Mining and Petrochemical Tray-Rated, Loose Tube, Gel-Free Cable

48 F, SMF-28® Ultra fiber, Single-mode (OS2)

CORNING

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 limited-smoke and zero-halogen requirements exist. The loose tube cable construction, pioneered by Corning, places fibers in buffer tubes and provides stable and highly reliable transmission parameters for a variety of voice, data, video and imaging applications. 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 cable's innovative waterblocking technology eliminates the need for traditional flooding compound and allows more efficient and craft-friendly cable preparation. 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 buried applications. All-dielectric construction provides tensile strength and eliminates grounding concerns. With an extended storage and operating temperature range of -50° to +75°C (-58° to +167°F), the cable is listed OFN-LS and CSA FT4-ST 1 for up to 288 fibers and cable tray-rated per CSA C22.2 No. 230 and No. 232.

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.

Part Number: 048ZUL-T3601D2M

Cross Section of Part Number: 048ZUL-T3601D2M

- Dielectric Strength Members
- Water-Swellable Tape
- Water-Swellable Tape
- Dielectric Central Element
- Flame-Retardant Tape
- Fiber
- Ripcord
- Buffer Tube
- Filling Element
- Water-Swellable Tape
- FRNC/LSZH Inner Jacket
- FRNC/LSZH Outer Jacket

Features and Benefits

Loose tube construction
Stable and highly reliable transmission parameters
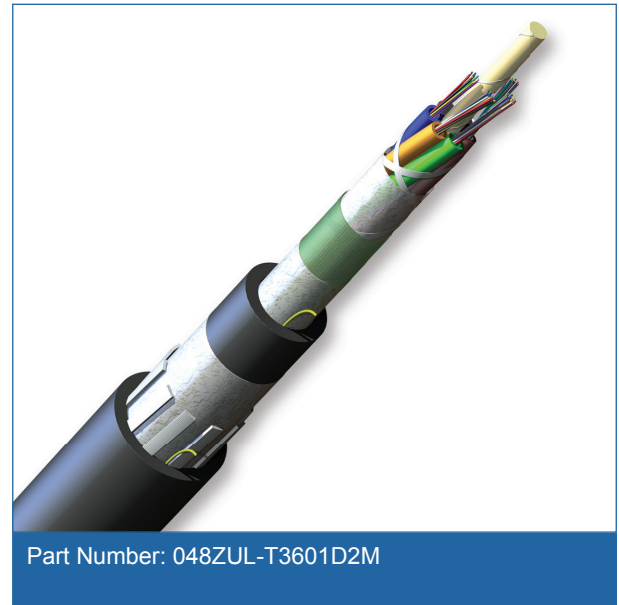
Waterblocking technology
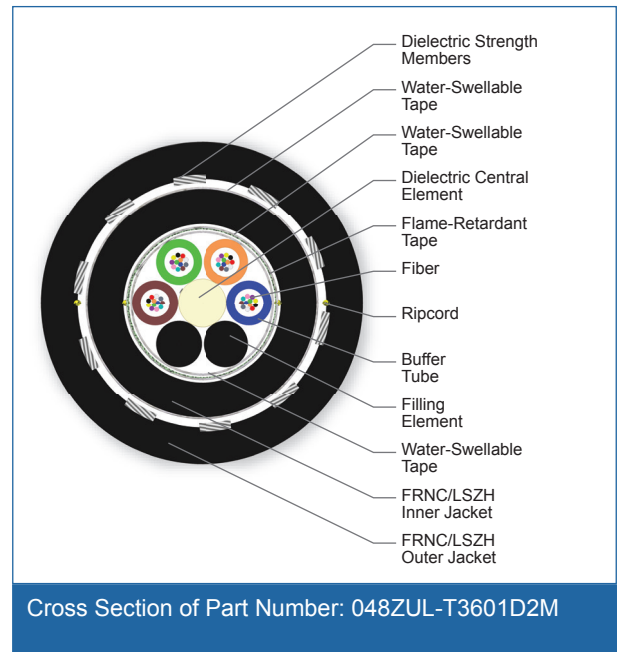Allows efficient and craft-friendly cable preparation

Extra tough double jackets
Ideal for harsh environments

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

CORNING

Mining and Petrochemical Tray-Rated, Loose Tube, Gel-Free Cable

48 F, SMF-28® Ultra fiber, Single-mode (OS2)

CORNING

Features and Benefits

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

Standards

Listings	National Electrical Code® (NEC®) OFCR-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
Design and Test Criteria	ANSI/ICEA S-104-696, CSA OFN-LS FT-4-ST1, CSA C22.2 No. 230 and No. 232

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	SMF-28® Ultra fiber

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)

Cable Design	
Central Element	Dielectric
Fiber Count	48

CORNING

Mining and Petrochemical Tray-Rated, Loose Tube, Gel-Free Cable

48 F, SMF-28® Ultra fiber, Single-mode (OS2)

CORNING

Cable Design

Fiber Coloring	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua
Fibers per Tube	12
Number of Tube Positions	6
Number of Active Tubes	4
Buffer Tube Color Coding	Blue, Orange, Green, Brown
Buffer Tube Diameter	2.5 mm (0.1 in)
Number of Filling Elements	2
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)
Compressive Loading	2400 N/cm (1370 lb/in)
Impact Resistance	11.8 N*m (8.7 lb*ft)
Weight	299 kg/km (201 lb/1000 ft)
Nominal Outer Diameter	17.6 mm (0.69 in)
Min. Bend Radius Installation	264 mm (10.4 in)
Min. Bend Radius Operation	176 mm (6.9 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

CORNING

Mining and Petrochemical Tray-Rated, Loose Tube, Gel-Free Cable

48 F, SMF-28® Ultra fiber, Single-mode (OS2)

CORNING

Chemical Resistance

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 2011/65/EU

Fiber Specifications

Optical Characteristics (cabled)

Fiber Name	SMF-28® Ultra fiber
Fiber Category	G.657.A1
Fiber Code	Z
Performance Option Code	01
Wavelengths	1310 nm / 1383 nm / 1550 nm
Maximum Attenuation	0.4 dB/km / 0.4 dB/km / 0.3 dB/km
Typical Attenuation	0.33 dB/km / 0.33 dB/km / 0.19 dB/km

* 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

Ordering Information

Part Number	048ZUL-T3601D2M
Product Description	Mining and Petrochemical Tray-Rated, Loose Tube, Gel-Free Cable, 48 F, SMF-28® Ultra fiber, Single-mode (OS2)

RoHS COMPLIANT

CORNING