



Fiber indoor cable, Low Smoke Zero Halogen Distribution, 24 fiber single-unit, Multimode OM5, Meters jacket marking, Aqua jacket color

## Product Classification

|                              |                              |
|------------------------------|------------------------------|
| <b>Regional Availability</b> | Asia   Australia/New Zealand |
| <b>Portfolio</b>             | CommScope®                   |
| <b>Product Type</b>          | Fiber indoor cable           |
| <b>Product Series</b>        | N-DS                         |

## General Specifications

|                          |              |
|--------------------------|--------------|
| <b>Cable Type</b>        | Distribution |
| <b>Construction Type</b> | Non-armored  |
| <b>Subunit Type</b>      | Gel-free     |
| <b>Jacket Color</b>      | Aqua         |
| <b>Jacket Marking</b>    | Meters       |
| <b>Total Fiber Count</b> | 24           |

## Dimensions

|                             |                   |
|-----------------------------|-------------------|
| <b>Diameter Over Jacket</b> | 8.8 mm   0.346 in |
|-----------------------------|-------------------|

## Representative Image



## Mechanical Specifications

|  |                                       |
|--|---------------------------------------|
| <b>Minimum Bend Radius, loaded</b>       | 176 mm   6.929 in                     |
| <b>Minimum Bend Radius, unloaded</b>     | 88 mm   3.465 in                      |
| <b>Tensile Load, long term, maximum</b>  | 369 N   82.955 lbf                    |
| <b>Tensile Load, short term, maximum</b> | 1320 N   296.748 lbf                  |
| <b>Compression</b>                       | 10 N/mm   57.101 lb/in                |
| <b>Compression Test Method</b>           | IEC 60794-1-21 E3                     |
| <b>Strain</b>                            | See long and short term tensile loads |
| <b>Strain Test Method</b>                | IEC 60794-1-21 E1                     |

## Optical Specifications

|                   |     |
|-------------------|-----|
| <b>Fiber Type</b> | OM5 |
|-------------------|-----|

## Optical Specifications, Wavelength Specific

|                             |   |
|-----------------------------|---|
| <b>Attenuation, maximum</b> | 1.00 dB/km @ 1,300 nm   3.00 dB/km @ 850 nm |
|-----------------------------|---|

## Environmental Specifications

|                                 |                                      |
|---------------------------------|--------------------------------------|
| <b>Installation temperature</b> | -10 °C to +60 °C (+14 °F to +140 °F) |
| <b>Operating Temperature</b>    | -20 °C to +70 °C (-4 °F to +158 °F)  |
| <b>Storage Temperature</b>      | -40 °C to +70 °C (-40 °F to +158 °F) |
| <b>Environmental Space</b>      | Low Smoke Zero Halogen (LSZH)        |
| <b>Flame Test Listing</b>       | NEC OFNR (UL) and c(UL)              |
| <b>Flame Test Method</b>        | IEC 60332-3   UL 1666   UL 1685      |

## Environmental Test Specifications

**Temperature Cycle Test Method** IEC 60794-1-22 F1

## Regulatory Compliance/Certifications

| Agency     | Classification   |
|------------|--|
| CHINA-ROHS | Below maximum concentration value  |
| REACH-SVHC | Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a> |
| ROHS       | Compliant  |
| UK-ROHS    | Compliant  |



## Included Products

CS-5X-TB-3.0/1.0/093 – OM4 Bend-Insensitive Multimode Fiber

## \* Footnotes

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

# CS-5X-TB-3.0/1.0/093

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## 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>                    | 245 µm                                 |
| <b>Coating Diameter Tolerance (Colored)</b>          | ±10 µm                                 |
| <b>Coating/Cladding Concentricity Error, maximum</b> | 12 µm                                  |
| <b>Core Diameter</b>                                 | 50 µm                                  |
| <b>Core Diameter Tolerance</b>                       | ±2.5 µm                                |
| <b>Core/Clad Offset, maximum</b>                     | 1.5 µm                                 |
| <b>Proof Test</b>                                    | 689.476 N/mm <sup>2</sup>   100000 psi |
| <b>Tight Buffer Diameter</b>                         | 900 µm                                 |
| <b>Tight Buffer Diameter Tolerance</b>               | ±40 µm                                 |

### 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>Macrobending, 75 mm Ø mandrel, 100 turns</b> | 0.50 dB @ 1,300 nm   0.50 dB @ 850 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>       | 0.15 dB |

# CS-5X-TB-3.0/1.0/093

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## Optical Specifications, Wavelength Specific

|                                     |   |
|-------------------------------------|---|
| <b>1 Gbps Ethernet Distance</b>     | 1,110 m @ 850 nm   600 m @ 1,300 nm   |
| <b>10 Gbps Ethernet Distance</b>    | 550 m @ 850 nm  |
| <b>Attenuation, maximum</b>         | 1.00 dB/km @ 1,300 nm   3.00 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</b>      | 0.70 ps/m @ 850 nm   0.88 ps/m @ 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>          | 1.477 @ 1,300 nm   1.482 @ 850 nm   |
| <b>Standards Compliance</b>         | IEC 60793-2-10, type A1a.3a   IEC 60793-2-10, type A1a.3b   TIA-492AAAD (OM4) |

## Environmental Specifications

|  |                    |
|--|--------------------|
| <b>Heat Aging, maximum</b>                   | 0.20 dB/km @ 85 °C |
| <b>Temperature Dependence, maximum</b>       | 0.1 dB/km          |
| <b>Temperature Humidity Cycling, maximum</b> | 0.2 dB/km          |
| <b>Water Immersion, maximum</b>              | 0.20 dB/km @ 23 °C |

### \* 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 |