



Fiber indoor/outdoor Cable, LSZH Riser All-Dielectric Central Tube Ribbon, Multimode OM4 bend insensitive, 36-fiber, feet jacket marking, black jacket color

## Product Classification

|                              |                                                                     |
|------------------------------|---------------------------------------------------------------------|
| <b>Regional Availability</b> | Asia   Australia/New Zealand   EMEA   Latin America   North America |
| <b>Portfolio</b>             | CommScope®                                                          |
| <b>Product Type</b>          | Fiber indoor/outdoor cable                                          |
| <b>Product Series</b>        | Z-CN                                                                |

## General Specifications

|                                    |                     |
|------------------------------------|---------------------|
| <b>Cable Type</b>                  | Ribbon central tube |
| <b>Construction Type</b>           | Non-armored         |
| <b>Subunit Type</b>                | Gel-free            |
| <b>Fibers per Ribbon, quantity</b> | 12                  |
| <b>Jacket Color</b>                | Black               |
| <b>Jacket Marking</b>              | Feet                |
| <b>Total Fiber Count</b>           | 36                  |

## Dimensions

|                                     |                  |
|-------------------------------------|------------------|
| <b>Buffer Tube/Subunit Diameter</b> | 6 mm   0.236 in  |
| <b>Diameter Over Jacket</b>         | 13 mm   0.512 in |

## Representative Image



## Mechanical Specifications

|                                          |                                       |
|------------------------------------------|---------------------------------------|
| <b>Minimum Bend Radius, loaded</b>       | 259.1 mm   10.201 in                  |
| <b>Minimum Bend Radius, unloaded</b>     | 129.5 mm   5.098 in                   |
| <b>Tensile Load, long term, maximum</b>  | 800 N   179.847 lbf                   |
| <b>Tensile Load, short term, maximum</b> | 2670 N   600.24 lbf                   |
| <b>Compression</b>                       | 22 N/mm   125.623 lb/in               |
| <b>Compression Test Method</b>           | FOTP-41   IEC 60794-1 E3              |
| <b>Flex</b>                              | 25 cycles                             |
| <b>Flex Test Method</b>                  | FOTP-104   IEC 60794-1 E6             |
| <b>Impact</b>                            | 2.94 N-m   26.021 in lb               |
| <b>Impact Test Method</b>                | FOTP-25   IEC 60794-1 E4              |
| <b>Strain</b>                            | See long and short term tensile loads |
| <b>Strain Test Method</b>                | FOTP-33   IEC 60794-1 E1              |
| <b>Twist</b>                             | 10 cycles                             |
| <b>Twist Test Method</b>                 | FOTP-85   IEC 60794-1 E7              |

## Optical Specifications

|                   |                                               |
|-------------------|-----------------------------------------------|
| <b>Fiber Type</b> | OM4, bend insensitive   OM4, bend insensitive |
|-------------------|-----------------------------------------------|

## Environmental Specifications

|                                 |                                      |
|---------------------------------|--------------------------------------|
| <b>Installation temperature</b> | -30 °C to +60 °C (-22 °F to +140 °F) |
| <b>Operating Temperature</b>    | -40 °C to +70 °C (-40 °F to +158 °F) |
| <b>Storage Temperature</b>      | -40 °C to +75 °C (-40 °F to +167 °F) |

# 760211656 | Z-036-CN-RB-F12NS/5X/99F

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|                                      |                                                                 |
|--------------------------------------|-----------------------------------------------------------------|
| <b>Cable Qualification Standards</b> | ANSI/ICEA S-104-696   Telcordia GR-20   Telcordia GR-409        |
| <b>Environmental Space</b>           | Aerial, lashed   Buried   Low Smoke Zero Halogen (LSZH)   Riser |
| <b>Flame Test Listing</b>            | NEC OFNR (UL) and c(UL)                                         |
| <b>Flame Test Method</b>             | UL 1666                                                         |
| <b>Jacket UV Resistance</b>          | UV stabilized                                                   |
| <b>Water Penetration</b>             | 24 h                                                            |
| <b>Water Penetration Test Method</b> | FOTP-82   IEC 60794-1 F5                                        |

## Environmental Test Specifications

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| <b>Heat Age</b>                      | -40 °C to +85 °C (-40 °F to +185 °F) |
| <b>Heat Age Test Method</b>          | IEC 60794-1 F9                       |
| <b>Low High Bend</b>                 | -30 °C to +60 °C (-22 °F to +140 °F) |
| <b>Low High Bend Test Method</b>     | FOTP-37   IEC 60794-1 E11            |
| <b>Temperature Cycle</b>             | -40 °C to +70 °C (-40 °F to +158 °F) |
| <b>Temperature Cycle Test Method</b> | FOTP-3   IEC 60794-1 F1              |

## Packaging and Weights

|                     |                           |
|---------------------|---------------------------|
| <b>Cable weight</b> | 193 kg/km   129.69 lb/kft |
|---------------------|---------------------------|

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>                                                          |
|---------------|--------------------------------------------------------------------------------|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

## Included Products

|          |                                             |
|----------|---------------------------------------------|
| CS-5X-RB | – 50µm OM4 Bend-Insensitive Multimode Fiber |
|----------|---------------------------------------------|

## \* Footnotes

**Operating Temperature** Specification applicable to non-terminated bulk fiber cable

# CS-5X-RB

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## 50µm OM4 Bend-Insensitive Multimode Fiber

### Product Classification

|                     |               |
|---------------------|---------------|
| <b>Portfolio</b>    | CommScope®    |
| <b>Product Type</b> | Optical fiber |

### General Specifications

|                                                      |                                        |
|------------------------------------------------------|----------------------------------------|
| <b>Cladding Diameter</b>                             | 125 µm                                 |
| <b>Cladding Diameter Tolerance</b>                   | ±1.0 µm                                |
| <b>Cladding Non-Circularity, maximum</b>             | 1 %                                    |
| <b>Coating Diameter (Colored)</b>                    | 250 µm                                 |
| <b>Coating Diameter (Uncolored)</b>                  | 245 µm                                 |
| <b>Coating Diameter Tolerance (Colored)</b>          | ±15 µm                                 |
| <b>Coating Diameter Tolerance (Uncolored)</b>        | ±10 µm                                 |
| <b>Coating/Cladding Concentricity Error, maximum</b> | 12 µm                                  |
| <b>Core Diameter</b>                                 | 50 µm                                  |
| <b>Core Diameter Tolerance</b>                       | ±3 µm                                  |
| <b>Core/Clad Offset, maximum</b>                     | 1 µm                                   |
| <b>Proof Test</b>                                    | 689.476 N/mm <sup>2</sup>   100000 psi |

### Mechanical Specifications

|                                               |                                       |
|-----------------------------------------------|---------------------------------------|
| <b>Macrobending, 15 mm Ø mandrel, 2 turns</b> | 0.20 dB @ 850 nm   0.50 dB @ 1,300 nm |
| <b>Macrobending, 30 mm Ø mandrel, 2 turns</b> | 0.10 dB @ 850 nm   0.30 dB @ 1,300 nm |
| <b>Coating Strip Force, maximum</b>           | 8.9 N   2.001 lbf                     |
| <b>Coating Strip Force, minimum</b>           | 1.3 N   0.292 lbf                     |
| <b>Dynamic Fatigue Parameter, minimum</b>     | 18                                    |

### Optical Specifications

|                                            |                     |
|--------------------------------------------|---------------------|
| <b>Numerical Aperture</b>                  | 0.2                 |
| <b>Numerical Aperture Tolerance</b>        | ±0.015              |
| <b>Point Defects, maximum</b>              | 0.2 dB              |
| <b>Zero Dispersion Slope, maximum</b>      | 0.105 ps/[km-nm-nm] |
| <b>Zero Dispersion Wavelength, maximum</b> | 1340 nm             |

# CS-5X-RB

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**Zero Dispersion Wavelength, minimum** 1295 nm

## Optical Specifications, Wavelength Specific

|                                     |                                                      |
|-------------------------------------|------------------------------------------------------|
| <b>1 Gbps Ethernet Distance</b>     | 1,000 m @ 850 nm   550 m @ 1,300 nm                  |
| <b>10 Gbps Ethernet Distance</b>    | 550 m @ 850 nm                                       |
| <b>Attenuation, maximum</b>         | 1.50 dB/km @ 1,300 nm   3.50 dB/km @ 850 nm          |
| <b>Backscatter Coefficient</b>      | -68.0 dB @ 850 nm   -75.7 dB @ 1,300 nm              |
| <b>Bandwidth, Laser, minimum</b>    | 4,700 MHz-km @ 850 nm   500 MHz-km @ 1,300 nm        |
| <b>Bandwidth, OFL, minimum</b>      | 3,500 MHz-km @ 850 nm   500 MHz-km @ 1,300 nm        |
| <b>Differential Mode Delay Note</b> | Superior to TIA-492AAAC and IEC 60793-2-10 at 850 nm |
| <b>Index of Refraction</b>          | 1.478 @ 1,300 nm   1.482 @ 850 nm                    |
| <b>Standards Compliance</b>         | TIA-492AAAD (OM4)                                    |

## Environmental Specifications

|                                              |                    |
|----------------------------------------------|--------------------|
| <b>Heat Aging, maximum</b>                   | 0.10 dB/km @ 85 °C |
| <b>Temperature Dependence, maximum</b>       | 0.1 dB/km          |
| <b>Temperature Humidity Cycling, maximum</b> | 0.1 dB/km          |
| <b>Water Immersion, maximum</b>              | 0.10 dB/km @ 23 °C |

## Regulatory Compliance/Certifications

| <b>Agency</b> | <b>Classification</b>                                                          |
|---------------|--------------------------------------------------------------------------------|
| ISO 9001:2015 | Designed, manufactured and/or distributed under this quality management system |

## \* Footnotes

|                                              |                                                                                                               |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Temperature Dependence, maximum</b>       | Temperature dependence is conducted at -60 °C to +85 °C (-76 °F to +185 °F)                                   |
| <b>Temperature Humidity Cycling, maximum</b> | Temperature humidity cycling is conducted at -10 °C to +85 °C (+14 °F to +185 °F) up to 95% relative humidity |