AIR BLOWING MICRO OPTICAL FIBER CABLE

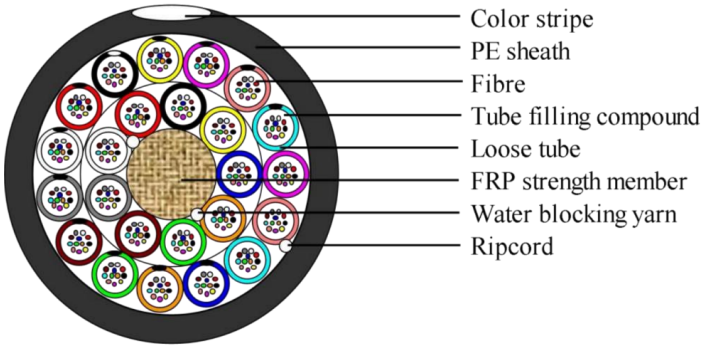
288F

AIR BLOWN

MODEL **GYCFY-288F**

Air-blown micro cable for duct installation: 288 G.657.A1 fibres (200 µm coating) on an 8.0 mm sheath profile.

FIBER COUNT	FIBER TYPE
288	**G.657.A1**
WEIGHT	OD
69 kg/km	**8.0 mm**



01 OVERVIEW

Scope & cable cross-section

This specification covers the requirements of the micro-duct optical fibre cable to be supplied for installation by blowing. The cable shall comply with this specification and generally meet or better the latest standards listed below.

The GYCFY-288F is designed for installation into microducts by air blowing and follows the construction below.

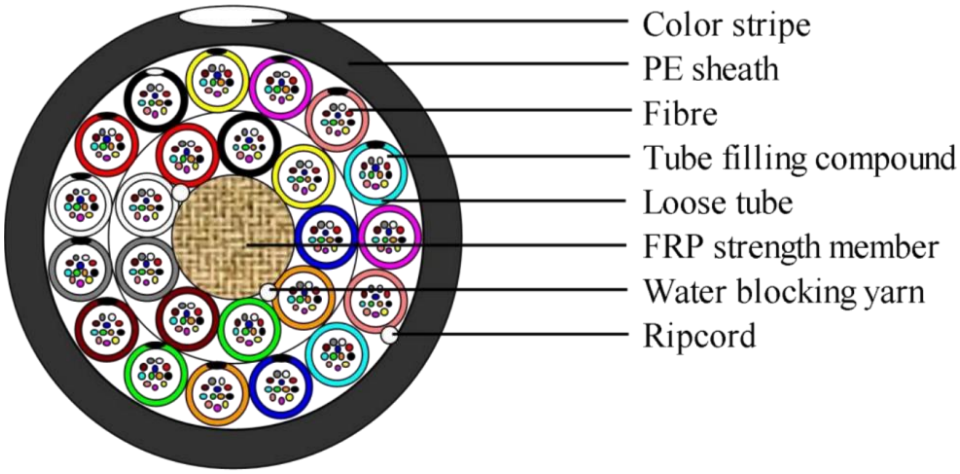


FIG. 1 Cable cross-section (not to scale)

- 288 G.657.A1 fibres (200 µm coating) are housed in 24 loose tubes of 12 fibres each.
- Nine inner tubes and fifteen outer tubes are stranded around the FRP strength member.
- Water blocking yarns run along the core; no filler rods are required.
- One ripcord sits under the PE sheath, which carries a colour stripe.
- The 8.0 mm profile is designed for installation into microducts by air blowing.

AT A GLANCE

ITEM	VALUE	ITEM	VALUE
Fibre count	288 (G.657.A1)	Loose tubes	9 + 15 × 12F
Cable diameter	8.0 ± 0.5 mm	Cable weight	69 kg/km

02 STANDARDS

Reference standards

STANDARD	SCOPE
ITU-T G.650	Definitions and test methods for linear, deterministic fibre attributes
ITU-T G.652	Characteristics of a single-mode optical fibre and cable
ITU-T G.657	Bending-loss insensitive single-mode fibre and cable for access networks
IEC 60794-1-2	Optical fibre cables — basic optical cable test procedures
IEC 60794-1-21	Optical fibre cables — mechanical test methods
IEC 60794-1-22	Optical fibre cables — environmental test methods
IEC 60794-5-10	Outdoor micro-duct optical fibre cables for installation by blowing

03 IDENTIFICATION

Cable identification

The individual fibres and loose tubes follow TIA/EIA-598-A.

3.1 FIBER COLOR CODE

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

3.2 LOOSE TUBE (LT) & FILLER ROD (FR) COLOR CODE

FIBRE COUNT	ELEMENT NO.											
	1	2	3	4	5	6	7	8	9	10	11	12
288	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT	LT
	LT+BS	LT+BS	LT+BS	LT+BS	LT+BS	LT+BS	LT+BS	LT+YS	LT+BS	LT+BS	LT+BS	LT+BS

LT = loose tube, BS = black stripe, YS = yellow stripe. Element 1 starts blue, element 2 orange, and so on with the colour code above.

04 CONSTRUCTION

Cable construction & parameters

ITEM	CONTENT	SPECIFICATION
Optical fiber	Count / type	288F, ITU-T G.657.A1 (200 μm)
Loose tube	Fibres per tube	12
Loose tube	Numbers	9 (inner) + 15 (outer)
Loose tube	Material	PBT
Filler	Numbers	0
Central strength member	Material	FRP
Water blocking	Material	Water blocking yarns
Color stripe	Width	2 mm
Ripcord	Numbers	1
Outer sheath	Material	Black HDPE with one white stripe
Outer sheath	Thickness	Nominal 0.5 mm
Cable diameter	Nominal (±0.5 mm)	8.0 mm
Cable weight	Approx.	69 kg/km
Max. tensile strength	Short time	0.5 × W (W = cable weight in kg/km)
Max. crush resistance	Short time	800 N/100 mm
Bending radius	Dynamic / static	20 × / 15 × cable diameter
Temperature range	Installation	−10 °C to +60 °C
Temperature range	Storage	−20 °C to +60 °C
Temperature range	Operation	−40 °C to +70 °C

05 FIBRE

Optical, geometric & mechanical characteristics

ITU-T G.657.A1 fibre with 200 µm coating.

CHARACTERISTIC	CONDITION	VALUE	UNIT
OPTICAL CHARACTERISTICS			
Mode field diameter	1310 nm	8.4 - 9.2 ± 0.4	µm
Attenuation coefficient	1310 nm	≤ 0.36	dB/km
Attenuation coefficient	1383 nm	≤ 0.35	dB/km
Attenuation coefficient	1550 nm	≤ 0.22	dB/km
Attenuation coefficient	1625 nm	≤ 0.25	dB/km
Attenuation non-uniformity		≤ 0.05	dB
Zero dispersion wavelength		1300 - 1324	nm
Max. zero dispersion slope		≤ 0.092	ps/(nm²·km)
PMD coefficient		≤ 0.2	ps/√km
Cut-off wavelength		≤ 1260	nm
Dispersion coefficient	1288 - 1340 nm	≤ 3.5	ps/(nm·km)
Dispersion coefficient	1550 nm	≤ 18	ps/(nm·km)
GEOMETRIC CHARACTERISTICS			
Cladding diameter		125.0 ± 0.7	µm
Cladding non-circularity		≤ 0.7	%
Coating diameter		200.0 ± 10.0	µm
Coating / cladding concentricity error		≤ 12.0	µm
Coating non-circularity		≤ 6.0	%
Core / cladding concentricity error		≤ 0.5	µm
MECHANICAL CHARACTERISTICS			
Proof stress		≥ 0.69	GPa
Coating strip force	average / peak	1.0 - 5.0 / 1.3 - 8.9	N
Macro bending loss	Ø20 mm, 1 turn, 1550 / 1625 nm	≤ 0.75 / ≤ 1.5	dB
Macro bending loss	Ø30 mm, 10 turns, 1550 / 1625 nm	≤ 0.25 / ≤ 1.0	dB

06 TESTING

Mechanical & environmental tests

S/N	ITEM	TEST METHOD	ACCEPTANCE
1	Tensile loading IEC 60794-1-21-E1	0.5 × W · 50-100 m · 1 min Mandrel 30 × cable diameter	No fibre or cable damage No obvious change in attenuation
2	Crush / compression IEC 60794-1-21-E3A	100 mm · 800 N · 1 min	Δ attenuation ≤ 0.1 dB @1550 nm No sheath cracking, no fibre break
3	Impact resistance IEC 60794-1-21-E4	1 J · 3 impacts · striking radius 300 mm	Δ attenuation ≤ 0.1 dB @1550 nm No sheath cracking, no fibre break
4	Cable bending IEC 60794-1-21-E11A	Mandrel 40 × cable diameter · 3 cycles	Δ attenuation ≤ 0.1 dB @1550 nm No sheath cracking, no fibre break
5	Fiber within cable	Actual fibre length 1 - 2 % over ordered cable length	Fibre length ratio within 1 - 2 %
6	Torsion IEC 60794-1-21-E7	2 m · ±180° · 5.0 kg · 10 cycles	Δ attenuation ≤ 0.1 dB @1550 nm No sheath cracking, no fibre break
7	Kink IEC 60794-1-21-E10	Minimum diameter 40 × cable diameter	Δ attenuation ≤ 0.1 dB @1550 nm No sheath cracking, no fibre break
8	Temperature cycling IEC 60794-1-22-F1	−40 / +70 °C · 2 cycles · 12 h per step	Δ attenuation ≤ 0.1 dB/km @1550 nm
9	Water penetration IEC 60794-1-22-F5B	3 m · 1 m head · 24 h	No water leak from the cable end
10	Compound flow IEC 60794-1-22-E14	30 cm · 80 ± 2 °C · 24 h	No compound flow

07 MARKING & PACKING

Cable marking, packing & delivery

7.1 CABLE MARKING

Unless otherwise required, the sheath is inkjet marked every 1 m with the following information. Characters shall be at least 2.0 mm high.

- Property of Globe Telecom
- Manufacturer's name and fiber count
- Year of manufacture
- Length marker
- Other requirements as agreed

7.2 ENVIRONMENT

Full compliance with ISO 14001, RoHS and OHSAS 18001.

7.3 PACKING

The cable is supplied on a hard plywood, wooden or steel-wooden drum at the ordered length per drum. Both ends are fitted with a suitable cap to prevent ingress of moisture.

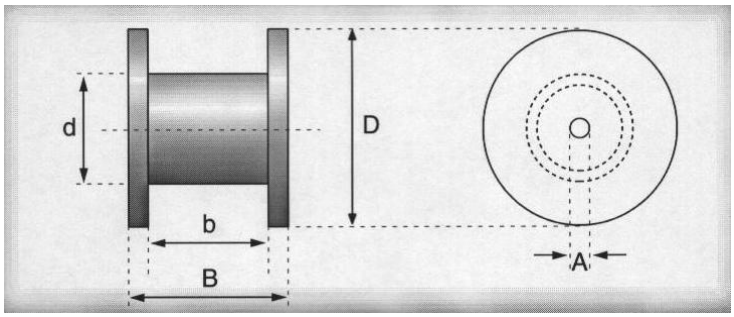


FIG. 2 Drum dimensions — W is the drum width, D the flange diameter

FIBER COUNT	DRUM LENGTH (m)	DRUM SIZE Φ×W (mm)	DRUM TYPE	PACKING SIZE Φ×W (mm)
288F	4,000	Φ950 × 750	Plywood wood drum	Φ1,000 × 750

ZUOYEAL

ZUOYEAL TECHNOLOGY

Connecting More, With Fiber

www.zuoyealoptic.com · trade@zuoyeal.com

This datasheet describes the GYCFY-288F air-blown micro cable at the time of publication. Dimensions and configurations may change without notice; confirm current values with ZUOYEAL before ordering.

288F · G.657.A1 · AIR BLOWN

Connecting More, With Fiber