Planet
Structure Cabling Systems

# Stranded Loose Tube Corrugated Steel Tape (CST) Armor | Black PE Jacket

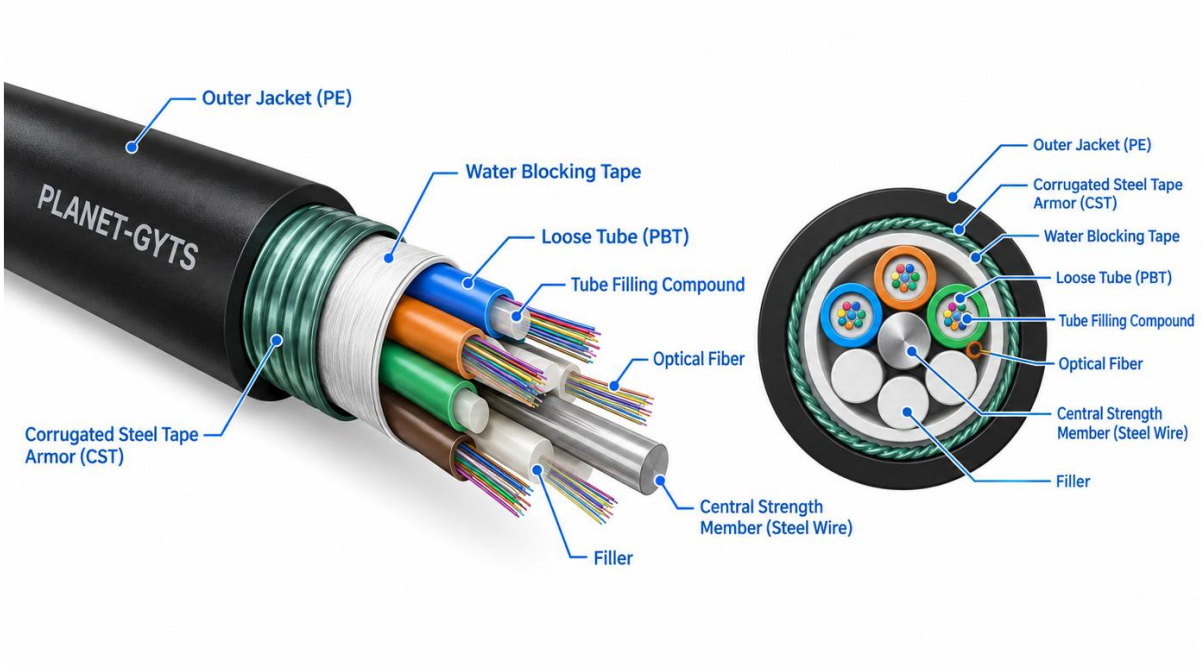
Fiber Optic Cable

## 1. General Description

PLANET GYTS is a metallic armored outdoor fiber optic cable family based on stranded loose tube construction. The GYTS code is used as a family reference; project approval shall be based on the actual cable structure, fiber type, armor, sheath and mechanical values stated in the approved product specification. Standard fiber selection is OS2 single-mode, while OM3, OM4 and OM5 multimode versions can be supplied upon project request.

Typical construction: color-coded optical fibers inside PBT loose tubes stranded around a central steel strength member, with longitudinal water blocking, corrugated steel tape mechanical protection and a black outdoor-grade PE outer sheath. Fiber type may be OS2 G.652.D as standard or OM3 / OM4 / OM5 depending on the approved project requirement.

| | | | |
|---|---|---|---|
| OS2 / OM3<br>OM4 / OM5 | STRANDED<br>Loose Tube | ARMORED<br>Metallic | OUTDOOR<br>PE Jacket / LSZH Optional |



## 2. Construction

| Parameter | Specification |
|---|---|
| **Fiber Type** | OS2 Single Mode 9/125 µm (ITU-T G.652.D standard; G.657.A1 / G.657.A2 optional) or Multimode 50/125 µm (OM3 / OM4 / OM5 upon project request). |
| **Fiber Count** | Typical range 2F to 144F. Common backbone counts: 12F, 24F, 48F, 72F, 96F and 144F. |
| **Loose Tube** | Color-coded PBT loose tubes containing optical fibers; gel-filled or dry water-blocking design according to order. |
| **Stranding** | Loose tubes and fillers stranded around the central strength member. |
| **Central Strength Member** | Steel wire / phosphated steel wire, sized according to cable design. |
| **Fillers** | PP or equivalent fillers used as required to maintain cable geometry and roundness. |
| **Water Blocking** | Water-blocking tape / yarn and filling compound according to final construction. |
| **Armor** | Corrugated steel tape (CST) mechanical armor. |
| **Outer Jacket** | Black polyethylene (PE), outdoor grade, UV and weather resistant. |
| **Cable Identification** | Sequential length marking and PLANET / cable-type printing according to approved production artwork. |
| **Cable Classification** | Armored \| Metallic \| Not dielectric |
| **Armor Type** | Corrugated Steel Tape (CST) metallic armor. |

## 3. Mechanical & Environmental Characteristics

| Parameter | Typical / Reference Value |
|---|---|
| **Operating Temperature** | -30°C to +60°C |
| **Storage Temperature** | -30°C to +60°C |
| **Installation Temperature** | -20°C to +60°C |
| **Minimum Bend Radius - Static** | ≥ 10 × cable outside diameter |
| **Minimum Bend Radius - Installation** | ≥ 20 × cable outside diameter |
| **Tensile Load - Reference** | 1000 N long term / 3000 N short term* |
| **Crush Resistance - Reference** | 1000 N/100 mm long term / 3000 N/100 mm short term* |
| **Water Penetration** | Designed for longitudinal water blocking; test evidence available upon project request. |

4. Optical Characteristics - OS2 / OM3 / OM4 / OM5

| Parameter | Specification |
|---|---|
| Attenuation @ 1310 nm | ≤ 0.36 dB/km |
| Attenuation @ 1550 nm | ≤ 0.22 dB/km |
| Mode Field Diameter @ 1310 nm | 9.2 ± 0.4 μm |
| Cladding Diameter | 125.0 ± 0.7 μm |
| Cladding Non-Circularity | ≤ 1.0% |
| Coating Diameter | 245 ± 10 μm |
| Cable Cut-off Wavelength | ≤ 1260 nm |
| Fiber Standard | ITU-T G.652.D / IEC 60793-2-50 Type B1.3 |
| Multimode Core / Cladding Diameter | 50 / 125 μm (OM3 / OM4 / OM5) |
| OM3 Fiber Standard | IEC 60793-2-10 Type A1a.2 / TIA-492AAAC |
| OM3 Attenuation @ 850 / 1300 nm | ≤ 3.0 / 1.0 dB/km |
| OM3 Minimum Effective Modal Bandwidth @ 850 nm | ≥ 2000 MHz·km |
| OM4 Fiber Standard | IEC 60793-2-10 Type A1a.3 / TIA-492AAAD |
| OM4 Attenuation @ 850 / 1300 nm | ≤ 3.0 / 1.0 dB/km |
| OM4 Minimum Effective Modal Bandwidth @ 850 nm | ≥ 4700 MHz·km |
| OM5 Fiber Standard | IEC 60793-2-10 Type A1a.4 / TIA-492AAAE |
| OM5 Attenuation @ 850 / 953 / 1300 nm | ≤ 3.0 / 1.0 / 1.0 dB/km |
| OM5 Minimum Effective Modal Bandwidth @ 850 / 953 nm | ≥ 4700 / 2470 MHz·km |

**TYPICAL CONFIGURATION GUIDE** — **GYTS | OS2 / OM3 / OM4 / OM5 | OUTDOOR**

| Fiber Count | Tube Structure | Typical O.D. (mm) | Typical Application |
|---|---|---|---|
| **24F** | Stranded loose tube | 9.0 ± 0.5 mm | Outdoor distribution / duct |
| **36F** | Stranded loose tube | 11.0 ± 0.5 mm | Campus / access backbone |
| **48F** | Stranded loose tube | 12.0 ± 0.5 mm | Backbone / distribution |
| **72F** | Stranded loose tube | 12.5 ± 0.5 mm | Telecom backbone |
| **96F** | Stranded loose tube | 13.0 ± 0.5 mm | High-count backbone |
| **144F** | Stranded loose tube | 14.0 ± 0.5 mm | High-density backbone |

## 5. Applications

- Outdoor duct networks
- Telecom access and backbone networks
- Campus and inter-building backbone
- Industrial and infrastructure projects
- Protected outdoor tray / tunnel routes
- Projects requiring metallic armored outdoor fiber cable in OS2 or multimode OM3 / OM4 / OM5 versions

## 6. Standards & Compliance

| Standard / Requirement | Status / Reference |
|---|---|
| IEC 60794 Series | Reference standard for optical fiber cable construction and testing |
| ITU-T G.652.D | Standard single-mode OS2 fiber |
| IEC 60793-2-50 | Optical fiber product specification reference |
| RoHS | Compliant upon applicable production declaration |
| CE Marking | Subject to applicable EU conformity documentation |
| CPR / EN 50575 | Optional; project-specific classification and declaration required |
| Flame Performance | Optional construction / rating only when specifically ordered and supported by test evidence |
| IEC 60793-2-10 / TIA-492 | Reference multimode optical fibers OM3 / OM4 / OM5 |

**QUALITY, OPTIONS & ORDERING** **PLANET GYTS | PL-GYTS**

## 7. Quality & Verification

Manufactured under controlled production conditions. Final cable diameter, weight, tube allocation and mechanical values shall be stated in the approved production datasheet for the selected fiber count. Routine and type-test documentation can be submitted upon consultant / project request when available.

## 8. Available Project Options

- Fiber options: OS2 G.652.D standard; G.657.A1 / G.657.A2, OM3, OM4 or OM5 upon project request
- Dry-core / dry water-blocking construction
- Custom fiber count and loose-tube allocation
- Custom jacket printing and sequential meter marking
- Project-specific PE jacket thickness / cable diameter
- CPR / flame-rated versions subject to certified configuration

## 9. Product Identification Principle

Do not identify the cable only by the Chinese family code. The approved description should always state the actual construction: fiber type + fiber count + tube structure + central strength member + water blocking + armor type + outer jacket + intended installation method.

## 10. Warranty

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

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

**XX:** Number of Core