

Industrial Fiber Optic Cables, LSZH™ Tray-Rated, Single-Jacket Cable, 12-288 Fibers

CORNING

Features and Benefits

Low-smoke, zero-halogen sheath
Key life-safety benefit

Meets cyclic impact and chemical resistance test
Superior performance

Tray-rated per UL 13; UL 444; UL 1277; UL 1666; CSA 22.2 No. 230 and No. 232

Tested to industrial ruggedness standards

Listed OFN-LS and CSA FT4-ST1, IEC 60332-3, IEC 61034 and IEC 60754-2

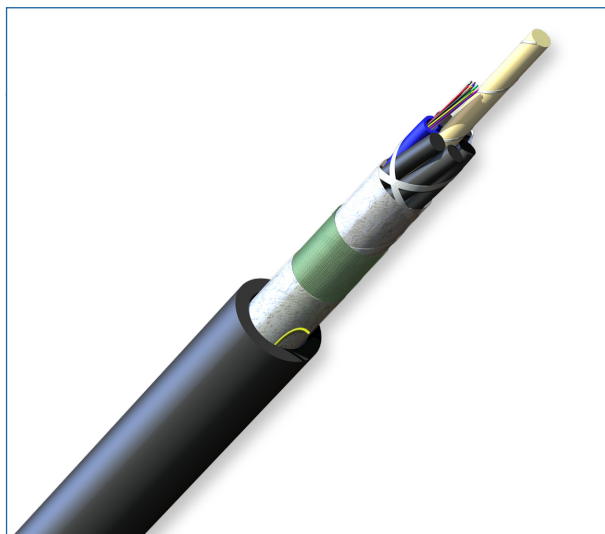
Meets burn test criteria

Available in MSHA versions

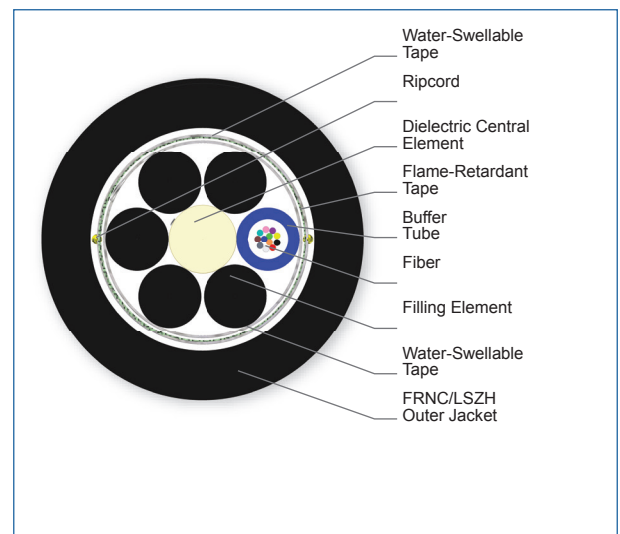
Mine Safety and Health Administration approved

Corning LSZH™ industrial fiber optic cables are designed for industrial building backbones and harsh environments atypical of traditional datacom systems. Based on proven stranded loose tube cable designs, these industrial cables are flame-retardant and have been tested to meet mechanical/environmental conditions exceeding the requirements set for traditional datacom cables. When tested to specified “tray” application requirements, the cables have demonstrated superior performance levels for compressive loading, cyclic impact and chemical resistance. The 250 µm color-coded individual fibers offer quick and easy identification during installation with 50 µm, 62.5 µm and single-mode versions available.

Corning LSZH industrial cables provide life-safety benefits for industrial applications through the cable’s construction. Many traditional data communication cables contain halogens in the jacket compound, which pose little risk in the controlled and protected environment of typical building air spaces, such as behind walls, under floors and in conduit. However, cables deployed in industrial applications, particularly on the plant floor, are typically at a greater risk of fire, extreme temperatures or chemical exposure. This often makes halogen cables inappropriate for industrial environments. When cables containing halogens ignite, they emit highly reactive gases that can be harmful if inhaled. When halogens combine with water, acids are formed. These acids damage both living tissue and inorganic materials, such as metal and electronic equipment. Corning LSZH industrial cables eliminate these risks in the event of a fire in the



Industrial LSZH Loose Tube, Gel-Free, Double-Jacket Cables, 12 Fibers | Photo PIM0708



Industrial LSZH Loose Tube, Gel-Free, Double-Jacket Cables, 12 Fibers | Photo PIM1607

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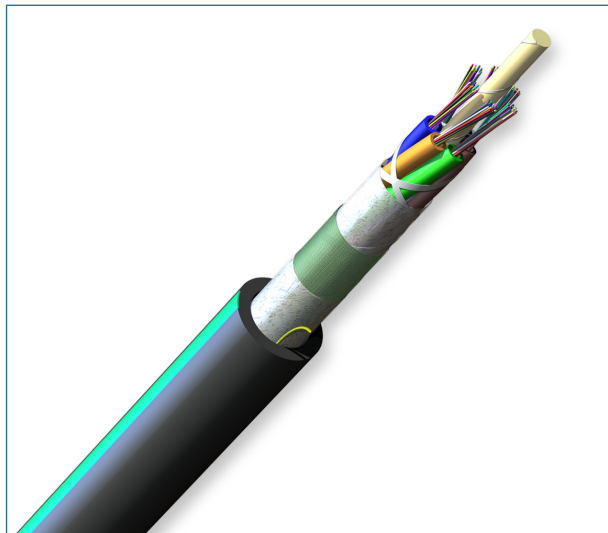


Standards

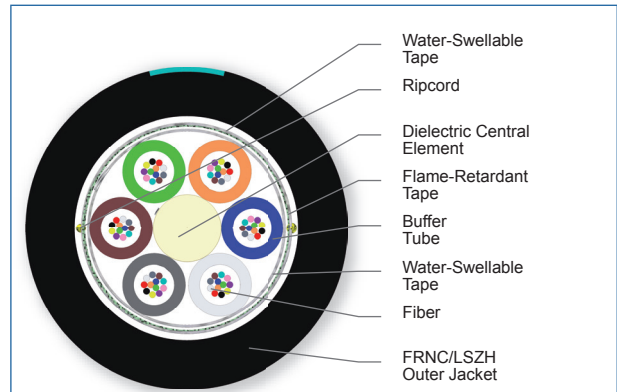
| | |
|---------------------------------|--|
| Approval and Listings | National Electrical Code® (NEC®) OFCR-LS, CSA OFC FT4-ST1; Sunlight Resistant (SUN RES); IEEE-383/IEEE-1202 flame test; Suitable for Direct Burial (DIR BUR); IEC 60332-3, IEC 60754-2, IEC 61034; MSHA 30 CFR Part 7-K, Section 7.408 |
| Common Installations | Outdoor aerial and duct; indoor general purpose horizontal according to NEC Article 770 |
| Design and Test Criteria | ANSI/ICEA S-104-696; UL 13; UL 444; UL 1277; UL 1685; CSA C22.2 No. 230 and No. 232 |

industrial environment. In addition, the LSZH compound does not drip when superheated; the material burns to ash, eliminating the onset of secondary fires.

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



Industrial LSZH Loose Tube, Gel-Free, Double-Jacket Cables, 72 Fibers | Photo PIM0713



Industrial LSZH Loose Tube, Gel-Free, Double-Jacket Cables, 72 Fibers | Photo PIM1612

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Specifications

| Temperature Range | |
|-------------------|------------------------------------|
| Storage | -40 °C to 75 °C (-40 °F to 167 °F) |
| Installation | -30 °C to 60 °C (-22 °F to 140 °F) |
| Operation | -40 °C to 75 °C (-40 °F to 167 °F) |

* 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.

| | |
|-----------------------------------|------------------|
| Max. Tensile Strength, Short-Term | 2700 N (600 lbf) |
| Max. Tensile Strength, Long-Term | 810 N (180 lbf) |

| Mechanical Characteristics Cable | | | | | | |
|----------------------------------|----------------------|------------------------|-------------------------------|----------------------------|----------------------------|--------------|
| Fiber Count | Buffer Tube Diameter | Nominal Outer Diameter | Min. Bend Radius Installation | Min. Bend Radius Operation | Weight | Product Type |
| 6 - 72 | 2.5 mm (0.1 in) | 12.5 mm (0.49 in) | 188 mm (7.4 in) | 125 mm (4.9 in) | 140 kg/km (94 lb/1000 ft) | Dielectric |
| 96 | 2.5 mm (0.1 in) | 15.3 mm (0.60 in) | 230 mm (9.0 in) | 153 mm (6.0 in) | 214 kg/km (144 lb/1000 ft) | Dielectric |
| 144 | 2.5 mm (0.1 in) | 18.9 mm (0.74 in) | 284 mm (11.2 in) | 189 mm (7.4 in) | 308 kg/km (207 lb/1000 ft) | Dielectric |
| 192 - 216 | 2.5 mm (0.1 in) | 18.3 mm (0.72 in) | 275 mm (10.8 in) | 183 mm (7.2 in) | 259 kg/km (174 lb/1000 ft) | Dielectric |
| 288 | 2.5 mm (0.1 in) | 21.3 mm (0.84 in) | 320 mm (12.6 in) | 213 mm (8.4 in) | 362 kg/km (243 lb/1000 ft) | Dielectric |

| 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/- |

* ITU-T G.652 D compliant.

* Meets 0.75 ns optical skew when used in all Corning Plug and Play™/Pretium EDGE® systems solutions.

* Assumes 1.0 dB maximum total connector/splice loss.

* Assumes 0.7 dB maximum total connector/splice loss.

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.

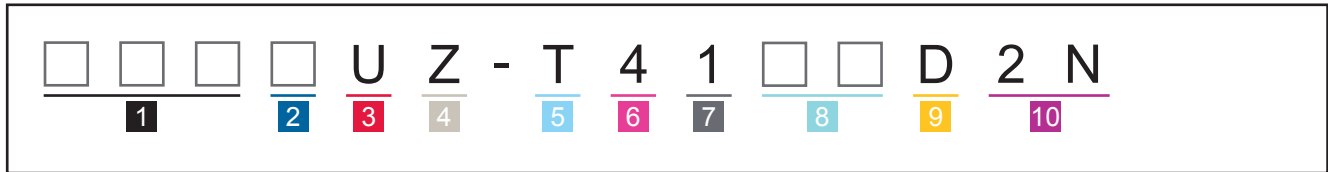
| Single-mode | | |
|------------------------------|------------------|-----------------|
| Fiber Name | ClearCurve® XB** | SMF-28e+® fiber |
| Fiber Category | G.652.D/G.657.A1 | G.652.D |
| Fiber Code | H | E |
| Performance Option Code | 01 | 01 |
| Wavelengths (nm) | 1310/1383/1550 | 1310/1383/1550 |
| Maximum Attenuation (dB/km) | 0.4/0.4/0.3 | 0.4/0.4/0.3 |
| Typical Attenuation* (dB/km) | 0.35/0.35/0.20 | 0.33/0.33/0.19 |



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



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)
E = Single-mode (OS2)
SMF-28e+®
H = ClearCurve® XB
Single-mode (OS2)

3 Defines cable type.

U = Loose tube, gel-free

4 Defines outer jacket.

Z = LSZH™ Single-Jacket
Cable

5 Defines fiber placement.

T = 12 fibers/buffer tube
(standard)

6 Defines length markings.

4 = Markings in ft (standard)

7 Defines tensile strength.

1 = 2700 N/600 lb (standard)

8 Select performance option code.

30 = 62.5 μm multimode (OM1)
31 = 50 μm multimode (OM2)
80 = 50 μm multimode (OM3)
90 = 50 μm multimode (OM4)
91 = 50 μm multimode (OM4+)
01 = Single-mode (OS2)
(Max. attenuation 0.4/0.4/0.3 dB/km)

9 Defines cable type.

D = Loose tube, gel-free

10 Defines special manufacturing code.

2N = Industrial



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