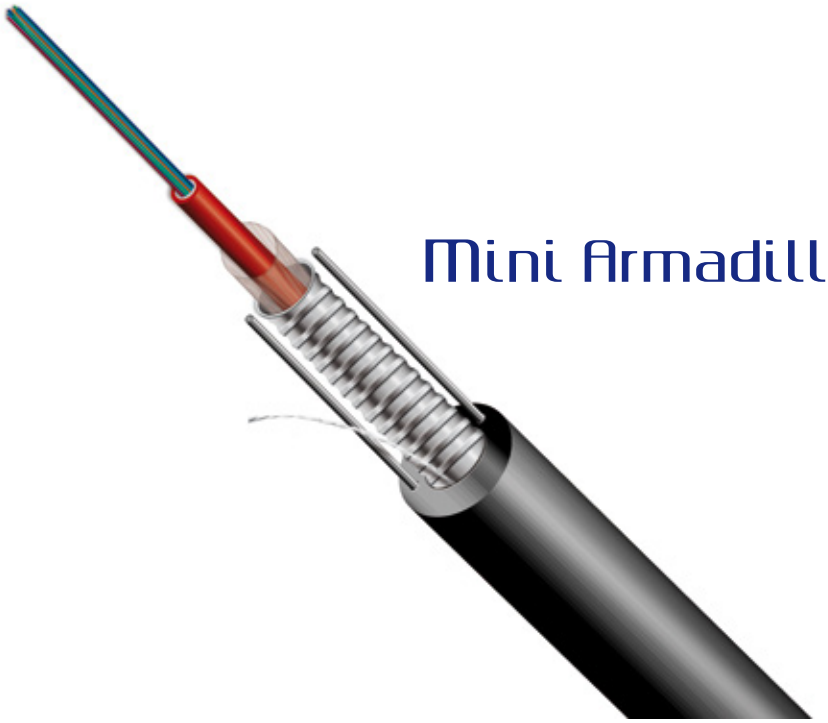
LP-OC54XX Miniature Armored Outdoor Fiber Optical Cable with one Central Loose Tubes, Single PE Jacket, Corrugated steel tape, Two steel wires as strength member, Gel Water Block Cable Core with ripcord.

LPOC54XX_PFD_ENPB01W

Applications:

- Interbuilding voice or data communication backbones.
- Campus Lan, (CAN).
- Designed for rough conditions.
- Outdoor applications.
- Usable lashed Aerial, ducted or direct burial.
- Junction type Communication Systems.
- Subscriber network systems.
- Local area network systems.
- Usable on long-haul applications.
- Loose tube gel-filled construction for superior fiber protection.
- UV- and moisture-resistant design.
- Termite and rodent resistant construction.



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Miniature Armored Outdoor Fiber Optical Cable with one Central Loose Tubes, Single PE Jacket, Corrugated steel tape, Two steel wires as strength member, Gel Water Block Cable Core with ripcord.

LP-OC54XX Series of Fiber Optic Cables is what the industry calls an Outside Plant Cable, Corrugated Steel Tape armored for underground conduits or ducts or in aerial/lashed deployment for Outdoor applications.

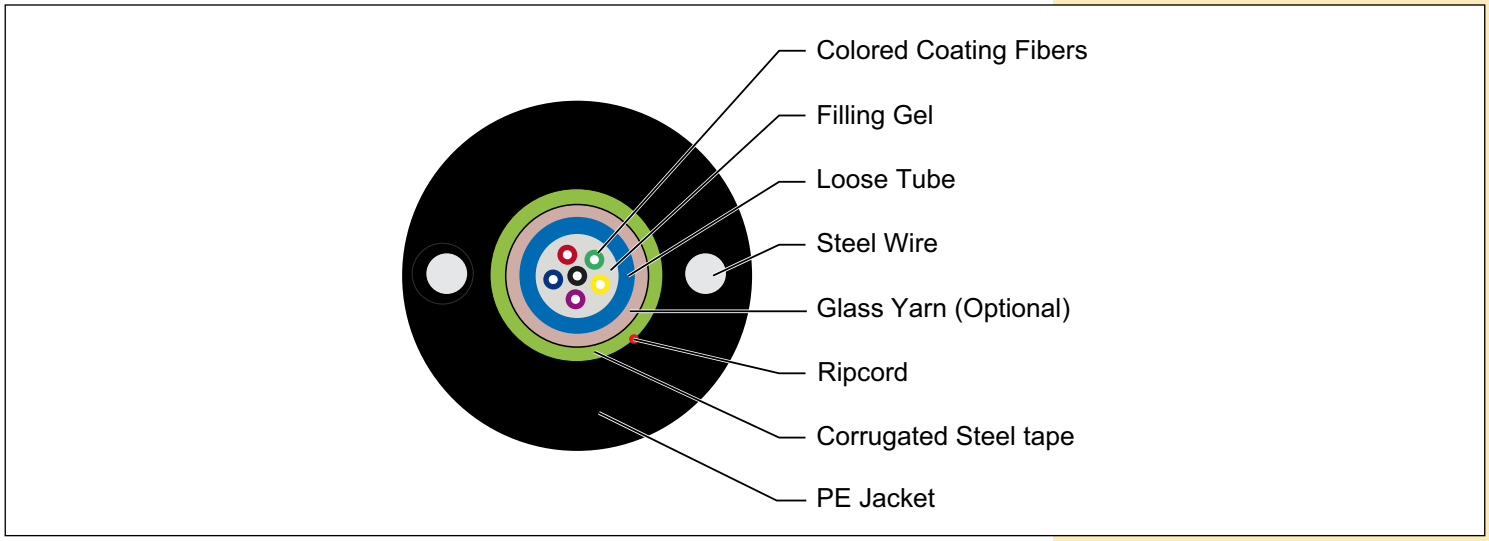
Loose tube style, optical fiber cable light armored with corrugated steel tape, with two steel wires as strength member and gel water block cable core with ripcord. The cable is protected by a black colored PE over sheath. The tube contain optical singlemode or multimode fibers color coded as per color coding scheme embedded in gel.

LP-OC54XX Series of Fiber Optic Cables possesses high tensile strength and flexibility in compact cable sizes. At the same time, it provides excellent optical transmission and physical performance.

A Cable Construction:

- **Fiber type:** Singlemode or multimode
- Gel filling
- PBT loose tube
- **Armor:** Corrugated stainless steel tape
- Two steel wire as strength members
- Outer jacket HDPE. Withstand water, dust, oil, chemicals.
- **Compliance:**

ITU-T G.652 "Standard for non-dispersion shifted single-mode fiber";
ITU-T G.655 "Standard for non-zero dispersion-shifted single-mode optical fiber";
ITU-T G.657 "Standard for bending-loss insensitive single-mode optical fiber and cable for the access network";
ANSI/ICEA S-87-640 "Standard for Optical Fiber Outside Plant Communications Cable";
Telcordia GR-20 CORE Issue 2 "Generic Requirements for Optical Fiber and Optical Fiber Cable";
ANSI/TIA/EIA 598-D "Optical Fiber Cable Color Coding";
IEC-60794-1 "Standard | fibre optics | Optical fibre cables".



B Specifications:

Fiber Count	24	
Structure	Center tube	
Max. Fiber number per tube	12	
Loose tube	Diameter	2.5mm
Gel	Yes	Gel filling in loose tubes
Water Blocking	Material	Water swellable material
Armor	Material	Corrugated steel tape
Outer Jacket	Thickness	2.0±0.2mm
	Material	Anti UV HDPE
Peripheral strength member	Material	Fiberglass yarn (Optional)
Ripcord	2pcs	Under armored
Cable OD mm	8.0±0.2	
Cable weight (kg/km)	75±5	

Operation temperature range	-40°C to + 70°C
Installation temperature range	-40°C to + 70°C
Transport and storage temperature range	-40°C to + 70°C
Allowable Tensile Load (N)	Short term: 2000
	Long term: 1000
Crush resistance	1000 N/10cm
	2200N/10CM
Minimal installation bending radius	20 x OD
Minimal operation bending radius	10 x OD

C Fiber Optical Color:

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Grey	Natural	Red	Black	Yellow	Violet	Pink	Aqua

D Test Requirements:

Approved by various professional optical and communication product institution, LanPro also conduct various in-house testing in its own Laboratory and Test Center.

The cable is in accordance with applicable standard of cable and requirement of customer. The following test items are carried out according to corresponding reference. Routine tests of optical fiber.

Mode field diameter	IEC 60793-1-45
Mode field Core/clad concentricity	IEC 60793-1-20
Cladding diameter	IEC 60793-1-20
Cladding non-circularity	IEC 60793-1-20
Attenuation coefficient	IEC 60793-1-40
Chromatic dispersion	IEC 60793-1-42
Cable cut-off wavelength	IEC 60793-1-44

1.- Tension Loading Test

Test Standard	IEC 60794-3-20
Sample length	No less than 50 meters
Load	Max. installation load
Duration time	1 hour
Test results	Additional attenuation: ≤0.05dB No damage to outer jacket and inner elements

2.- Crush/Compression Test

Test Standard	IEC 60794-3-20
Load	Crush load
Plate size	100mm length
Duration time	1 minute
Test number	1
Test results	Additional attenuation: ≤0.05dB No damage to outer jacket and inner elements

3.- Impact Resistance Test

Test Standard	IEC 60794-3-20 E4
Impact energy	6.5J
Radio	12.5mm
Impact points	3
Impact number	2
Test result	Additional attenuation: ≤0.05dB

4.- Repeated Bending Test

Test Standard	IEC 60794-3-20 E6
Bending radius	20 x diameter of cable
Cycles	25 cycles
Test result	Additional attenuation: ≤ 0.05dB No damage to outer jacket and inner elements

5.- Torsion/Twist Test

Test Standard	IEC 60794-3-20 E7
Sample length	2m
Angles	±180 degree
Cycles	10
Test result	Additional attenuation: ≤ 0.05dB No damage to outer jacket and inner elements

6.- Bend Test

Test Standard	IEC 60794-3-20 E11B
Mandrel diameter	20 x diameter of cable
Turn number	4
Number of cycles	3
Temperature	20°C
Test result	No damage to outer jacket and inner elements

7.- Temperature cycling Test

Test Standard	IEC 60794-3-20 F1
Temperature step	+20°C ⟶ -40°C ⟶ +85°C ⟶ +20°C
Time per each step	Transition from 0 °C to -40 °C: 2 hours; duration at -40 °C: 8 hours; Transition from -40 °C to +85 °C: 4hours; duration at +85 °C: 8 hours; Transition from +85 °C to 0°C: 2hours
Cycles	5
Test result	Attenuation variation for reference value (the attenuation to be measured before test at +20±3°C) ≤ 0.05 dB/km

8.- Water penetration Test

Test Standard	IEC 60794-3-20 F5
Height of water column	1m
Sample length	1m
Test time	1 hour
Test result	No water leakage from the opposite of the sample

9.- Drip Test

Test Standard	IEC 60794-3-20 F5
Height of water column	1m
Sample length	1m
Test time	1 hour
Test result	No water leakage from the opposite of the sample

List of Fiber Cores:

FIBER TYPE	LANPRO	DESCRIPTION	COD MFGR
Standard Loose Tube SM	ZC	Full spectrum, low water peak singlemode, ITU-T G.652.D	**B1.3 (G652D) P**
Performance Loose Tube SM	ZB	Full spectrum, high performance low water peak singlemode with 0.35/0.25 attenuation, ITU-T G.652. D	
Tight Buffer SM	ZE	Full spectrum, low water peak singlemode with 900 µm PVC buffer, ITU-T G.652.D	
Long-Haul SM	ZG	Large Aeff, low water peak, NZ-DSF singlemode, ITU-T G.655	
Ultra-Bendable SM A3/B3	ZA	Full spectrum with best macrobending performance, ITU-T G.657.A3/B3	Full spectrum bend-insensitive single mode fiber with virtually zero bend loss in most indoor applications
Ultra-Bendable SM A2/B2	ZD	Full spectrum with best macrobending performance, ITU-T G.657.A2/B2	Full spectrum bend-insensitive single mode fiber with low bend loss
Ultra-Bendable SM A1/B1	ZF	Full spectrum with best macrobending performance, ITU-T G.657.A1/B1	Full spectrum single mode fiber with enhanced bend capability
62.5 µm MM OM1	QG	1 Gb/s ≤ 300 m a 850 nm, OM1* 1 Gb/s ≤ 550 m a 1300 nm	
62.5 µm MM OM1	QL	1 Gb/s ≤ 500 m a 850 nm, OM1* 1 Gb/s ≤ 1000 m a 1300 nm	**IEC 60793-2-10 Type A1b**
Ultra-bendable 50 µm MM OM2	BI	10 Gb/s ≤ 150 m a 850 nm, OM2* 1 Gb/s ≤ 750 m a 850 nm	**IEC 60793-2-10 Type A1a**
Ultra-bendable 50 µm MM OM3	TP	10 Gb/s ≤ 300 m a 850 nm, OM3* 1 Gb/s ≤ 1000 m a 850 nm	
Ultra-bendable 50 µm MM OM4	TG	10 Gb/s ≤ 550 m a 850 nm, OM4* 1 Gb/s ≤ 1100 m a 850 nm	
Ultra-bendable 50 µm MM OM4	TI	10 Gb/s ≤ 600 m a 850 nm, OM4+* 1 Gb/s ≤ 1100 m a 850 nm	

How to order:

LP-OC5401CCC4FF

LP-OC54		01
Miniature Armored Outdoor Fiber Optical Cable with one Central Loose Tubes, Single PE Jacket, Corrugated steel tape, Two steel wires as strength member, Gel Water Block Cable Core with ripcord.		**Jacket Suffix:** Gel Water Block Cable Core with ripcord
CCC	**4**	**FF**
Fiber Count: 024	**Buffer Construction:** Multifiber loose Tube(Gel- Filled)	**Fiber Type:** Any core of the above List

Examples:

LP-OC54010064TP	Fiber Optical Cable with 6 multimode OM3 50/125 fibers, Loose Tubes, Single PE Jacket, corrugated steel tape, Two steel wires as strength member, Gel Water Block cable core and Ripcord.
LP-OC54010124ZC	Fiber Optical Cable with 12 Full spectrum, low water peak singlemode, ITU-T G.652.D fibers, Loose Tubes, Single PE Jacket, corrugated steel tape, Two steel wires as strength member, Gel Water Block cable core and Ripcord.