

GCYFTY — Microduct Air-Blown Cable

Loose tube · all-dielectric · dry core · 200 µm bend-optimised fiber

200 µm

72F - 864F

G.657A1

Air-blown

Dry core

GCYFTY is an all-dielectric, dry-core loose tube cable built for pneumatic installation into microducts. The 200 µm primary coating shrinks the cable cross-section substantially against conventional 250 µm designs, so a far higher fiber count fits the same duct — the decisive factor in dense FTTH, MDU and urban backbone builds where duct space is the constraint. Dry-core water blocking removes gel from the preparation process and cuts splice-point labour.

■ Applications

- FTTH and MDU distribution across congested urban duct networks
- Microduct backbone and lateral routes installed by pneumatic jetting
- Duct-space recovery projects where existing infrastructure is saturated
- Campus, metro and data centre inter-building links

■ Fiber characteristics — G.657A1 (200 µm)

Item		Specification
Mode field diameter	at 1310 nm	$8.6 \pm 0.4 \mu\text{m}$
Cladding diameter		$125 \pm 0.7 \mu\text{m}$
Core concentricity error		$\leq 0.5 \mu\text{m}$
Cladding non-circularity		$\leq 0.7 \%$
Cut-off wavelength (λ_{cc})	cabled	$\leq 1260 \text{ nm}$
Cut-off wavelength (λ_c)	fiber	1180 – 1330 nm
Primary coating diameter	excl. colour layer	$200 \pm 10 \mu\text{m}$
Coating-cladding concentricity error		$\leq 12.0 \mu\text{m}$
Fiber curl radius		$\geq 4 \text{ m}$

■ Transmission characteristics

Item		Performance
Attenuation (fiber)	at 1310 nm	$\leq 0.36 \text{ dB/km}$
	at 1550 nm	$\leq 0.22 \text{ dB/km}$
Attenuation (cable)	at 1310 nm	$\leq 0.40 \text{ dB/km}$
	at 1550 nm	$\leq 0.30 \text{ dB/km}$
Macro bending loss	Φ 30 mm, 10 turns @ 1550 nm	$\leq 0.25 \text{ dB}$
	Φ 30 mm, 10 turns @ 1625 nm	$\leq 1.0 \text{ dB}$
	Φ 20 mm, 1 turn @ 1550 nm	$\leq 0.75 \text{ dB}$
	Φ 20 mm, 1 turn @ 1625 nm	$\leq 1.5 \text{ dB}$
Chromatic dispersion	1288 – 1339 nm	$\leq 3.5 \text{ ps/nm} \cdot \text{km}$
	at 1550 nm	$\leq 18 \text{ ps/nm} \cdot \text{km}$
Zero dispersion wavelength		1300 – 1324 nm
Zero dispersion slope		$\leq 0.092 \text{ ps/nm}^2 \cdot \text{km}$

Cable construction

Element	Material / description
Central strength member	FRP (fiber reinforced plastic), fully dielectric
Loose tube	PBT, jelly-filled, colour coded
Water blocking	Water blocking yarn — dry core, no flooding compound
Ripcord	Included for sheath access
Outer sheath	HDPE — low-friction surface for pneumatic installation
Sheath thickness	0.5 mm nominal (0.3 mm minimum)

Dimensions and weight

Fiber count	Max. fibers/tube	Tubes / filler	Sheath thickness (mm)	Diameter (mm)	Weight (kg/km)
72	12	6 / 0	0.5	4.5	19
96	12	8 / 0	0.5	5.2	27
144	24	6 / 0	0.5	5.3	28
192	24	8 / 0	0.5	6.3	41
288	24	12 / 0	0.5	8.1	66
432	24	18 / 0	0.5	8.3	64
576	24	24 / 0	0.5	9.7	93
864	36	24 / 0	0.5	11.5	123

Diameter and weight are approximate values; tolerance $\pm 10\%$.

Mechanical and environmental performance

Test	Method	Conditions	Requirement
Tensile performance	IEC 60794-1-21-E1	Short-term load $1 \times W$; 5 min	Loss change ≤ 0.1 dB @ 1550 nm (after test); no sheath damage
Crush	IEC 60794-1-21-E3	500 N / 100 mm; 1 min; 100 mm length	No fiber degradation; no sheath damage
Impact	IEC 60794-1-21-E4	1 m height; 300 g; 3 points $\times$ 1	No fiber break; no sheath damage
Repeated bending	IEC 60794-1-21-E6	Radius $20 \times D$; 50 N; 2 s/cycle; 25 cycles	No fiber break; no sheath damage
Water penetration	IEC 60794-1-22-F5	1 m head; 3 m sample; 24 h	No drip through the cable core assembly
Twist	IEC 60794-1-21-E7	1 m; 100 N; $\pm 180^\circ$; ≤ 1 min/cycle; 10 cycles	No fiber break; no sheath damage
Temperature cycling	IEC 60794-1-22-F1	$+20 \rightarrow -20 \rightarrow +70 \rightarrow +20$ °C; 2 cycles; 12 h per step	Loss change ≤ 0.15 dB/km @ 1550 nm; no sheath damage

W = cable weight per kilometre. D = cable diameter.

■ Fiber colour coding

Pos.	Color	Pos.	Color
1	Blue	7	Red
2	Orange	8	Black
3	Green	9	Yellow
4	Brown	10	Violet
5	Grey	11	Pink
6	White	12	Aqua

Positions 13 – 24 repeat positions 1 – 12 with a black ring; positions 25 – 36 repeat them with a double black ring. Position 20 and 32 use natural in place of black. Loose tube colours follow the same twelve-colour sequence, with positions 13 – 24 marked by a black tracer (position 20: white with red tracer).

■ Sheath marking

Manufacturer · cable type · manufacturing year · ID · sequential length marking in feet or metres.

■ Standards and compliance

Manufactured to ANSI/ICEA S-87-640 and Telcordia GR-20 by Nanjing Wasin Fujikura Optical Communication Ltd. Distributed in Mercosur and LATAM by Reubens Choice LLC. Every shipment ships with factory test reports and compliance documentation.

Ordering and technical support. Contact Reubens Choice LLC for pricing, lead times, drum lengths, sheath options (LSZH / PE / HDPE) and custom fiber counts. When requesting a quotation, specify cable code, fiber count, fiber type and required length per drum.