



Constellation® Plenum Hybrid Fault Managed Power Cable, 16 Fiber Loose Tube, 4 Conductor 16 AWG Twisted Pairs

Product Classification

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

General Specifications

Cable Type	Fault managed power cable Hybrid MPO trunk cable U/UTP (unshielded)
Conductor Type, singles	Stranded
Conductors, quantity	4
Construction Type	Non-armored
Fiber Short Description	P-016-MP30
Subunit Type	Gel-free
Jacket Color	Yellow
Subunit Jacket Color	Yellow
Subunit, quantity	1
Fibers per Subunit, quantity	16
Total Fiber Count	16

Dimensions

Buffer Tube/Subunit Diameter	2.997 mm 0.118 in
Diameter Over Jacket, nominal	10.287 mm 0.405 in
Insulation Thickness, singles	4.064 mm 0.16 in
Jacket Thickness	0.838 mm 0.033 in
Conductor Gauge	16 AWG

Electrical Specifications

Capacitance	82.021 pF/m 25 pF/ft
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760255004 | P-016-HY-8G-F30YL/4X16AWG/CTX

Conductor dc Resistance	13.615 ohms/km 4.15 ohms/kft
Dielectric Strength, conductor to shield	6000 Vdc

Material Specifications

Conductor Material	Bare copper Stranded copper wire
Insulation Material, singles	PVC
Jacket Material	Fire retardant PVC
Inner Jacket Material	PVC
Ripcord Material	Para-aramid synthetic fiber

Mechanical Specifications

Minimum Bend Radius, loaded	406.4 mm 16 in
Minimum Bend Radius, unloaded	203.2 mm 8 in
Tensile Load, long term, maximum	200.17 N 45 lbf
Tensile Load, short term, maximum	667.233 N 150 lbf
Compression	1.018 kg/mm 57 lb/in
Compression Test Method	FOTP-41
Flex	25 cycles
Flex Test Method	FOTP-104
Impact	2.17 ft lb 2.942 N-m
Impact Test Method	FOTP-25
Strain	See long and short term tensile loads
Strain Test Method	FOTP-33
Twist	10 cycles
Twist Test Method	FOTP-85

Optical Specifications

Fiber Type	G.657.A2/B2
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Environmental Specifications

Installation temperature	0 °C to +70 °C (-32 °F to +158 °F)
Operating Temperature	0 °C to +75 °C (+32 °F to +167 °F)
Storage Temperature	-40 °C to +75 °C (-40 °F to +167 °F)

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Cable Qualification Standards	ANSI/ICEA S-83-596 Telcordia GR-409 UL 1400-2 UL 444
Environmental Space	Indoor Plenum
Flame Test Listing	NEC CL4P-OF (ETL) and c(ETL) NEC CMP-OF (ETL) and c(ETL)
Flame Test Method	NFPA 262

Environmental Test Specifications

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

Packaging and Weights

Cable weight	113.1 kg/km 76 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

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

Product Classification

Portfolio	CommScope®
Product Type	Optical fiber

General Specifications

Cladding Diameter	125 µm
Cladding Diameter Tolerance	±0.3 µm
Cladding Non-Circularity, maximum	0.7 %
Coating Diameter (Colored)	249 µm
Coating Diameter (Uncolored)	242 µm
Coating Diameter Tolerance (Colored)	±13 µm
Coating Diameter Tolerance (Uncolored)	±5 µm
Coating/Cladding Concentricity Error, maximum	12 µm
Core/Clad Offset, maximum	0.5 µm
Proof Test	689.476 N/mm ² 100000 psi

Dimensions

Fiber Curl, minimum	4 m 13.123 ft
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Mechanical Specifications

Macrobending, 15 mm Ø mandrel, 1 turn	0.50 dB @ 1,550 nm 1.00 dB @ 1,625 nm
Macrobending, 20 mm Ø mandrel, 1 turn	0.10 dB @ 1,550 nm 0.20 dB @ 1,625 nm
Macrobending, 30 mm Ø mandrel, 10 turns	0.03 dB @ 1,550 nm 0.10 dB @ 1,625 nm
Coating Strip Force, maximum	8.9 N 2.001 lbf
Coating Strip Force, minimum	1.3 N 0.292 lbf
Dynamic Fatigue Parameter, minimum	20

Optical Specifications

Cabled Cutoff Wavelength, maximum	1260 nm
Point Defects, maximum	0.1 dB

CS-8G1-MP

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

Optical Specifications, Wavelength Specific

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

Environmental Specifications

Heat Aging, maximum	0.05 dB/km @ 85 °C
Temperature Dependence, maximum	0.05 dB/km
Temperature Humidity Cycling, maximum	0.05 dB/km
Water Immersion, maximum	0.05 dB/km @ 23 °C

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



* Footnotes

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