

FIBER OPTIC CABLES

Outdoor Loose-Tube Cable

Model [PSK-CAB-101](#) · PROSKY passive network infrastructure

Stranded loose-tube optical cable engineered for duct, direct-buried and lashed aerial outside-plant routes. Gel-filled buffer tubes and a full water-blocking system isolate the fibers from moisture and mechanical stress, across fiber counts from 12 to 288 in a compact, duct-friendly diameter.

Product overview

The Outdoor Loose-Tube Cable is a stranded loose-tube design built around single-mode G.652.D fibers housed in gel-filled PBT buffer tubes. The tubes are SZ-stranded around a central strength member — dielectric FRP for all-dielectric builds or phosphatized steel where extra tensile capacity is required — and bound under water-blocking tapes and yarns beneath a UV-stabilized HDPE outer sheath. A corrugated steel-tape armored variant adds crush and rodent protection for direct-buried routes.

The loose-tube principle is what gives the cable its outside-plant resilience: each fiber floats with controlled excess length inside its tube, so tensile load during pulling and thermal contraction in winter are absorbed by the cable structure rather than the glass. Thixotropic gel and the dry water-blocking layers stop longitudinal water migration if the sheath is ever breached, and SZ stranding allows mid-span access so distribution branches can be spliced without cutting the whole core.

In the network, this construction serves the backbone and feeder layers: exchange-to-cabinet feeder runs, duct and microduct backbone segments, campus and inter-building links, and rural buried routes in the armored build. It terminates naturally onto optical distribution frames at the exchange side and into closures and cabinets in the field, where it hands over to distribution cable, splitters and drop infrastructure.

Key features

- › Stranded loose-tube construction decouples the fibers from installation tension and thermal strain
- › Gel-filled PBT buffer tubes with water-blocking tape and yarns for full longitudinal moisture protection
- › Central FRP strength member for all-dielectric builds, or steel for higher tensile ratings
- › Corrugated steel-tape armor option for direct-buried routes and rodent exposure
- › SZ stranding enables mid-span access for branch splicing without cutting the full core
- › UV-stabilized HDPE outer sheath rated for long-term outdoor exposure
- › Fiber counts from 12 to 288 in a compact, duct-friendly outer diameter
- › Sequential meter marking for accurate pulling, records and slack management

Applications

- › Metro and access feeder routes
- › Duct and microduct backbone runs
- › Direct-buried rural links (armored build)
- › FTTx feeder and distribution segments
- › Campus and inter-building backbones

Network types: FTTH, GPON, Metro

Technical specifications

Typical values for this product class — request the certified PROSKY datasheet for guaranteed figures.

Optical (G.652.D fiber)	
Fiber type	Single-mode, ITU-T G.652.D
Attenuation @ 1310 nm	≤ 0.36 dB/km
Attenuation @ 1550 nm	≤ 0.22 dB/km
PMD link design value	≤ 0.2 ps/√km
Chromatic dispersion @ 1550 nm	≤ 18 ps/(nm·km)

Mechanical	
Fiber count range	12 – 288
Cable outer diameter	9.5 – 17.5 mm (count-dependent)
Max tensile load (installation)	2,700 N (long-term 1,000 N)
Crush resistance	1,000 N / 100 mm (short-term)
Min bend radius	20 × OD dynamic / 10 × OD static

Environmental	
Operating temperature	–40 °C to +70 °C
Installation temperature	–5 °C to +50 °C
Storage temperature	–40 °C to +70 °C
Water penetration	3 m head / 24 h — no leakage (class test)

Construction & materials	
Buffer tubes	PBT, thixotropic gel filled
Central strength member	FRP (dielectric) or phosphatized steel
Water blocking	Swellable tapes + yarns
Outer sheath	UV-stabilized HDPE, black
Armor (buried variant)	Corrugated steel tape
Length marking	Sequential meter marks

Standards alignment

- › Designed to align with ITU-T G.652.D (single-mode fiber)
- › Designed to align with IEC 60794-1-2 (cable test methods)
- › Designed to align with IEC 60793-2-50 (fiber specification)
- › Designed to align with TIA-598 (fiber color coding)

Standards are named as design-alignment references for this product class, not as certifications held.

Packaging

Typical export packaging: wooden drums of 2,000–4,000 m with weatherproof lagging, both cable ends sealed and secured; drum labels carry length, fiber count and batch data. Exact drum lengths are confirmed per order.

Ordering & contact

Specify model PSK-CAB-101 with your required configuration (fiber count, length, termination or format options as applicable). For project engineering support, certified figures and commercial terms, contact PROSKY via proskytele.com.