

Industrial LSZH™ Tray-Rated, Loose Tube, Gel-Free, Double-Jacket Cable

144 F, 50 µm multimode (OM4)

CORNING

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. This ruggedized armored version offers additional mechanical protection and is also available in a gel-filled, cold temperature version. 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. A key benefit of the Corning industrial cables is the low-smoke/zero-halogen (LSZH) sheath.

Corning LSZH™ industrial cables provide life-safety benefits for industrial applications through the cables' 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 exposed to 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 environment. In addition, the LSZH compound does not drip when superheated; the material burns to ash, eliminating the onset of secondary fires.

Features and Benefits

Low-smoke, zero-halogen sheath

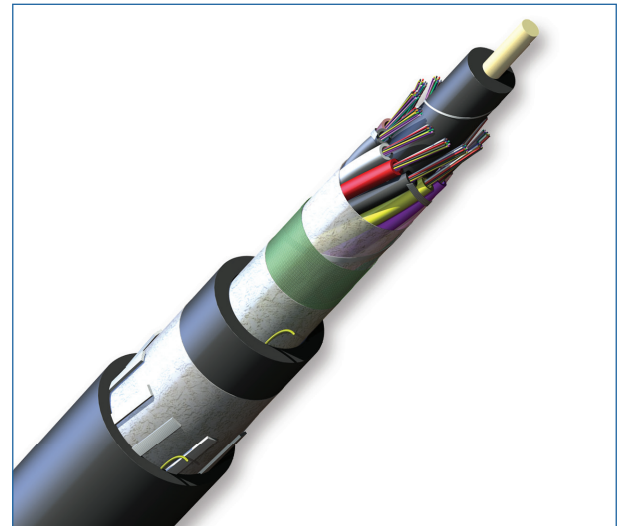
Key life-safety benefit

Meets cyclic impact and chemical resistance test

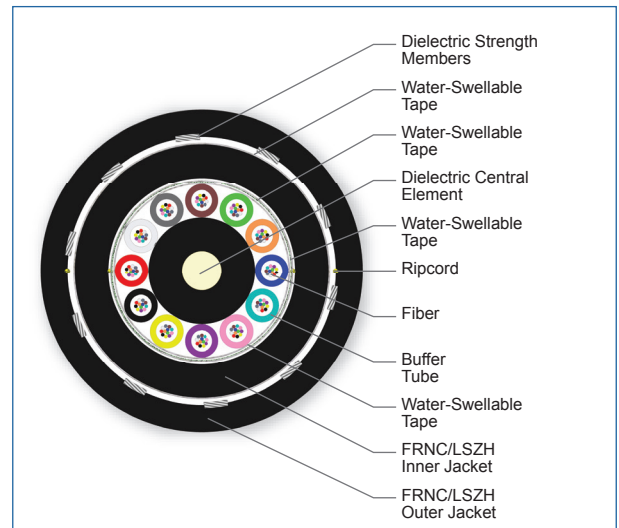
Superior performance

Common installations

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



Part Number: 144TUL-T4690D2N



Cross Section of Part Number: 144TUL-T4690D2N

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Standards

Listings

National Electrical Code® (NEC®) OFN-LS, 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

Design and Test Criteria

ANSI/ICEA S-104-696; UL 13; UL 444; UL 1277; UL 1666; CSA C22.2 No. 230 and No. 232; CSA OFC (FT-4-S1)

Specifications

| General Specifications | |
|------------------------|---|
| Environment | Indoor/Outdoor Cables |
| Application | Aerial, Direct Buried, Duct, Tray Rated, (General Purpose Horizontal) |
| Cable Type | Loose Tube |
| Product Type | Dielectric |
| Flame Rating | LSZH™ (OFN-LS) |
| Fiber Category | 50 µm MM (OM4) |

| 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) |

| Cable Design | |
|--------------------------|--|
| Central Element | Dielectric |
| Fiber Count | 144 |
| Fiber Coloring | Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua |
| Fibers per Tube | 12 |
| Number of Tube Positions | 12 |

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| Cable Design | |
|---|--|
| Number of Active Tubes | 12 |
| Buffer Tube Color Coding | Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua |
| Buffer Tube Diameter | 2.5 mm (0.1 in) |
| Tape | Water-swellable |
| Tape, Layer 2 | Flame-retardant tape |
| Tape, Layer 3 | Water-swellable |
| Inner Jacket Material | Flame-retardant, non-corrosive/low-smoke, zero-halogen (FRNC/LSZH) material |
| Tape, Layer 4 | Water-swellable |
| Tensile Strength Elements and/or Armoring - Layer 1 | Dielectric strength members |
| Number of Ripcords | 4 |
| Outer Jacket Material | Flame-retardant, non-corrosive/low-smoke, zero-halogen (FRNC/LSZH) material |
| Outer Jacket Color | Black |

| Mechanical Characteristics Cable | |
|-----------------------------------|----------------------------|
| Max. Tensile Strength, Short-Term | 4500 N (1000 lbf) |
| Max. Tensile Strength, Long-Term | 1500 N (333 lbf) |
| Weight | 552 kg/km (371 lb/1000 ft) |
| Nominal Outer Diameter | 24.4 mm (0.96 in) |
| Min. Bend Radius Installation | 366 mm (14.4 in) |
| Min. Bend Radius Operation | 244 mm (9.6 in) |

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

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Fiber Specifications

| Optical Characteristics (cabled) | |
|---|--------------------------|
| Fiber Core Diameter | 50 µm |
| Fiber Category | OM4 |
| Fiber Code | T |
| Performance Option Code | 90 |
| Wavelengths | 850 nm / 1300 nm |
| Maximum Attenuation | 3.0 dB/km / 1.0 dB/km |
| Serial 1 Gigabit Ethernet | 1100 m / 600 m |
| Serial 10 Gigabit Ethernet | 550 m / - |
| Min. Overfilled Launch (OFL) Bandwidth | 3500 MHz*km / 500 MHz*km |
| Minimum Effective Modal Bandwidth (EMB) | 4700 MHz*km / - |

* Assumes 1.0 dB maximum total connector/splice loss.

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

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.

Ordering Information

| | |
|---------------------|--|
| Part Number | 144TUL-T4690D2N |
| Product Description | Industrial LSZH™ Tray-Rated, Loose Tube, Gel-Free, Double-Jacket Cable, 144 F, 50 µm multimode (OM4) |



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