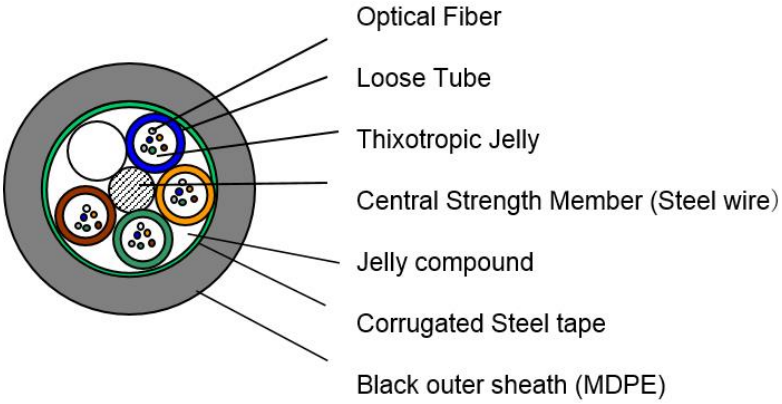
NEWLINK
Cabling Systems

NEW-9430XXX

Loose Tube Singlemode Outdoor Armored



Features:

- Designed for rough conditions
- Lashed Aerial, ducted or direct burial
- Dry-blocked core, no fluids
- Loose-tube gel filled protection
- Long-haul networks, campus LANs
- Ideal for Inter-building backbones

Technical Specifications

NEWLINK ARMORED Optical Cables are suited for the outdoors installation: lashed aerial installation, cable trays, conduits, duct or even direct burial. The surrounding steel armor is prepared for environmental rigors adding superior mechanical resistance. Corresponding NEC / NFPA 70 classification is OFC - Conductive Optical Fiber general purpose cable; conductive by construction and prepared for outdoors use only due to the gel filled tubes.

The UV resistant, fire-retardant PE outer jacket, black in color provides smooth covering for easy handling inside concrete ducts and other frictional ways.

Reinforced construction gives extra protection against rodents, soil load, cutting objects, sun exposure, temperature changes and many of the common factors found in an inter-building or campus layout.

This product meets the requirements of ANSI/ICEA Standard for Fiber Optic outside Plant Communications Cable, ANSI/ICEA S-87-640, Telcordia GR-20, RDUP Listed, TIA-455, TIA-598A

Traction resistant, dielectric central member is surrounded by SZ-stranded tubes and fillers wrapped into water blocking tapes.

ARMORED cables have a loose-tube design for fiber counts from 4 up to 96 fibers, each tube unit is capable for up to 12 fibers, and tube's color scheme is ruled by ANSI/TIA/EIA-568B.

Optical fiber characteristics

Category	Description		Specifications
			Loose Tube G652D
Optical Specifications	Attenuation	@1310nm	≤0.35dB/km
		@1550nm	≤0.22dB/km
	Attenuation discontinuity		≤0.05 dB
	Attenuation vs. Wavelength	@1285~1330nm	≤0.05 dB/km
		@1525~1575nm	≤0.05 dB/km
	Zero Dispersion Wavelength		1300~1324nm
	Zero Dispersion Slope		≤0.092ps/(nm^2.km)
	Dispersion	@1310nm	≤3.5 ps/nm.km
		@1550nm	≤18 ps/nm.km
	Polarization Mode Dispersion(PMD)		≤0.2ps/km$^{1/2}$
	Cable Cutoff Wavelength(λcc)		≤1260nm
	Effective Group Index of Refraction	@1310nm	1.4675
		@1550nm	1.4681
Geometric Specifications	Mode Field Diameter	@1310nm	9.2±0.6μm
		@1550nm	10.4±0.8μm
	Cladding Diameter		125±1μm
	Cladding Non-Circularity		≤1.0%
	Coating Diameter		243±7μm
	Coating/Cladding Concentricity Error		≤8μm
	Core/Cladding Concentricity Error		≤0.8μm
Mechanical Specifications	Proof Test level		≥1.0%
	Fiber Curl Radius		≥4.0m
	Peak Coating Strip Force		1.3~8.9N

Structure	Unit	Parameter	Parameter
Fiber count	fibers	8/12/24/36	48
Element	--	5 or 6	5 or 6
Loose tube Diameter	mm	Nom.Φ1.8	Nom.Φ2.1
Cores of per tube(no more than)	--	6	12
Phosphatic steel wire	mm	Nom.1.45	Nom.1.6
Cable diameter	mm	Approx.9.4	Approx.10.1
Outer sheath thickness	mm	--	Nom.1.8, Min.1.5
Weight(Approx.)	Kg/km	Approx.99	Approx.118

Mechanical characteristics

			8/12/24/36 fibers	48 fibers
Tensile strength	Long term	N	600	600
	Short term	N	1500	1500
Crush Resistance	Long term	N	300	300
	Short term	N	1000	1000
Bending Radius	Dynamic	--	≥25×Cable Diameter	≥25×Cable Diameter
	Static	--	≥12.5×Cable Diameter	≥15×Cable Diameter
Operating Temperature		℃	-40 --- +60	-40 --- +60

Fiber coding 8/12/24 Fibers

# of fiber	1	2	3	4	5	6
Color of fiber	Blue	Orange	Green	Brown	Slate	White

Number of Fibers in each Tube 8/12/24 Fibers

# of Fibers	# of Tube	1	2	3	4	5
8	2	Blue	Orange	White	White	White
		4B1	4B1	Filler	Filler	Filler
12	2	Blue	Orange	White	White	White
		6B1	6B1	Filler	Filler	Filler
24	4	Blue	Orange	Green	Brown	White
		6B1	6B1	6B1	6B1	Filler

Fiber coding 36-fiber

# of fiber	1	2	3	4	5	6
Color of fiber	Blue	Orange	Green	Brown	Grey	White
# of fiber	7	8	9	10	11	12
Color of fiber	Red	Black	Yellow	Violet	Pink	Aqua

Identification of tube 36-fiber

# of tube	1	2	3	4	5	6
Color of tube	Blue	Orange	Green	Brown	Grey	White
# of tube	7	8	9	10	11	12
Color of tube	Red	Black	Yellow	Violet	Pink	Aqua

Number of Fibers in each Tube (36-fiber cable)

# of Fibers	# of Tube		1	2	3	4	5	6
36	6	Tube color	Blue	Orange	Green	Brown	Grey	White
		# of fiber	6	6	6	6	6	6

Fiber coding 48 Fibers

# of fiber	1	2	3	4	5	6
Color of fiber	Blue	Orange	Green	Brown	Slate	White
# of fiber	7	8	9	10	11	12
Color of fiber	Red	Black	Yellow	Violet	Pink	Aqua

Identification of loose tube

# of tube	1	2	3	4		
Color of tube	Blue	Orange	Green	Brown		

Number of Fibers in each Tube

Fibers	Tubes	1	2	3	4	5
48	4	Blue	Orange	Green	Brown	White
		12B1	12B1	12B1	12B1	Filler

TEST REQUIREMENTS

No	Item	Test standard	Method	Acceptance criteria
1	Tensile test	IEC-60794-1-E1	-Max. Tensile strength:1500N -Sample length:50 meters -Time: 1 minute	-Fiber strain at maximum Load: max. 0.33% -Attenuation increase≤0.10dB
2	Crush test	IEC-60794-1-E3	-Load:1000N -Time: 1 minute -Length: 100mm	-No splits or cracks in the outer jacket; -Attenuation increase<0.10dB,
3	Impact test	IEC-60794-1-E4	-Impact energy: 450g - Height:1 meter -Impact points: min.1 --Number of impacts: 5	-No splits or cracks in the outer jacket -Attenuation increase≤0.10dB(after the test)

4	Repeated bending	IEC-60794-1-E6	-R=25×cable outer diameter -1m cable length with 150N weight,30 cycles	- No splits or cracks in the outer jacket -Attenuation increase ≤0.10dB(after the test)
5	Torsion test	IEC-60794-1-E7	-1m cable length with 150N weight -±90 degrees, 10 cycles	- No splits or cracks in the outer jacket -Attenuation increase ≤0.10B(after the test)
6	Bending test	IEC-60794-1-E11	-Diameter of mandrel: 25×D -Number of turns/helix:10 -Number of cycles: 5	- No splits or cracks in the outer jacket - No fiber break
7	Temperature cycling test	IEC-60794-1-F1	-Temperature step: +20℃→-40℃→+60℃→-40℃→+60℃→+20℃ -Time per each step: 12 hrs -Number of cycles: 2 cycles	-Attenuation variation for reference value(the attenuation to be measured before test at +20±3℃) ≤0.10dB/km,
8	Water penetration test	IEC-60794-1-F5	-Water height: 1m -Sample length:3m -Duration of test: 24hrs	-No water leakage at the end of the sample
9	Drip test	IEC-60794-1-E14	-Five 0.3m samples suspended vertically in a climate chamber, raised temperature to +70℃	-No filling compound shall drip from tubes after 24 hr

Ordering Information:

Part Number	Description
NEW-9430XXX	Loose Tube Single mode Outdoor Armored

Replace XXX with the required fiber count.

Minimum Order: 2Km