

PRODUCT DESCRIPTION

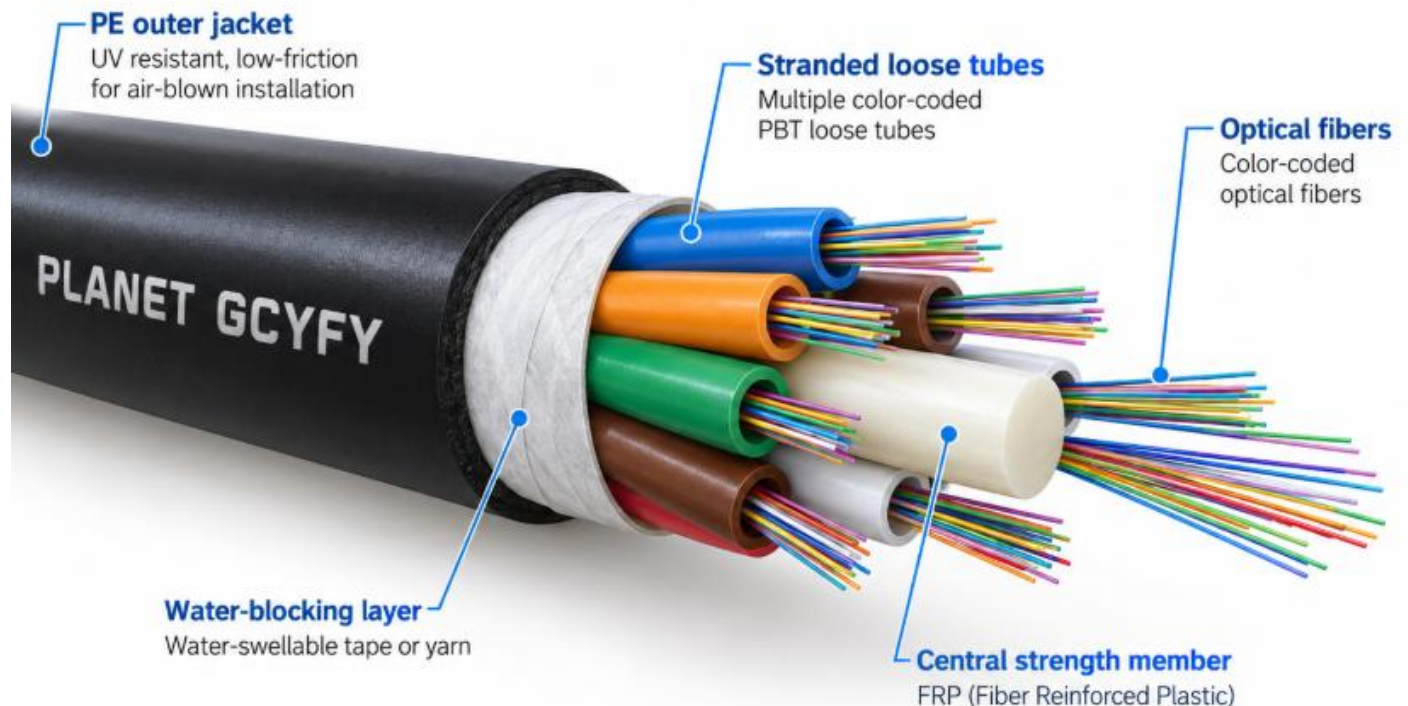
PLANET GCYFY is a high-fiber-count all-dielectric, non-metallic air-blown microduct fiber optic cable based on stranded loose tube construction. It is intended for dense telecom, 5G, FTTx, metro, campus and urban microduct networks where high fiber density and compact outside diameter are required. Standard fiber is OS2 G.652.D, with OM3 / OM4 / OM5 multimode versions available for approved project requirements.

MAIN CLASSIFICATION

Fiber Type Options	Structure	Cable Classification	Installation Class
OS2 / OM3 / OM4 / OM5	Stranded PBT Loose Tubes + FRP Central Member + Water Blocking + PE	ALL-DIELECTRIC / NON-METALLIC	NON-ARMORED / AIR-BLOWN MICRODUCT

GCYFY

Air-Blown Microduct Fiber Optic Cable



GENERAL SPECIFICATIONS & CABLE CONSTRUCTION

Environment	Outside Plant (OSP), high-density microduct, telecom access, metro, FTTx, 5G, campus and urban duct networks.
Applications	Air-blown high-count microduct backbone, operator access / metro routes, FTTx feeder, 5G transport and compact dielectric infrastructure.
Fiber Type	OS2 G.652.D standard; G.657.A1 / G.657.A2 optional; OM3 / OM4 / OM5 50/125 µm multimode available upon project request.
Fiber Count	24F to 288F typical family range. Common counts: 24F, 48F, 72F, 96F, 144F and 288F.
Fiber Proof Test	≥ 100 kpsi proof-tested optical fiber.
Loose Tube / Stranding	Color-coded PBT loose tubes, typically up to 12 fibers per tube, stranded around a solid FRP central strength member.
Central Strength Member	Solid FRP (Fiber Reinforced Plastic) central strength member; no metallic central member.
Water Blocking	Water-swellable yarn / tape and/or dry-core water-blocking layer to prevent longitudinal water ingress.
Aarmor	None in standard GCYFY construction.
Outer PE Jacket	Virgin black HDPE / MDPE PE outer jacket with low-friction surface suitable for air-blown microduct installation; recycled material not permitted.
Cable Structure	Stranded PBT loose tubes + FRP central member + water blocking + compact low-friction black PE outer jacket.
Cable Classification	All-Dielectric Non-Metallic Non-Armored High-Count Air-Blown Microduct.
Cable Marking	PLANET-GCYFY + fiber count + fiber type + sequential meter marking + production traceability.

MECHANICAL & ENVIRONMENTAL PERFORMANCE

Parameter	PLANET Minimum / Reference Requirement
Operating / Storage Temp.	-40°C to +70°C
Installation Temp.	-20°C to +60°C
Tensile Load - Long / Short	≥ 600 N / ≥ 1500 N*
Crush Resistance - Long / Short	≥ 300 N/100 mm / ≥ 1000 N/100 mm*
Bend Radius - Static / Installation	10D / 20D
Water Penetration	No leakage under standard water penetration test conditions
Blowing Requirement	Low-friction jacket and compact high-count cable design suitable for approved microduct air-blown installation
Microduct Compatibility	Final cable O.D., tube geometry and blowing parameters shall be matched to the approved microduct inner diameter and route conditions
OS2 / OM3 / OM4 / OM5	GCFY Optical & Compliance Data
	Consultant-Oriented Performance Data

OPTICAL CHARACTERISTICS - OS2 / OM3 / OM4 / OM5

Parameter	OS2 G.652.D	OM3 50/125	OM4 50/125	OM5 50/125
Attenuation @ 850 nm	—	≤ 3.0 dB/km	≤ 3.0 dB/km	≤ 3.0 dB/km
Attenuation @ 953 nm	—	—	—	≤ 3.0 dB/km
Attenuation @ 1300 / 1310 nm	≤ 0.35 dB/km @1310	≤ 1.0 dB/km @1300	≤ 1.0 dB/km @1300	≤ 1.0 dB/km @1300
Attenuation @ 1550 nm	≤ 0.21 dB/km	—	—	—
Attenuation @ 1625 nm	≤ 0.23 dB/km	—	—	—
Mode Field / Core Diameter	9.2 ± 0.4 µm @1310	50 ± 2.5 µm	50 ± 2.5 µm	50 ± 2.5 µm
Cladding Diameter	125.0 ± 0.7 µm	125 ± 1.0 µm	125 ± 1.0 µm	125 ± 1.0 µm
Coating Diameter	245 ± 10 µm	245 ± 10 µm	245 ± 10 µm	245 ± 10 µm
PMD	≤ 0.20 ps/√km	—	—	—
EMB @ 850 nm	—	≥ 2000 MHz·km	≥ 4700 MHz·km	≥ 4700 MHz·km
EMB @ 953 nm	—	—	—	≥ 2470 MHz·km
Fiber Standard	ITU-T G.652.D / IEC 60793-2-50	IEC 60793-2-10 A1a.2	IEC 60793-2-10 A1a.3	IEC 60793-2-10 A1a.4

TYPICAL FIBER COUNT / MICRODUCT DESIGN GUIDE

Fiber Count	Typical O.D.	Nominal Weight	Max Tensile	Crush Resistance
24F	6.5 ± 0.4 mm	40 ± 10% kg/km	1500 N	1000 N/100 mm
48F	7.2 ± 0.4 mm	48 ± 10% kg/km	1500 N	1000 N/100 mm
96F	8.5 ± 0.5 mm	62 ± 10% kg/km	1500 N	1000 N/100 mm
144F	9.2 ± 0.5 mm	75 ± 10% kg/km	1500 N	1000 N/100 mm
288F	11.5 ± 0.6 mm	110 ± 12% kg/km	1500 N	1000 N/100 mm

STANDARDS & COMPLIANCE

IEC 60794 Series	Optical fiber cable construction, mechanical and environmental test framework.
ITU-T G.652.D	Standard OS2 single-mode fiber.
IEC 60793-2-50	Single-mode optical fiber product specification reference.
IEC 60793-2-10	Multimode optical fiber product specification reference for OM3 / OM4 / OM5.
RoHS	Hazardous substance compliance subject to production declaration / report.
Air-Blown Installation	Cable / microduct blowing compatibility shall be verified for the approved project configuration.
Customer / Project Approvals	Subject to confirmed production scope and project-specific requirements.

MANDATORY FACTORY TESTS & DOCUMENTATION

- 100% OTDR test per drum at 1310 nm and 1550 nm for OS2; appropriate 850 / 1300 nm test set for multimode production where applicable.
- Factory attenuation report and fiber-batch traceability for each production lot.
- Construction report confirming multiple PBT loose tubes, FRP central strength member, approved water-blocking materials and virgin low-friction HDPE / MDPE jacket compound.
- Mechanical type-test evidence for tensile, crush, bend and applicable IEC 60794 mechanical tests, together with cable blowing / microduct suitability verification.
- Water penetration and temperature-cycling test evidence.
- RoHS declaration / report and final drum inspection with sealed cable ends and continuous sequential meter marking.

RECOMMENDED APPLICATIONS

- High-density microduct backbone networks.
- Telecom operator metro and access networks.
- 5G and FTTx high-fiber-count routes.
- Urban microduct infrastructure and high-density campus backbone.
- Projects requiring high fiber density in limited duct space and electrical isolation.
- OS2 as the standard long-distance selection; OM3 / OM4 / OM5 for project-specific multimode microduct links.

SELECTION NOTE

GCRYFY is an all-dielectric, non-metallic, non-armored stranded loose-tube micro cable designed for air-blown installation at higher fiber counts. It is not the low-count central-tube GCRYFY family and shall not be supplied with metallic armor or strength members.

QUALITY & CHANGE CONTROL

- Approved optical fiber, qualified PBT loose tubes, FRP central strength member, water-blocking materials and virgin HDPE / MDPE outer jacket compound shall be used; recycled or reprocessed jacket material is not permitted.
- Multiple loose tubes shall be stranded around the central FRP member. Tube allocation, color sequence, fiber excess length and geometry shall be controlled for high-count designs.
- Water blocking shall use approved tape / yarn and/or dry-core materials appropriate to the stranded loose-tube microduct construction.
- Jacket surface, cable diameter and construction shall be controlled for suitability with the intended microduct inner diameter and air-blown installation method.
- No change to fiber manufacturer/type, loose-tube design, FRP member, water-blocking system, PE compound, cable diameter or blowing performance is permitted without prior written PLANET approval.

AVAILABLE PROJECT OPTIONS

- OS2 G.657.A1 / G.657.A2 bend-insensitive single-mode fiber.
- OM3, OM4 or OM5 50/125 µm multimode fiber.
- Dry-core / dry water-blocking configuration subject to the approved stranded loose-tube construction.
- Custom fiber counts within the approved GCRYFY 24F-288F high-count micro-cable range.
- Custom jacket printing and sequential meter marking.
- Project-specific microduct compatibility and blowing configuration subject to approved cable / duct pairing.

ORDERING DESCRIPTION

Part Number Family	To be assigned by PLANET
Typical OS2 Description	PLANET GCRYFY - 144F - OS2 G.652.D - Air-Blown Microduct Cable - Stranded Loose Tube - FRP Central Strength Member - All-Dielectric - Black Low-Friction PE Jacket
Typical OM3 Description	PLANET GCRYFY - 144F - OM3 50/125 - Air-Blown Microduct Cable - Stranded Loose Tube - FRP Central Strength Member - All-Dielectric - Black Low-Friction PE Jacket
Typical OM4 Description	PLANET GCRYFY - 144F - OM4 50/125 - Air-Blown Microduct Cable - Stranded Loose Tube - FRP Central Strength Member - All-Dielectric - Black Low-Friction PE Jacket
Typical OM5 Description	PLANET GCRYFY - 144F - OM5 50/125 - Air-Blown Microduct Cable - Stranded Loose Tube - FRP Central Strength Member - All-Dielectric - Black Low-Friction PE Jacket

PRODUCT IDENTIFICATION PRINCIPLE

The approved product description shall state the actual construction and shall not rely only on the GCYFY family code: fiber type + fiber count + air-blown microduct application + stranded loose-tube structure + FRP central strength member + water blocking + low-friction PE outer jacket.

25-Year System Warranty

Subject to proper installation and certified components usage.

Part Number	Description
PL-GCYFY-xxS2	Outdoor Fiber Optic Cable Single Mode OS2
PL-GCYFY-xxM3	Outdoor Fiber Optic Cable Multi Mode OM3
PL-GCYFY-xxM4	Outdoor Fiber Optic Cable Multi Mode OM4
PL-GCYFY-xxM5	Outdoor Fiber Optic Cable Multi Mode OM5

XX: Number of Core