# Riser-LSZH™ Riser Indoor/Outdoor, Industrial Tray-Rated, Loose Tube, Gel-Free, Double-Jacket Cables, 12-288 Fibers

CORNING

## Features and Benefits

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

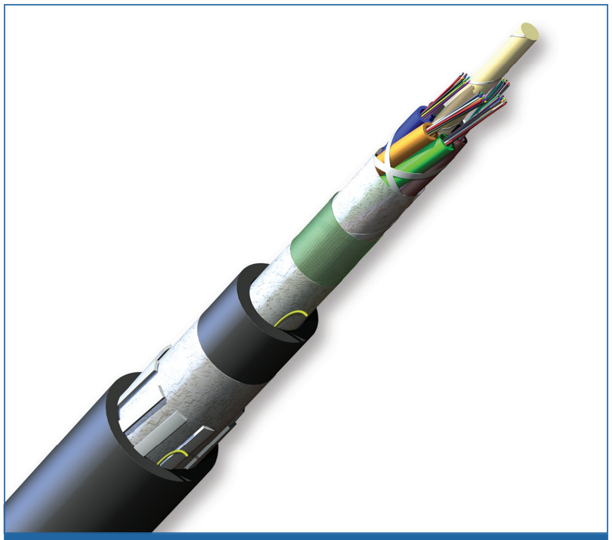
**Meets cyclic impact and chemical resistance test**
Superior performance

**Common installations**
Outdoor aerial and duct; indoor general purpose horizontal according to NEC Article 770

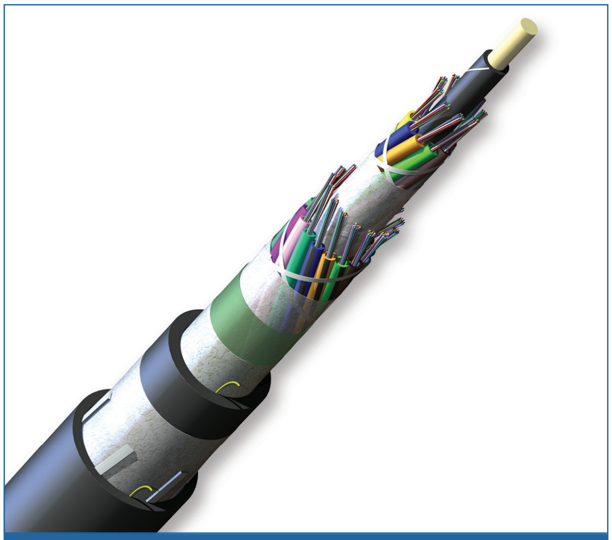
**Available in MSHA versions**
Mine Safety and Health Administration approved

Corning Riser-LSZH™ rated loose tube gel-free cables are flame-retardant, indoor/outdoor, suitable for installation in inter-building and intra-building applications. The loose tube design offers mechanical ruggedness and environmental durability while the all-dielectric cable construction requires no grounding or bonding. The water-swellable yarn eliminates the need for gel-filling compound and allows more efficient and craft-friendly cable preparation. The 250 µm color-coded fibers allow quick and easy identification during installation.

Corning Riser-LSZH cables eliminate risks in the event of a fire as the LSZH compound does not drip when superheated. The material burns to ash, eliminating the onset of secondary fires. 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. The flexible, flame-retardant outer jacket is UV-resistant and enables direct exposure to sunlight. Interlocking armor is available for special applications requiring additional mechanical durability. The riser rating allows for the cable to transition into a riser rated building space without the need of a transition splice that costs time and money.



**Industrial Fiber Optic Cable, 48-Fibers | Photo PIM0744**



**Industrial Fiber Optic Cable, 288-Fibers | Photo PIM0751**

# Riser-LSZH™ Riser Indoor/Outdoor, Industrial Tray-Rated, Loose Tube, Gel-Free, Double-Jacket Cables, 12-288 Fibers

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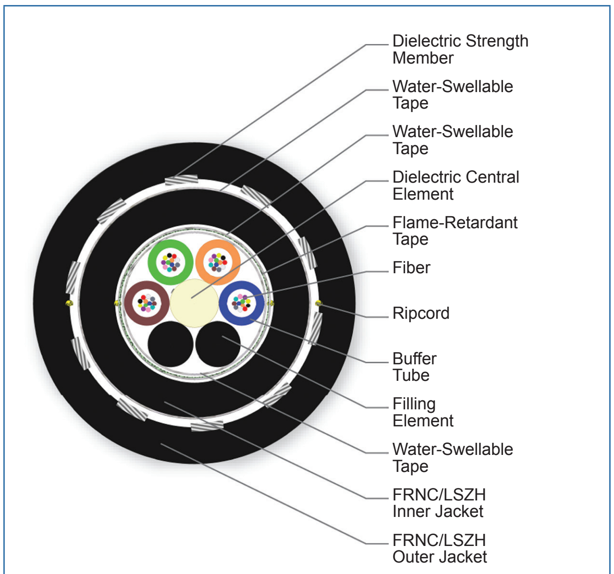
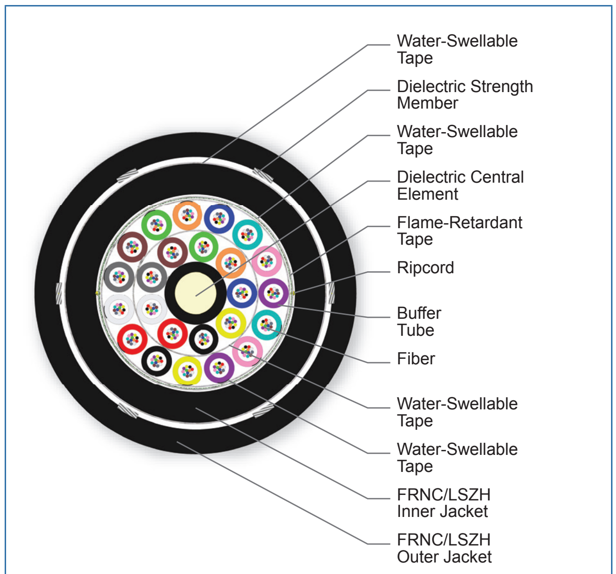
## Standards

| | |
|---|---|
| **Listings** | National Electrical Code® (NEC®) OFNR-LS, Sunlight Resistant (SUN RES); IEEE-1202 flame test; IEC 60332-3, IEC 60754-2, IEC 61034; MSHA 30 CFR Part 7-K, Section 7.408 |
| **Design and Test Criteria** | ANSI/ICEA S-104-696, UL 13, UL 1277, UL 1685, UL 444, CSA C22.2, No. 230 and No. 232, CSA OFC (FT-4-S1) |

*Note: This cable is available in 12 different jacket colors – blue, orange, green, brown, slate, white, red, black, yellow, violet, rose and aqua. The colored jacket allows for easy visual identification of the cables while still providing all of the required environmental protection of an indoor/outdoor cable jacket. Black is the standard jacket color using the part numbers shown here. Contact Customer Care at 1-800-743-2675 to order other color options.*




**Industrial Fiber Optic Cable, 48-Fibers | Photo PIM1643**




**Industrial Fiber Optic Cable, 288-Fibers | Photo PIM1650**

# Riser-LSZH™ Riser Indoor/Outdoor, Industrial Tray-Rated, Loose Tube, Gel-Free, Double-Jacket Cables, 12-288 Fibers

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## Specifications

| Temperature Range | |
|---|---|
| Storage | -40 °C to 70 °C (-40 °F to 158 °F) |
| Installation | -30 °C to 60 °C (-22 °F to 140 °F) |
| Operation | -40 °C to 70 °C (-40 °F to 158 °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.*

| Mechanical Characteristics Cable | |
|---|---|
| Max. Tensile Strength, Long-Term | 337 lbf (1500 N) |
| Max. Tensile Strength, Short-Term | 4500 N (1000 lbf) |

| Fiber Count | Buffer Tube Diameter | Nominal Outer Diameter | Min. Bend Radius Installation | Max. Tensile Strength, Short-Term | Min. Bend Radius Operation | Weight |
|---|---|---|---|---|---|---|
| 12 - 72 | 2.5 mm (0.1 in) | 17.9 mm (0.70 in) | 269 mm (10.6 in) | 4500 N (1000 lbf) | 179 mm (7.0 in) | 312 kg/km (209 lb/1000 ft) |
| 96 | 2.5 mm (0.1 in) | 20.8 mm (0.82 in) | 312 mm (12.2 in) | 4500 N (1000 lbf) | 208 mm (8.2 in) | 418 kg/km (281 lb/1000 ft) |
| 144 | 2.5 mm (0.1 in) | 24.4 mm (0.96 in) | 366 mm (14.4 in) | 4500 N (1000 lbf) | 244 mm (9.6 in) | 552 kg/km (371 lb/1000 ft) |
| 192 | 2.5 mm (0.1 in) | 23.3 mm (0.92 in) | 350 mm (13.8 in) | 4500 N (1000 lbf) | 233 mm (9.2 in) | 472 kg/km (317 lb/1000 ft) |
| 216 | 2.5 mm (0.1 in) | 23.7 mm (0.93 in) | 356 mm (14.0 in) | 4500 N (1000 lbf) | 237 mm (9.3 in) | 501 kg/km (336 lb/1000 ft) |
| 288 | 2.5 mm (0.1 in) | 26.8 mm (1.05 in) | 402 mm (15.8 in) | 4500 N (1000 lbf) | 268 mm (10.5 in) | 641 kg/km (430 lb/1000 ft) |

| Chemical Characteristics | |
|---|---|
| RoHS | Free of hazardous substances according to RoHS 2011/65/EU |

# Riser-LSZH™ Riser Indoor/Outdoor, Industrial Tray-Rated, Loose Tube, Gel-Free, Double-Jacket Cables, 12-288 Fibers

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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™/EDGE™ systems solutions.*
** Assumes 1.0 dB maximum total connector/splice loss.*
** Assumes 0.7 dB maximum total connector/splice loss.*

*Notes:* 1) *50 µm multimode fiber macrobend loss ≤ 0.2 dB at 850 nm for two turns around 7.5 mm radius mandrel.*
2) *Improved attenuation and bandwidth options available.*
3) *Bend-insensitive single-mode fibers available on request.*
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 | ITU-T 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 |

** 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 | K | - | T | 4 | 6 | ☐ ☐ | D | 2 N |
|---|---|---|---|---|---|---|---|---|---|---|
| 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)
E = Single-mode (OS2) SMF-28e+®
Z = Single-mode (OS2) SMF-28® ULTRA

**3** Defines cable type.
U = Gel-free cable

**4** Defines outer jacket.
K = Riser-LSZH™ Double Dielectric Cable

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

**6** Defines length markings
. 4 = Markings in ft (standard)

**7** Defines tensile strength.
6 = See Specifications

**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 manufacturing code.
2N = Tray-rated industrial

RoHS COMPLIANT

**Corning Optical Communications LLC • 4200 Corning Place • Charlotte, NC 28216 United States**
**800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • www.corning.com/opcomm**




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