

# FREEDM™ Gel-filled Central Tube Dielectric Armour Indoor/Outdoor Cable, U-DQ(ZN)BH 12F SMF-28® Ultra CT 2.0, B2ca-s1a,d0,a1 YL

The Corning logo is displayed in white, uppercase letters on a solid blue rectangular background.

**Part Number:**  
**012ZEU-87120ACY**

FREEDM™ gel-filled MPC (Multipurpose Cables) can be deployed both indoor and outdoor for campus backbone and building backbone (riser) cabling as well as for the cabling between distributors floor. 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**

For improved rodent resistance

### **Fibres colour coding to Telcordia-Bellcore**

Easy identification of the individual fibres

### **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

|                                                       |                   |
|-------------------------------------------------------|-------------------|
| Cable type                                            | Central Tube      |
| Environment                                           | Indoor/Outdoor    |
| Product type                                          | Dielectric armour |
| Fibre category                                        | SMF-28® Ultra     |
| Flame rating                                          | LSZH/FRNC         |
| Coding according to EN 60794-1-1 (DIN VDE 0888-100-1) | U-DQ(ZN)BH        |
| Application                                           | Duct              |
| 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 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                      | Metre - Handset - CE 23 EN 50575 B2ca-s1a,d0,a1 - Sinus - CORNING - Fibre Optic Cable - Year - U-DQ(ZN)BH 12 SMF-28® Ultra CT 2.0 - G.652.D & G.657.A1 - LSZH(TM)/FRNC |
| Fibre count                        | 12                                                                                                                                                                     |
| Number of ripcords                 | 1                                                                                                                                                                      |
| Buffer tube colour coding, layer 1 | Yellow                                                                                                                                                                 |
| Outer jacket colour                | Yellow                                                                                                                                                                 |
| 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 armouring                                                                                                                                                   |
| Cable marking colour               | Black                                                                                                                                                                  |
| Colour Code Standards              | Telcordia                                                                                                                                                              |
| Inner Tube Diameter                | 1.95 mm                                                                                                                                                                |

| Mechanical Specifications              |              |
|----------------------------------------|--------------|
| Crush resistance                       | 1000 N/10 cm |
| Max. tensile strength for installation | 1500 N       |
| Min. bend radius installation          | 112 mm       |
| Min. bend radius operation             | 56 mm        |

| Optical Characteristics |                                      |
|-------------------------|--------------------------------------|
| Fibre code              | Z                                    |
| Performance option code | 20                                   |
| Fibre category          | OS2                                  |
| Fibre Type              | Single-mode (OS2) / 250 µm           |
| Fibre name              | Bend-Improved Single-mode (OS2)      |
| Maximum Attenuation     | 0.34 dB/km / 0.34 dB/km / 0.20 dB/km |

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## Optical Characteristics

|                                                             |                                  |
|-------------------------------------------------------------|----------------------------------|
| Wavelengths                                                 | 1310 nm / 1383 nm / 1550 nm      |
| Fibre compliance                                            | ITU-T G.652.D and ITU-T G.657.A1 |
| Fibre 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 (Polarization Mode Dispersion) maximum individual fibre | ≤ 0.1 ps/√km                     |

## Dimensions

|                                 |            |
|---------------------------------|------------|
| Outer diameter                  | 5.6 mm     |
| Cable Weight                    | 40.5 kg/km |
| Max. cable length per reel/drum | 4000 m     |



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