Mining and Petrochemical, Indoor/Outdoor, Tray-Rated, Gel-Free Cables

CORNING

Features and Benefits

Loose tube construction
Stable and highly reliable transmission parameters

Waterblocking technology
Allows efficient and craft-friendly cable preparation

Extra tough double jackets
Ideal for harsh environments

Listed MSHA 30 CFR Pt 7-K
Mining Safety and Health Administration (MSHA) approved

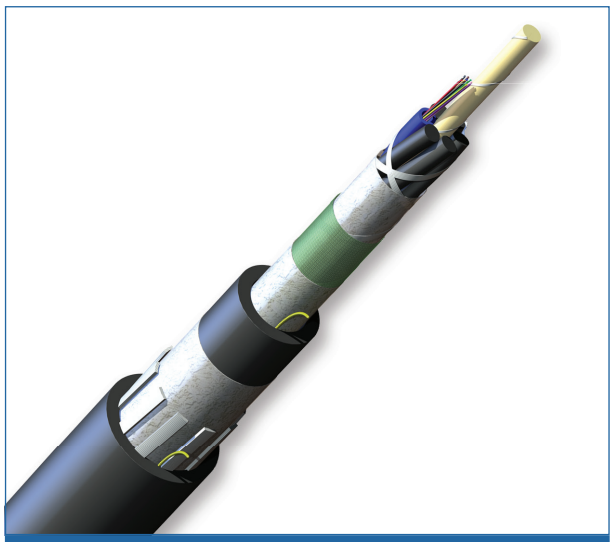
Common installations
Outdoor aerial and duct; indoor general purpose horizontal according to CSA C22.2

Corning dielectric, tray-rated, mining and petrochemical fiber optic cables are designed for indoor and outdoor use in mining and petrochemical backbones (aerial and duct) and horizontal intrabuilding and tunnel backbones where low-smoke and zero-halogen (LSZH™) requirements exist.

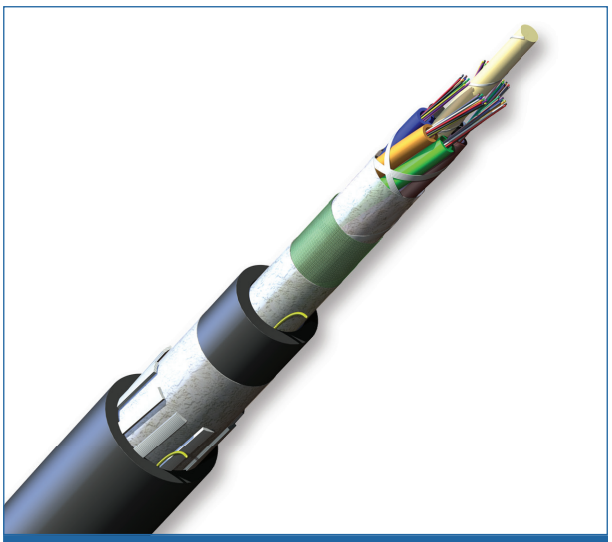
These cables are available in 12 different jacket colors that enable easy visual identification and segregation of cables while still providing all the required environmental protection of an indoor/outdoor cable jacket.

The SZ-stranded, loose tube design isolates fibers from installation and environmental rigors and allows for easy mid-span access. The design also provides high-fiber density within a given cable diameter, allowing flexibility to suit many system designs.

The specially formulated black, UV-resistant, flame-retardant LSZH inner and outer jacket complies with IEEE-383 flame test. These extra-tough double jackets resist hazards found in mines and petrochemical complexes, making this cable ideal for any harsh environment requiring a more robust cable and suitable for direct-burial applications. All-dielectric construction provides tensile strength and eliminates grounding concerns.



Mining and Petrochemical Cables, 12 Fibers
| Photo PIM0751



Mining and Petrochemical Cables, 60 Fibers
| Photo PIM0755

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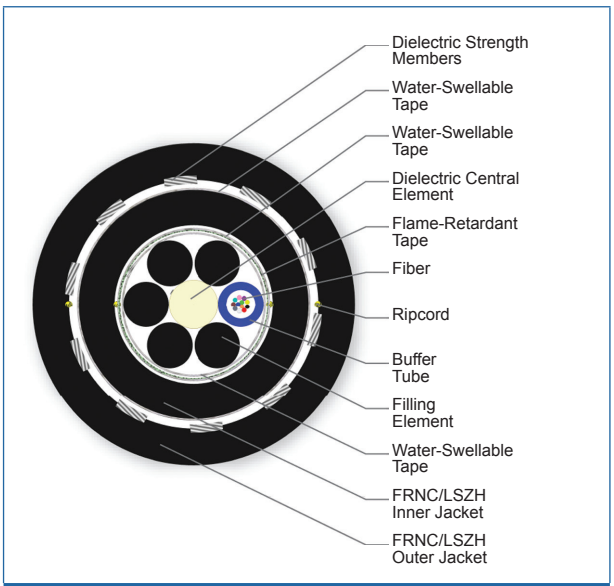
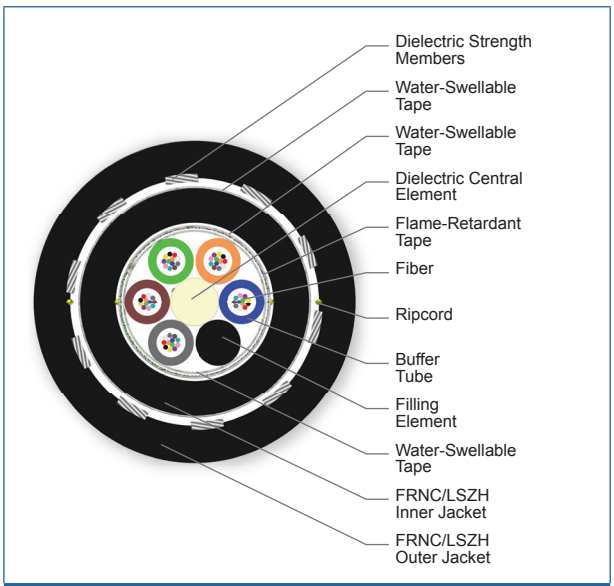
Standards

Listings	National Electrical Code® (NEC®) OFC-LS; Sunlight Resistant (SUN RES); IEEE-1202 flame test; Suitable for Direct Burial (DIR BUR); IEC 60332-3, IEC 60754-2, IEC 61034
Design and Test Criteria	ANSI/ICEA S-104-696, CSA OFN-LS FT-4-ST1, CSA C22.2 No. 230 and No. 232



Mining and Petrochemical Cables, 12 Fibers
| Photo PIM1651



Mining and Petrochemical Cables, 60 Fibers
| Photo PIM1655

Specifications

Temperature Range	
Storage	-50 °C to 75 °C (-58 °F to 167 °F)
Installation	-30 °C to 60 °C (-22 °F to 140 °F)
Operation	-50 °C to 75 °C (-58 °F to 167 °F)

** Operation note: -40°C (-40°F) minimum operation temperature for 50 µm multimode optical fiber types.*
** Note: Corning recommends storing indoor/outdoor cable in a proper temperature environment prior to installation to allow the cable temperature to meet installation temperature range specifications for best installation results.*

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Mechanical Characteristics Cable

Max. Tensile Strength, Short-Term	4500 N (1000 lbf)
Max. Tensile Strength, Long-Term	1500 N (333 lbf)

Fiber Count	Buffer Tube Diameter	Nominal Outer Diameter	Min. Bend Radius Installation	Max. Tensile Strength, Short-Term	Max. Tensile Strength, Long-Term	Weight	Min. Bend Radius Operation
12 - 72	2.5 mm (0.1 in)	17.6 mm (0.69 in)	264 mm (10.4 in)	4500 N (1000 lbf)	1500 N (333 lbf)	299 kg/km (201 lb/1000 ft)	176 mm (6.9 in)
96	2.5 mm (0.1 in)	20.4 mm (0.8 in)	306 mm (12 in)	4500 N (1000 lbf)	1500 N (333 lbf)	400 kg/km (269 lb/1000 ft)	204 mm (8 in)
144	2.5 mm (0.1 in)	24 mm (0.94 in)	360 mm (14.2 in)	4500 N (1000 lbf)	1500 N (333 lbf)	529 kg/km (356 lb/1000 ft)	240 mm (9.4 in)
192 - 216	2.5 mm (0.1 in)	23.3 mm (0.92 in)	350 mm (13.8 in)	4500 N (1000 lbf)	1500 N (333 lbf)	472 kg/km (317 lb/1000 ft)	233 mm (9.2 in)
288	2.5 mm (0.1 in)	26.3 mm (1.04 in)	395 mm (15.5 in)	4500 N (1000 lbf)	1500 N (333 lbf)	602 kg/km (405 lb/1000 ft)	263 mm (10.4 in)

Chemical Resistance

Chemical	Exposure Time	Exposure Temperature
ASTM #2 Oil	4 h	158 °F
De-Icing Fluid	24 h	122 °F
Diesel Fuel, MIL-F 16884	24 h	95 °F
Hydraulic Fuel, MIL-H 5606	24 h	120 °F
Hydraulic Fuel, MIL-H 16762	24 h	120 °F
Lubricating Oil, MIL-L23699	24 h	120 °F
Vegetation Killer	168 h	122 °F

Chemical Characteristics

RoHS	Free of hazardous substances according to RoHS 2002/95/EG

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Transmission Performance

Multimode					
Fiber Core Diameter (µm)	62.5	50	50	50	50
Fiber Category	OM1	OM2	OM3	OM4	OM4 Extended Distance
Fiber Code	K	T	T	T	T
Performance Option Code	30	31	80	90	91
Wavelengths (nm)	850/1300	850/1300	850/1300	850/1300	850/1300
Maximum Attenuation (dB/km)	3.4/1.0	3.0/1.0	3.0/1.0	3.0/1.0	3.0/1.0
Serial 1 Gigabit Ethernet (m)	300/550	750/500	1000/600	1100/600	1100/600
Serial 10 Gigabit Ethernet (m)	33/-	150/-	300/-	550/-	600/-
Min. Overfilled Launch (OFL) Bandwidth (MHz*km)	200/500	700/500	1500/500	3500/500	3500/500
Minimum Effective Modal Bandwidth (EMB) (MHz*km)	220/-	950/-	2000/-	4700/-	5350/-

** 50 µm multimode fiber (OM4) T90 10 Gigabit Ethernet distance assumes 1.0 dB maximum total connector/splice loss.*
** 50 µm multimode fiber (OM4) T91 10 Gigabit Ethernet Distance assumes 0.7 dB maximum total connector/splice loss.*
** 50 µm multimode fiber (OM3/OM4) meets 0.75 ns optical skew when used in all Corning Plug & Play™/EDGE™ systems solutions.*

Notes: 1) *Improved attenuation and bandwidth options available.*
2) *Bend-insensitive single-mode fibers available on request.*
3) *50 µm multimode fiber macrobend loss ≤ 0.2 dB at 850 nm for two turns around 7.5 mm radius mandrel.*
4) *Contact a Corning Customer Care Representative for additional information.*

Single-mode		
Fiber Name	Single-mode (OS2)	SMF-28® Ultra fiber
Fiber Category	G.652.D	G.657.A1
Fiber Code	E	Z
Performance Option Code	01	01
Wavelengths (nm)	1310/1383/1550	1310/1383/1550
Maximum Attenuation (dB/km)	0.4/0.4/0.3	0.4/0.4/0.3
Typical Attenuation* (dB/km)	-	0.33/0.33/0.19

** For more information on typical attenuation please see the Corning whitepaper at http://csmedia.corning.com/opcomm//Resource_Documents/whitepapers_rl/LAN-1863-AEN.pdf*

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Ordering Information | *Note: Contact Customer Care at 1-800-743-2675 for other options.*

☐ ☐ ☐	☐	U	L	-	T	☐	6	☐ ☐	D	2	M
1	2	3	4		5	6	7	8	9	10	

1 Select fiber count.
Standard offerings:
012 - 288
Increments of 12

2 Select fiber code.
K = 62.5 µm multimode (OM1)
T = 50 µm multimode, (OM2/OM3/OM4/OM4+)
E = Single-mode (OS2) SMF-28e+®
Z = Single-mode (OS2) SMF-28® Ultra fiber

3 Defines cable type.
U = LSZH™ cable

4 Defines outer jacket.
L = LSZH Double-Jacket Cable construction

5 Defines fiber placement.
T = 12 fibers/buffer tube (standard)

6 Select length markings.
3 = Markings in meters
4 = Markings in ft (standard)

7 Defines tensile strength.
6 = 4500 N/1000 lb (standard)

8 Select performance option code.
30 = 62.5 µm multimode (OM1)
31 = 50 µm multimode (OM2)
80 = 50 µm multimode (OM3)
01 = Single-mode (OS2)
(Max. attenuation 0.4/0.4/0.3 dB/km)

9 Defines cable type.
D = Gel-free cable

10 Defines special requirements.
2M = MSHA

Note: This cable is available in 12 different jacket colors: blue, orange, green, brown, slate, white, red, black, yellow, violet, rose and aqua. Black is the standard jacket color using the part number configurator above. Contact Customer Care at 1-800-743-2675 to order other color options.

RoHS COMPLIANT

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