



Constellation® Plenum Hybrid Fault Managed Power Cable, 16 Fiber Loose Tube, 8 Conductor 16 AWG Twisted Pairs

## Product Classification

<b>Regional Availability</b>	North America
<b>Portfolio</b>	CommScope®
<b>Product Type</b>	Hybrid cable, copper and fiber
<b>Product Brand</b>	Constellation™

## General Specifications

<b>Cable Type</b>	Fault managed power cable   Hybrid   MPO trunk cable   U/UTP (unshielded)
<b>Conductor Type, singles</b>	Stranded
<b>Conductors, quantity</b>	8
<b>Construction Type</b>	Non-armored
<b>Fiber Short Description</b>	P-016-MP30
<b>Subunit Type</b>	Gel-free
<b>Jacket Color</b>	Yellow
<b>Subunit Jacket Color</b>	Yellow
<b>Subunit, quantity</b>	1
<b>Fibers per Subunit, quantity</b>	16
<b>Total Fiber Count</b>	16

## Dimensions

<b>Buffer Tube/Subunit Diameter</b>	2.997 mm   0.118 in
<b>Diameter Over Jacket, nominal</b>	12.167 mm   0.479 in
<b>Insulation Thickness, singles</b>	4.064 mm   0.16 in
<b>Jacket Thickness</b>	0.838 mm   0.033 in
<b>Conductor Gauge</b>	16 AWG

## Electrical Specifications

<b>Capacitance</b>	82.021 pF/m   25 pF/ft
<b>Conductor dc Resistance</b>	13.615 ohms/km   4.15 ohms/kft
<b>Dielectric Strength, conductor to shield</b>	6000 Vdc

## Material Specifications

<b>Conductor Material</b>	Bare copper   Stranded copper wire
<b>Insulation Material, singles</b>	PVC
<b>Jacket Material</b>	Fire retardant PVC
<b>Inner Jacket Material</b>	PVC
<b>Ripcord Material</b>	Polyester

## Mechanical Specifications

<b>Minimum Bend Radius, loaded</b>	482.6 mm   19 in
<b>Minimum Bend Radius, unloaded</b>	243.84 mm   9.6 in
<b>Tensile Load, long term, maximum</b>	444.822 N   100 lbf
<b>Tensile Load, short term, maximum</b>	1,334.466 N   300 lbf
<b>Compression</b>	1.018 kg/mm   57 lb/in
<b>Compression Test Method</b>	FOTP-41
<b>Flex</b>	25 cycles
<b>Flex Test Method</b>	FOTP-104
<b>Impact</b>	2.17 ft lb   2.942 N-m
<b>Impact Test Method</b>	FOTP-25
<b>Strain</b>	See long and short term tensile loads
<b>Strain Test Method</b>	FOTP-33
<b>Twist</b>	10 cycles
<b>Twist Test Method</b>	FOTP-85

## Optical Specifications

<b>Fiber Type</b>	G.657.A2/B2
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## Environmental Specifications

<b>Installation temperature</b>	0 °C to +70 °C (-32 °F to +158 °F)
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<b>Operating Temperature</b>	0 °C to +75 °C (+32 °F to +167 °F)
<b>Storage Temperature</b>	-40 °C to +75 °C (-40 °F to +167 °F)
<b>Cable Qualification Standards</b>	ANSI/ICEA S-83-596   Telcordia GR-409   UL 1400-2   UL 444
<b>Environmental Space</b>	Indoor   Plenum
<b>Flame Test Listing</b>	NEC CL4P-OF (ETL) and c(ETL)   NEC CMP-OF (ETL) and c(ETL)
<b>Flame Test Method</b>	NFPA 262

## Environmental Test Specifications

<b>Low High Bend</b>	0 °C to +70 °C (+32 °F to +158 °F)
<b>Low High Bend Test Method</b>	FOTP-37
<b>Temperature Cycle</b>	0 °C to +70 °C (+32 °F to +158 °F)
<b>Temperature Cycle Test Method</b>	FOTP-3

## Packaging and Weights

<b>Cable weight</b>	203.878 kg/km   137 lb/kft
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## Included Products

CS-8G1-MP	–	Enhanced Low Macrobending, Zero Water Peak, Dispersion-Unshifted Singlemode Fiber (ITU-T G.657.A2, B2)
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## \* Footnotes

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

# CS-8G1-MP

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Enhanced Low Macrobending, Zero Water Peak, Dispersion-Unshifted Singlemode Fiber (ITU-T G.657.A2, B2)

## 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>	±0.3 µm
<b>Cladding Non-Circularity, maximum</b>	0.7 %
<b>Coating Diameter (Colored)</b>	249 µm
<b>Coating Diameter (Uncolored)</b>	242 µm
<b>Coating Diameter Tolerance (Colored)</b>	±13 µm
<b>Coating Diameter Tolerance (Uncolored)</b>	±5 µm
<b>Coating/Cladding Concentricity Error, maximum</b>	12 µm
<b>Core/Clad Offset, maximum</b>	0.5 µm
<b>Proof Test</b>	689.476 N/mm <sup>2</sup>   100000 psi

## Dimensions

<b>Fiber Curl, minimum</b>	4 m   13.123 ft
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## Mechanical Specifications

<b>Macrobending, 15 mm Ø mandrel, 1 turn</b>	0.50 dB @ 1,550 nm   1.00 dB @ 1,625 nm
<b>Macrobending, 20 mm Ø mandrel, 1 turn</b>	0.10 dB @ 1,550 nm   0.20 dB @ 1,625 nm
<b>Macrobending, 30 mm Ø mandrel, 10 turns</b>	0.03 dB @ 1,550 nm   0.10 dB @ 1,625 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>	20

## Optical Specifications

<b>Cabled Cutoff Wavelength, maximum</b>	1260 nm
<b>Point Defects, maximum</b>	0.1 dB

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<b>Zero Dispersion Slope, maximum</b>	0.092 ps/[km-nm-nm]
<b>Zero Dispersion Wavelength, maximum</b>	1324 nm
<b>Zero Dispersion Wavelength, minimum</b>	1302 nm

## Optical Specifications, Wavelength Specific

<b>Attenuation, maximum</b>	0.40 dB/km @ 1,310 nm   0.40 dB/km @ 1,385 nm   0.40 dB/km @ 1,550 nm   0.50 dB/km @ 1,625 nm
<b>Dispersion, maximum</b>	18 ps(nm-km) at 1550 nm   3.5 ps(nm-km) from 1285 nm to 1330 nm at 1310 nm
<b>Index of Refraction</b>	1.467 @ 1,310 nm   1.467 @ 1,385 nm   1.468 @ 1,550 nm
<b>Mode Field Diameter</b>	8.6 $\mu\text{m}$ @ 1,310 nm   9.8 $\mu\text{m}$ @ 1,550 nm
<b>Mode Field Diameter Tolerance</b>	$\pm 0.4 \mu\text{m}$ @ 1310 nm   $\pm 0.5 \mu\text{m}$ @ 1550 nm
<b>Polarization Mode Dispersion Link Design Value, maximum</b>	0.06 ps/sqrt(km)
<b>Standards Compliance</b>	ITU-T G.657.A2   ITU-T G.657.B2

## Environmental Specifications

<b>Heat Aging, maximum</b>	0.05 dB/km @ 85 °C
<b>Temperature Dependence, maximum</b>	0.05 dB/km
<b>Temperature Humidity Cycling, maximum</b>	0.05 dB/km
<b>Water Immersion, maximum</b>	0.05 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