



Super Mini uni-tube blown cable



Features and Benefits

- Special complex material loose tube, reduce the shrink of tube in cold temperature.
- Accurate fibre length balance, stable mechanical and temperature performance.
- Particular technique control, prevent sheath form crinkling during installation.
- 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.

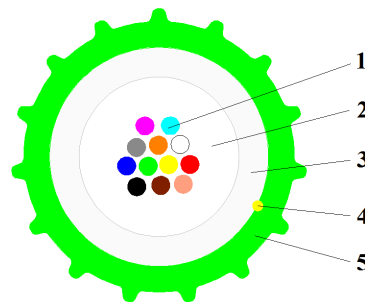
Optical fibreITU-T G.651、G.652D、G657

Optical cableIEC 60794-5、IEC 60794-1-2



Technical Index

◆ The structure of cable



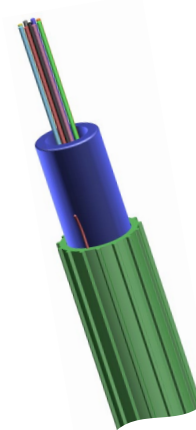
1. Optical Fibre

2. Jelly

3. Loose Tube

4. Ripcord

5. HDPE Sheath



◆ Technical Index

Cable Type	GYCFXHTY (MTE + Cable diameter)				
	MTE2.0	MTE2.3	MTE2.5	MTE2.8	MTE4.2
Fibre Count	2~4	2~8	2~12	14~24	48
Thickness of HDPE sheath	Nominal value 0.15mm	Nominal value 0.15mm	Nominal value 0.15mm	Nominal value 0.15mm	Nominal value 0.30mm
Nominal Overall Diameter	2.0±0.1mm	2.3±0.1mm	2.5±0.1mm	2.8±0.1mm	4.2±0.1mm
Weight	4.0 kg/km	5.0 kg/km	6.0 kg/km	7.0kg/km	15.0 kg/km
Cable Fibre Attenuation	SM : 0.35dB/km max @1310nm 0.22dB/km max @1550nm MM : 3.50dB/km max @850nm 1.50dB/km max @1300nm				
Max. Tensile Strength	40N	50N	60N	60N	60N
Max. Crushing force	600N/100mm				
Min. Bending radius -Static / Dynamic	10 / 20 outer Φ				
Temperature	Storage -30~+50℃; Installation-10~+40℃; Operation-20~+50℃				
Cable service life (estimate value)	25 years				



Testing Index

◆ Blowing performance

Blowing Tool	Typical blowing length		
	Fibres Count	Duct type	Duct type
PLUMETTAZ: PR-140, MiniJet-400 etc. Air pressure : 13bar		5.5/7.0mm	8/10mm
	2~12 fibres	1500m	/
	14~24 fibres	1200m	/
	48 fibres	/	1200m

◆ Mechanic performance

Item	Testing Method	Testing Results		Specified Value
Tension performance	IEC 60794-1-21-E1	Optical fibre strain	Additional attenuation	Max. Tensile Strength = Short term Allowable tension ≈2×(Long term Allowable Tension)
		Short term: ≤0.3% Long term: ≤0.1%	Short term: $\Delta a < 0.1$ dB, Δa reversible; Long term: $\Delta a \leq 0.03$ dB	
Crush	IEC 60794-1-21-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 =600 N Long term crushing force =300 N
Repeated bending	IEC 60794-1-21-E6	After test, $\Delta a \leq 0.03$ dB; The outer sheath has no visible crack.		R=20 outer Φ
				Bending load =15N
				Bending times =25
Torsion	IEC 60794-1-21-E7	After test, $\Delta a \leq 0.03$ dB; The outer sheath has no visible crack.		Torsion angle=±180°
				Torsion load =15N
				Torsion times =5
Cable bend	IEC 60794-1-21-E11A	After test, The optical fibre 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 60794-1-22-F1	Allowable additional attenuation
		SM: $\Delta a \leq 0.10$ dB/km@1550nm, Δa reversible;
		MM: $\Delta a \leq 0.30$ dB/km@1300nm, Δa reversible;
Water penetration	IEC 60794-1-22-F5B	Water column: 1m, 3m cable, Period:24 hours No water leak through the open end of cable
Filling compound flow	IEC 60794-1-22-F16	70°C, Period:24 hours No compound flow from the cable



Prostal Limited.

Vat number: 24849130

1F., No.40, Aly. 22, Ln. 143, Ruiping Rd., Yangmei Disty, Taoyuan City 32658, Taiwan

TEL: +886-3-4828372 Fax: +886-3-4828377

URL: www.prostal.com.tw E-MAIL: joan@prostal.com.tw



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◆ Fibre 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

No.13~No.24 fibre colors with black ring marks at intervals of 50mm.

NO.	13	14	15	16	17	18	19	20	21	22	23	24
Color	Blue	Orange	Green	Brown	Grey	White	Red	natural	Yellow	Violet	Pink	Aqua

No.25~No.36 fibre colors with black ring marks at intervals of 100mm.

NO.	25	26	27	28	29	30	31	32	33	34	35	36
Color	Blue	Orange	Green	Brown	Grey	White	Red	natural	Yellow	Violet	Pink	Aqua

No.37~No.48 fibre colors with black ring marks at intervals of 150mm.

NO.	37	38	39	40	41	42	43	44	45	46	47	48
Color	Blue	Orange	Green	Brown	Grey	White	Red	natural	Yellow	Violet	Pink	Aqua

◆ Sheath color: Green

◆ Sheath Marking

The outer sheath is marked at intervals of 1 meter as follows:

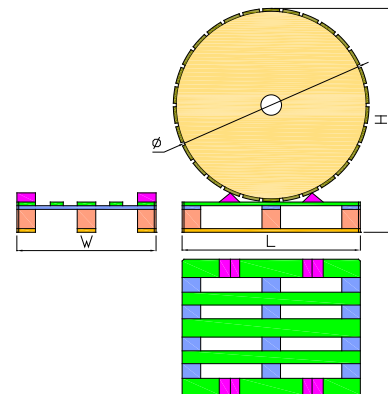
HuiYuan **MINI** number and type of fibre MTE Cable diameter [MM-YYYY] =length marking in meter=

Example: HuiYuan **MINI** 24 G652D MTE2.8 [07- 2023] =1888m=

◆ Delivery Lengths

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

Fibre Count	Drum length (m)	Drum Size $\Phi \times W$ (mm)	Packing Size L×W×H (mm)	Weight (Gross) (kg)
2~12 Fibres ϕ 2.0-2.5	2000	Φ 450×360	480×360×645	27
	4000	Φ 500×360	530×360×695	39
	6000	Φ 540×360	570×360×735	51
14~24 Fibres ϕ 2.8	2000	Φ 500×360	530×360×695	31
	4000	Φ 540×360	570×360×735	46
48 Fibres ϕ 4.2	2000	Φ 550×360	580×360×745	48
	4000	Φ 600×570	630×570×795	90



◆ Packing

Wooden or plywood drums with protection.