

PRODUCT DESCRIPTION

PLANET GCYFXTY is a compact all-dielectric, non-metallic air-blown microduct fiber optic cable designed for access, FTTx, campus and urban microduct networks where small cable diameter and efficient blown installation are required. The cable uses a central PBT loose tube, dielectric reinforcement, water-blocking elements and a low-friction outdoor PE jacket. Standard fiber is OS2 G.652.D; OM3, OM4 and OM5 multimode fibers are available for project-specific requirements.

MAIN CLASSIFICATION

Fiber Type Options	Structure	Cable Classification	Dielectric Status
OS2 / OM3 / OM4 / OM5	Central PBT Loose Tube + Dielectric Reinforcement + Water Blocking + PE	ALL-DIELECTRIC / NON-METALLIC	NON-ARMORED / AIR-BLOWN MICRODUCT

GCYFXTY

Air-Blown Microduct Fiber Optic Cable



GENERAL SPECIFICATIONS & CABLE CONSTRUCTION

Environment	Outside Plant (OSP), compact microduct, access, FTTx, campus and urban duct networks.
Applications	Air-blown microduct access, FTTx feeder / distribution, campus links and compact dielectric routes requiring small cable diameter.
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	2F to 24F typical family range. Common counts: 2F, 4F, 6F, 8F, 12F and 24F.
Fiber Proof Test	≥ 100 kpsi proof-tested optical fiber.
Central Loose Tube	Single compact PBT loose tube; dry-core or jelly-filled according to approved order and production design.
Strength Elements	Dielectric reinforcement using aramid yarn and/or glass yarn as required by the approved design; no metallic strength element.
Water Blocking	Water-blocking tape / yarn and/or dry-core material to prevent longitudinal water ingress.
Armor	None in standard GCYFXTY 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	Central PBT loose tube + dielectric reinforcement + water blocking + compact low-friction black PE outer jacket.
Cable Classification	All-Dielectric Non-Metallic Non-Armored Air-Blown Microduct.
Cable Marking	PLANET-GCYFXTY + 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	≥ 300 N / ≥ 1000 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 cable design suitable for approved microduct air-blown installation
Microduct Compatibility	Final cable O.D. and blowing parameters shall be matched to the approved microduct inner diameter and route conditions
OS2 / OM3 / OM4 / OM5	GCYFXTY 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
2F	4.5 ± 0.3 mm	20 ± 10% kg/km	1000 N	1000 N/100 mm
4F	4.5 ± 0.3 mm	20 ± 10% kg/km	1000 N	1000 N/100 mm
6-12F	4.5 ± 0.3 mm	20 ± 10% kg/km	1000 N	1000 N/100 mm
24F	5.5 ± 0.3 mm	28 ± 10% kg/km	1000 N	1000 N/100 mm
Design Note	Final value per approved design	Final value per approved design	Short-term minimum	Short-term minimum

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 central PBT loose tube, dielectric aramid / glass-yarn strength elements, approved water-blocking materials and virgin low-friction outdoor-grade PE jacket.
- Mechanical type-test evidence for tensile, crush, bend and applicable IEC 60794 mechanical tests, together with cable blowing / microduct suitability verification for the approved design.
- 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

- Microduct and air-blown access networks.
- FTTx feeder and distribution links.
- Compact urban microduct systems.
- Campus and inter-building microduct routes.
- Dielectric installations requiring small cable diameter and electrical isolation.
- OS2 as the standard long-distance selection; OM3 / OM4 / OM5 for project-specific multimode microduct links.

SELECTION NOTE

GCFYXTY is an all-dielectric, non-metallic, non-armored central loose-tube micro cable intended for blown installation in microducts. It is not a stranded high-count micro cable and does not contain steel tape, aluminum tape or metallic strength members. For higher fiber counts requiring stranded loose-tube micro-cable construction, a GCFYFY-type family should be selected.

QUALITY & CHANGE CONTROL

- Approved optical fiber, qualified central PBT loose tube, dielectric strength elements, water-blocking materials and virgin HDPE / MDPE outer jacket compound; recycled or reprocessed jacket material is not permitted.
- Dielectric reinforcement shall use aramid yarn and/or glass yarn as defined by the approved GCFYXTY production design; no metallic strength element is permitted.
- Water blocking shall use approved tape / yarn and/or dry-core materials appropriate to the compact central loose-tube design.
- 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, dielectric reinforcement, water-blocking system, PE compound, cable diameter or blowing performance without prior 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 central loose-tube construction.
- Custom fiber counts within the approved GCFYXTY 2F-24F central loose-tube 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 GCFYXTY - 12F - OS2 G.652.D - Air-Blown Microduct Cable - Central PBT Loose Tube - All-Dielectric - Black Low-Friction PE Jacket
Typical OM3 Description	PLANET GCFYXTY - 12F - OM3 50/125 - Air-Blown Microduct Cable - Central PBT Loose Tube - All-Dielectric - Black Low-Friction PE Jacket
Typical OM4 Description	PLANET GCFYXTY - 12F - OM4 50/125 - Air-Blown Microduct Cable - Central PBT Loose Tube - All-Dielectric - Black Low-Friction PE Jacket
Typical OM5 Description	PLANET GCFYXTY - 12F - OM5 50/125 - Air-Blown Microduct Cable - Central PBT Loose Tube - 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 GCYFXTY family code: fiber type + fiber count + air-blown microduct application + central loose-tube structure + dielectric reinforcement + water blocking + low-friction PE jacket + intended microduct size / installation method.

25-Year System Warranty

Subject to proper installation and certified components usage.

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

XX: Number of Core