. Filled String
10. HDPE Sheath



Technical Index

Cable Type		Layer Cable							
Fiber Count		12	24	36	48	60	72	96	144
Number of loose tube		1	2	3	4	5	6	8	12
Number of filled string		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		27 kg/km						40 kg/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							

Testing Index

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 10.0/12.0mm
	12～72 Fibers	⩾1800m	⩾2300m
	96 Fibers	⩾1800m	⩾2300m
	144 fibers	/	⩾1200m

Mechanic performance

Item	Testing Method	Testing Results	Specified Value
Tension performance	IEC 60794-1-2-E1	Short term： Δa <0.10 dB, Δa reversible; Long term： Δa ≤0.03 dB;	Short term：see technical index Long term = 0.5 Short term
Crush	IEC 60794-1-2-E3	Short term： Δa <0.10 dB, Δa reversible; Long term： Δa ≤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, Δa ≤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, Δa ≤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

Environment performance

Item	Testing Method	Testing Results
Temperature cycling	IEC 60794-1-2-F1	Allowable additional attenuation (1550nm) G.652D/G657 Δa ≤0.05 dB/km, Δa 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

Other Index

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 strings are uncolored (natural).

Cable core: SZ stranding.

Sheath Color : Black

Sheath Marking

The outer sheath is marked in 1 meter intervals as follows:

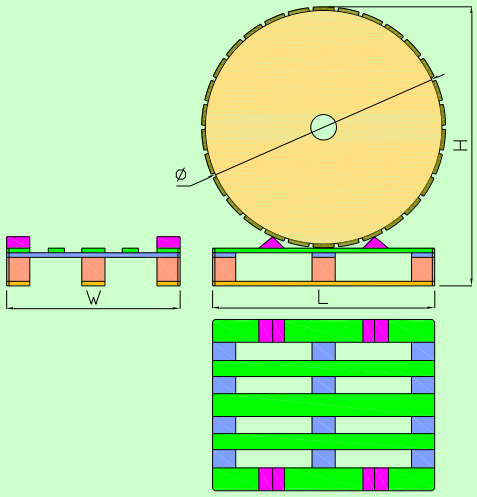
HuiYuan ABC number and type of fiber Fibers Per Tube×Tube Count [MM-YYYY] =length marking in meter=

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

Delivery Lengths

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

Fiber Count	Drum Length (m)	Drum Size Φ×W (mm)	Packing Size L×W ×H (mm)	Weight (Gross) (kg)
12～72 Fibers	2000	Φ600×450	640×450×805	95
	4000	Φ700×570	740×570×905	160
	6000	Φ800×570	840×570×1005	230
	8000	Φ800×750	840×750×1005	280
96 Fibers	2000	Φ600×570	640×570×805	120
	4000	Φ800×570	840×570×1005	220
	6000	Φ800×750	840×750×1005	300
	8000	Φ900×750	940×750×1105	390
144 Fibers	2000	Φ800×570	840×570×1005	190
	4000	Φ900×750	940×750×1105	330
	6000	Φ1000×750	1050×750×1315	480



Packing

Wooden or plywood drums with protection.