

# FREEDM® Gel-filled Central Tube Dielectric Armor Indoor/Outdoor Cable, U-DQ(ZN)BH 24F SMF-28® Ultra CT 2.1, B2ca-s1a,d0,a1



**Part Number:**  
**024ZEU-93120A2C**

FREEDM™ gel-filled MPC (Multipurpose Cables) can be deployed both indoor and outdoor for campus backbone, in conduits, ducts and in-house. Fibers are color-coded for quick and easy identification. Central buffer tube cable construction makes it compact, light and flexible, ideal for connections requiring a moderate fiber count.

## Features and Benefits

### All-dielectric cable construction

Requires no grounding or bonding

### Small diameter and bend radius

Easy installation in space-constrained areas

### UV- and microbe-resistant

Can be installed in ducts or conduits

### Laminated glass yarns

Improved rodent resistance

### Fibers color coding to Telcordia-Bellcore

Easy identification of the individual fibers

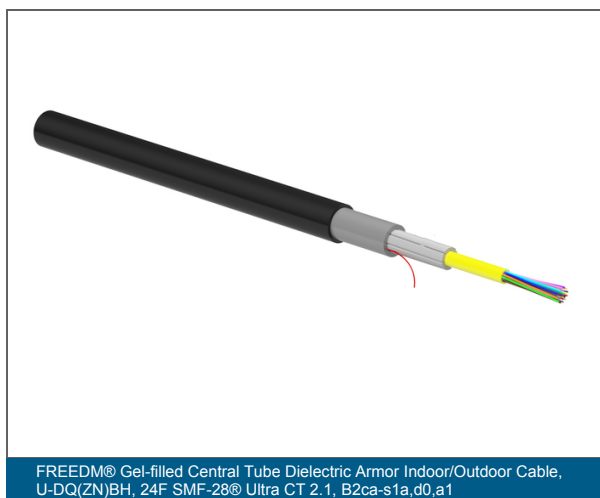
### Silicon-free outer jacket

Cable jacket is free of components harmful to paint structures

### Flame retardant

LSZH™/FRNC

Meets industry standard waterblocking requirements for outdoor cable



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## Specifications

General Specifications	
Installation Methods	Duct
Cable Type	Single Tube
Environment	Indoor/Outdoor
Product Type	Dielectric armor
Fiber Category	SMF-28® Ultra
Flame Rating	LSZH/FRNC
Coding according to EN 60794-1-1 (DIN VDE 0888-100-1)	U-DQ(ZN)BH
Cable geometry	Round

Standards	
Reaction to Fire	B2ca-s1a, d0, a1
RoHS	Free of hazardous substances according to RoHS 2011/65/EU
Flame propagation test	Flame retardant according to IEC 60332-1-2 (single cable) and IEC 60332-3-24 (bunch of cables)
Reaction to Fire Requirements	Reaction to fire according to EN 50575 and EN 13501-6
Smoke density	Low smoke according to IEC 61034
Halogen content test	Zero Halogen according to IEC 60754-1
Level of corrosion	Non-corrosive according to IEC 60754-2

Environmental Conditions	
Temperature Range, Installation	-5 °C to 50 °C
Temperature Range, Operation	-30 °C to 70 °C
Temperature Range, Storage	-30 °C to 70 °C

Cable Design	
Tube Filling Type	Gel-filled

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Cable Design	
Cable Marking	Meter - Handset - CE 23 EN 50575 B2ca-s1a,d0,a1 - Sinus - CORNING - Fiber Optic Cable - Year - U-DQ(ZN)BH 24 SMF-28® Ultra CT 2.1 - G.652.D & G.657.A1 - LSZH(TM)/FRNC
Fiber Count	24
Number of Ripcords	1
Buffer Tube Color Coding, Layer 1	Yellow
Outer Jacket Color	Black
Outer Jacket Material	Flame-retardant, non-corrosive/low-smoke, zero-halogen (FRNC/LSZH) material
Outer Jacket Nominal Thickness	1.2 mm
Number of Active Tubes	1
Strength Members	Glass Yarn Armoring
Cable Marking Color	White
Fiber Coloring	1-12: blue, orange, green, brown, slate, white, red, black, yellow, violet, rose, aqua - 13-24: (all with one black ring mark) blue, orange, green, brown, slate, white, red, natural, yellow, violet, rose, aqua
Color Code Standards	Telcordia
Inner Tube Diameter	2.1 mm

Mechanical Specifications	
Crush Resistance	1000 N/10 cm
Max. Tensile Strength for Installation	1500 N
Min. Bend Radius Installation	114 mm
Min. Bend Radius Operation	57 mm

Optical Characteristics	
Fiber Code	Z
Performance Option Code	20
Fiber Category	OS2
Fiber Type	Single-mode (OS2) / 250 µm

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CORNING

Optical Characteristics	
Fiber Name	Bend-Improved Single-mode (OS2)
Maximum Attenuation	0.34 dB/km / 0.34 dB/km / 0.20 dB/km
Wavelengths	1310 nm / 1383 nm / 1550 nm
Fiber Compliance	ITU-T G.652.D and ITU-T G.657.A1
Fiber Core Diameter	8.2 μm
Cladding diameter	125 μm
Coating diameter	242 μm
Dispersion @ 1550 nm	≤ 18 [ps/(nm*km)]
Dispersion @ 1625 nm	≤ 22 [ps/(nm*km)]
Cable cutoff wavelength	1260 nm
Mode-Field Diameter at 1310 nm	9.2 μm
Mode-Field Diameter at 1550 nm	10.4 μm
PMD Link Design Value	≤ 0.04 ps/√km
PMD maximum individual fiber	≤ 0.1 ps/√km

Dimensions	
Outer Diameter	5.7 mm
Cable Weight	42.5 kg/km
Max. cable length per reel/drum	6000 m



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