Planet
Structure Cabling Systems

Central Loose Tube
Corrugated Steel Tape Armor
Parallel Steel Wires

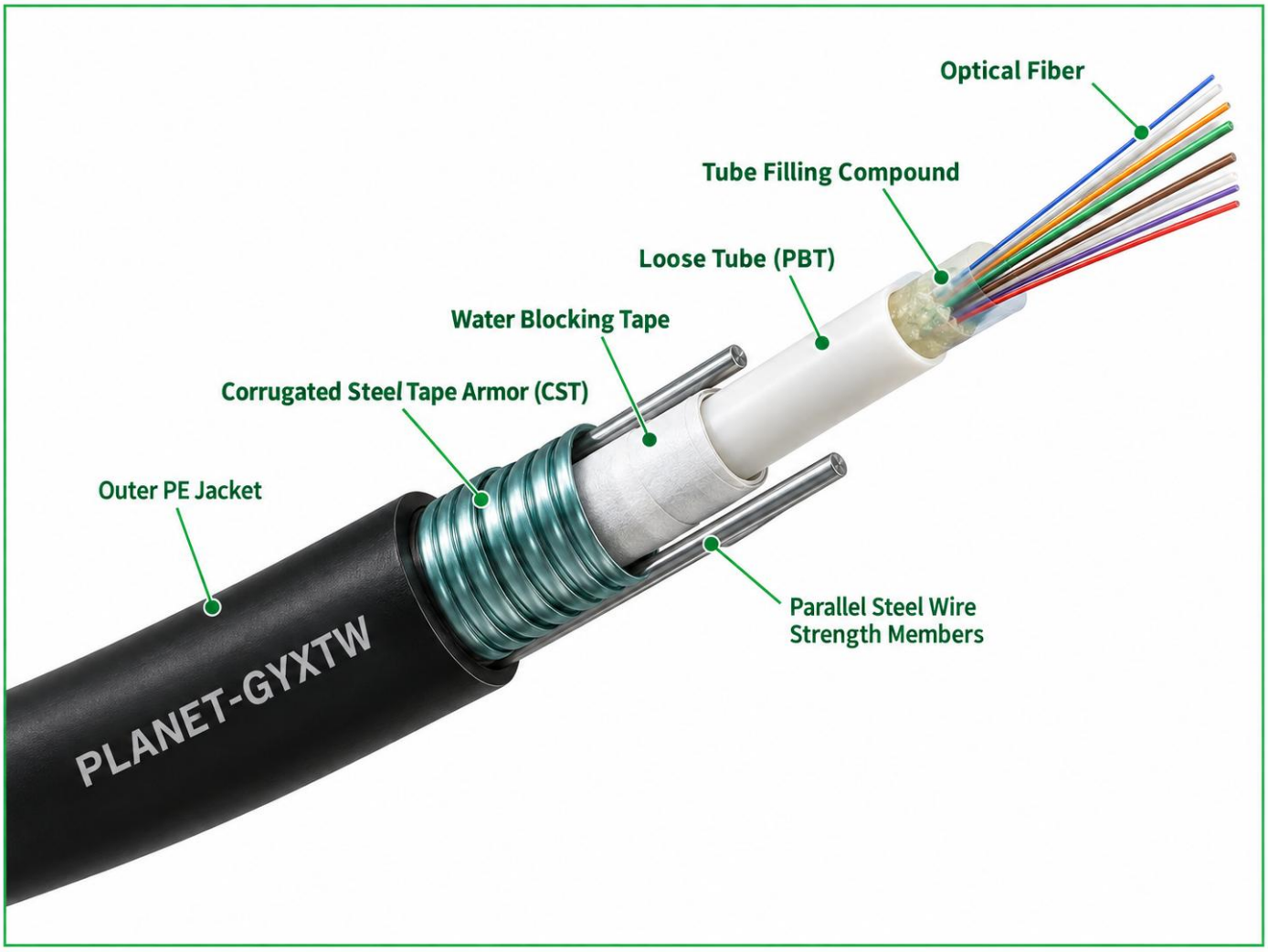
Fiber Optic Cable

PRODUCT DESCRIPTION

PLANET GYXTW is a compact metallic armored outdoor central loose-tube fiber optic cable designed for duct, aerial, campus backbone, access and protected direct-burial routes. Optical fibers are housed in a gel-filled PBT central loose tube, protected by a longitudinal water-blocking system and copolymer-coated corrugated steel tape armor. Two parallel steel wires provide additional tensile strength, while a black UV-resistant PE outer jacket protects the cable against outdoor environmental exposure.

MAIN CLASSIFICATION

Fiber Type Options	Structure	Cable Classification	Outdoor
OS2 / OM3 / OM4 / OM5	Central Loose Tube + CST + Parallel Steel Wires	METALLIC ARMORED	PE Jacket / LSZH Optional



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GENERAL SPECIFICATIONS & CABLE CONSTRUCTION

Environment	Outside Plant (OSP), outdoor duct, aerial, campus backbone, access and protected direct-burial routes.
Applications	Telecom access/backbone, campus networks, outdoor distribution, ISP links and harsh-environment infrastructure.
Fiber Type	OS2 G.652.D standard; G.657.A1/A2 optional; OM3 / OM4 / OM5 multimode available upon project request.
Fiber Count	2F to 24F standard GYXTW central loose-tube family range.
Fiber Proof Test	≥ 100 kpsi proof-tested optical fiber.
Central Loose Tube	High-modulus hydrolysis-resistant virgin PBT; gel-filled with moisture-resistant thixotropic filling compound; typical tube diameter about 2.8 mm subject to approved design.
Parallel Strength Members	Two parallel steel wires positioned longitudinally for tensile strength and dimensional stability.
Water Blocking	Longitudinal water-blocking tape / yarn plus tube filling compound; final design per approved construction.
Corrugated Steel Tape Armor	Copolymer-coated corrugated steel tape (CST), nominal thickness 0.255 mm, providing metallic mechanical and rodent protection.
Outer PE Jacket	Virgin black outdoor-grade PE, UV and weather resistant; nominal thickness 1.55 mm or higher subject to approved production drawing.
Cable Structure	Central loose tube + water blocking + corrugated steel tape armor + two parallel steel wires + PE outer jacket.
Cable Classification	Metallic Armored | Not All-Dielectric.
Cable Marking	PLANET-GYXTW + fiber count + fiber type + sequential meter marking + production traceability.

MECHANICAL & ENVIRONMENTAL PERFORMANCE

Parameter	PLANET Minimum / Reference Requirement
Operating / Storage Temp.	-20°C to +60°C
Installation Temp.	-20°C to +60°C
Maximum Tensile Load	1500 N
Crush Resistance	1000 N/100 mm Optional : 2000 N/100 mm
Bend Radius - Static / Installation	10D / 20D
Water Penetration	Pass IEC 60794-1-22 F5 / current equivalent
Temperature Cycling	-20°C to +60°C; attenuation change ≤ 0.05 dB/km after test
Impact / Repeated Bend / Torsion	Pass applicable IEC 60794 mechanical test methods; no fiber breakage or jacket cracking

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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	8.6-9.5 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

DESIGN GUIDE / DIMENSIONAL CONTROL

Fiber Count	Typical O.D.	Nominal Weight	Max Tensile	Crush Resistance
4F	7.0 ± 0.5 mm	100 kg/2km	1500 N	1000 N/100 mm
6F	7.5 ± 0.5 mm	110 kg/2km	1500 N	1000 N/100 mm
8F	7.5 ± 0.5 mm	110 kg/2km	1500 N	1000 N/100 mm
12F	8.5 ± 0.5 mm	132 kg/2km	1500 N	1000 N/100 mm
24F	9.0 ± 0.5 mm	144 kg/2km	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.
CE Marking	Subject to applicable EU conformity documentation.
CPR / EN 50575	Optional project-specific classification and declaration only.

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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 specified.
- Factory attenuation report and fiber-batch traceability for each production lot.
- Construction report confirming virgin PBT central loose tube, filling compound, water-blocking system, corrugated steel tape, two parallel steel wires and PE jacket construction.
- Mechanical type-test evidence for tensile, crush, impact, bend, repeated bend / flex and torsion to applicable IEC 60794 methods.
- 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

- Outdoor duct and conduit networks.
- Campus, inter-building and access backbone.
- Telecom, ISP and metropolitan distribution links.
- Aerial routes where the approved supporting method and mechanical design permit installation.
- Protected direct-burial and harsh outdoor routes requiring compact metallic steel-tape protection.
- OS2 as the standard long-distance selection; OM3 / OM4 / OM5 for project-specific multimode outdoor links.

SELECTION NOTE

GYXTW is a metallic armored outdoor central loose-tube cable with corrugated steel tape armor and two parallel steel-wire strength members. It is NOT an all-dielectric cable. For higher fiber counts or stranded loose-tube construction consider GYTS / GYTA; for heavy double-sheathed direct-burial protection consider GYTA53; for all-dielectric routes consider GYFTY or ADSS.

QUALITY & CHANGE CONTROL

- Virgin high-modulus PBT central loose tube and virgin outdoor-grade PE jacket; no silent recycled-material substitution.
- Two parallel steel-wire strength members shall be maintained unless an alternate construction is explicitly approved in writing.
- Copolymer-coated corrugated steel tape nominal thickness 0.255 mm and outer jacket nominal thickness 1.55 mm or higher, subject to the approved production drawing.
- No change to fiber manufacturer/type, PBT compound, filling compound, water-blocking system, steel tape, steel wires, PE compound, cable diameter or mechanical performance without prior written PLANET approval.
- Final production drawing and type-test documentation shall be approved before mass production.

AVAILABLE PROJECT OPTIONS

- OS2 G.657.A1 / G.657.A2 bend-insensitive single-mode fiber.
- OM3, OM4 or OM5 50/125 µm multimode fiber.
- Project-specific dry water-blocking design subject to approved construction.
- Custom fiber count within the GYXTW central-tube design range.
- Custom jacket printing and sequential meter marking.
- CPR / flame-rated versions only when separately tested and documented for the exact construction.

ORDERING DESCRIPTION

Part Number Family	PL-GYXTW-xxzz
Typical OS2 Description	PLANET GYXTW - 24F - OS2 G.652.D - Central Loose Tube - CST Armor - Parallel Steel Wires - Black PE Jacket
Typical OM3 Description	PLANET GYXTW - 24F - OM3 50/125 - Central Loose Tube - CST Armor - Parallel Steel Wires - Black PE Jacket
Typical OM4 Description	PLANET GYXTW - 24F - OM4 50/125 - Central Loose Tube - CST Armor - Parallel Steel Wires - Black PE Jacket
Typical OM5 Description	PLANET GYXTW - 24F - OM5 50/125 - Central Loose Tube - CST Armor - Parallel Steel Wires - Black PE Jacket

PRODUCT IDENTIFICATION PRINCIPLE

The approved product description shall state the actual construction and shall not rely only on the Chinese family code: fiber type + fiber count + central loose-tube structure + water-blocking system + corrugated steel tape armor + parallel steel-wire strength members + PE outer jacket + intended installation method.

25-Year System Warranty	**Subject to proper installation and certified components usage.**

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

XX: Number of Core