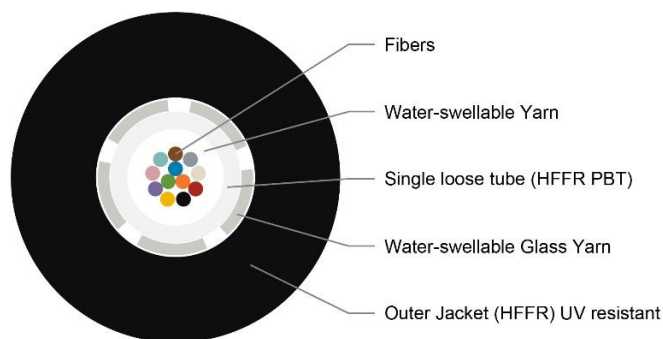


SINGLE LOOSE TUBE DRY UNITUBE FIBER CABLE INDOOR/OUTDOOR - CPR B2ca



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NEXCONEC® Dry single loose tube fiber optic cable featuring non-metallic armor and a halogen-free, flame-retardant jacket CPR Certified. Compact and flexible structure due to its small diameter. It supports various single-mode and multi-mode fibers (G.655, OM1-OM4) for safe, high-performance use in electrically sensitive and public environments.

FEATURES

- ✓ Dielectric non-metallic armor
- ✓ Rodent Protected
- ✓ Ultraviolet Resistance
- ✓ Flame Retardant and Low Smoke Emission
- ✓ CPR Regulation 305/2011/EU

APPLICATIONS

- ✓ Suitable for long-haul DWDM and metropolitan networks
- ✓ Ideal for high-speed data center interconnects (10G to 100G)
- ✓ Suitable for power plants and railways requiring electrical isolation
- ✓ Ideal for tunnels, metros, and public buildings where safety is critical
- ✓ Suitable for indoor/outdoor campus and building backbone cabling

SPECIFICATIONS

Parameter	Value						
Optical Fiber Core & Tube Color Standard	ANSI/TIA 598-D Color Coding						
Reaction to Fire	CPR B2ca -s2, d1, a1						
Optical Fiber Type	G.652.D / G.655 C&D / G.657.A1 / G.657.A2 / OM4						
Optical Fiber Dimensions	9/125/245/260 μm / 50/125/245/260 μm / 62.5/125/245/260 μm						
Optical Fiber Count	2	4	6	8	12	16	24
Optical Fiber Identification Method	Colored					Bundled	
Cable Type	Dry Single Loose Tube						
Tube Material	Halogen-free Flame-Retardant Polybutylene Terephthalate (HFFR PBT)						
Tube Diameter (mm)	2.3 mm					3.0 mm	
Tube Filling Compound Material	Water-swellaable Yarn						
Nominal Cable Diameter (mm)	6.7 mm					7.2 mm	
Net Cable Weight (kg/km)	57 Kg					63 Kg	
Reel Length	2000 meters %±5						
Active Tube Count	1						
Single Loose Tube Color	Neutral						
Maximum Tensile Strength	≥1000 N						
Crush Resistance	1500 N/100 mm (15 minutes)						
Dielectric Tensile Strength Member	Water-swellaable Glass Yarn						
Jacket Material	Halogen Free Flame Retardant (HFFR) UV resistant						
Jacket Wall Thickness	1.5 mm						
Outer Jacket Marking Method	Inkjet marking						
Outer Jacket Marking Area	One side						
Outer Jacket Marking Application	Applied in one-meter intervals						
Storage Temperature	-40 °C to 70 °C						
Installation Temperature	-30 °C to 60 °C						
Operation Temperature	-40 °C to 70 °C						
Standards	IEC, RoHS, and REACH						

MECHANICAL CHARACTERISTICS

Test	Reference Standard	Specified Value
Maximum Tensile Strength	IEC 60794-1-21-E1	≥ 1000 N
Crush Resistance	IEC 60794-1-21-E3	1500 N/100 mm (15 minutes)
Smoke Density	IEC 61034-2	
Corrosive Gas	IEC 60754-2	
Halogen-Free	IEC 60754-1	
Flame Retardancy	IEC 60332-1-2	

CHEMICAL CHARACTERISTICS

RoHS	Free of hazardous substances according to RoHS regulation.
REACH	Safe to use according to REACH regulation.

ORDER INFORMATION

CF	1	2	3	4	5
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CF	1	CABLE CONSTRUCTION	2	FIBER COUNT	3	FIBER	4	JACKET COLOR	5	JACKET MATERIAL
	L	Loose Tube	2-24		2D	G652D	B	Black	LB	CPR B2ca
					5C	G655C	Y	Yellow		
					5D	G655D	V	Erika Violet		
					A1	G657A1				
					A2	G657A2				
					O3	OM3				
					O4	OM4				
					O5	OM5				

FIBER COLORS

1	2	3	4	5	6
Blue	Orange	Green	Brown	Grey	White
7	8	9	10	11	12
Red	Black	Yellow	Violet	Pink	Aqua

G.652.D

Optical Fiber Core Specification Low Water Peak Single-Mode Optical Fiber Standard, ITU-T G.652.D (Uncolored Fiber)

Low water peak single-mode optical fiber, made by the vapor phase axial deposition (VAD) method, which enables customer to construct high performance wired network for voice, video and/or data transmission. The fiber, made of a germanium doped silica core and a silica cladding, is in compliance with ITU-T G.652 A, B, C and D.

Structural Specifications		
Fiber Materials		
Core Material		Silica (SiO ₂) Doped with Germanium Dioxide (GeO ₂)
Cladding Material		Pure silica (SiO ₂)
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Mode Field Diameter	at 1310 nm	9.2 ± 0.4 μm
	at 1550 nm	10.3 ± 0.5 μm
Cladding Diameter		125.0 ± 0.5 μm
Coating Diameter (Uncolored)		245 ± 5 μm
Core/Cladding Concentricity Error		≤ 0.4 μm
Cladding Non-circularity		≤ 0.5 %
Coating - Cladding Concentricity Error		≤ 12 μm
Fiber Curl Radius		≥ 4.0 m
Optical Characteristics		
Attenuation Coefficient	at 1310 nm	≤ 0.334 dB/km
	at 1383 nm	≤ 0.314 dB/km ¹
	at 1550 nm	≤ 0.194 dB/km
	at 1625 nm	≤ 0.224 dB/km
Point Discontinuity	at 1310 nm / 1550 nm	≤ 0.05 dB
Cable Cut-off Wavelength (λ _{cc})		< 1280 nm
Zero-dispersion Wavelength (λ ₀)		1300nm ≤ λ ₀ ≤ 1324 nm
Zero-dispersion Slope (S ₀)		≤ 0.09 ps/(nm ² ·km)
Chromatic Dispersion Coefficient	at 1310 nm	≤ 3.5 ps/(nm·km)
	at 1550 nm	≤ 17 ps/(nm·km)
	at 1625 nm	≤ 22 ps/(nm·km)
Maximum Individual Fiber PMD		≤ 0.2 ps/√km
Fiber PMD Link Design Value		≤ 0.08 ps/√km
Mechanical Characteristics		
Proof Stress Level		0.86 GPa (1.2%, 120 kpsi)
Bending Induced Attenuation	Ø=32 mm, 1 turn at 1550 nm	≤ 0.05 dB
	Ø=50 mm, 100 turns at 1310 nm	≤ 0.05 dB
	Ø=50 mm, 100 turns at 1550 nm	≤ 0.05 dB
	Ø=60 mm, 100 turns at 1625 nm	≤ 0.05 dB
Coating Strip Force (F)	peak	1.3 N ≤ F ≤ 8.9 N
	average	1.0 N ≤ F ≤ 5.0 N
Dynamic Tensile Strength	median; 0.5 m, unaged	≥ 3.8 Gpa (550 kpsi)
	median; 0.5 m, aged	≥ 3.0 Gpa (440 kpsi)
Fatigue	nominal value	20
Environmental Characteristics ²		
Temperature Cycling	-60 °C to 85 °C	≤ 0.05 dB/km
Temperature Humidity Cycling	-10 °C to 85 °C at 85% R. H.	≤ 0.05 dB/km
Water Immersion	at 23 °C ± 2 °C	≤ 0.05 dB/km
Heat Aging	at 85 °C ± 2 °C	≤ 0.05 dB/km
Damp Heat	85 °C at 85% R. H.	≤ 0.05 dB/km
Performance Characteristics		
Effective Group Index of Refraction N _{eff}	at 1310 nm / 1383 nm	1.466
	at 1550 nm	1.467
	at 1625 nm	1.470

G.655.D

Optical Fiber Core Specification Non-Zero Dispersion Shifted Single-Mode Optical Fiber Standard, ITU-T G.655.D (Uncolored Fiber)

Non-Zero dispersion shifted (NZ-DSF) single-mode optical fiber, made by the vapor phase axial deposition (VAD) method, which enables customer to construct high-capacity, ultra long haul WDM system. This fiber allows for easier deployment of WDM in metropolitan areas, and increases the capacity of fiber in WDM systems throughout the wavelength region between 1460nm and 1625nm (S, C, L-bands). NZ-DSF has the ability to increase transmission speeds of systems up to 10 Gb/s and 40 Gb/s and also has superior polarization mode dispersion performance.

Structural Specifications		
Fiber Materials		
Core Material		Germanium doped silica.
Cladding Material		Silica, step index and matched clad type.
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Mode Field Diameter	at 1550 nm	$8.3 \pm 0.4 \mu\text{m}$
Cladding Diameter		$125.0 \pm 0.7 \mu\text{m}$
Coating Diameter (Uncolored)		$242 \pm 5 \mu\text{m}$
Core/Cladding Concentricity Error		$\leq 0.5 \mu\text{m}$
Cladding Non-circularity		$\leq 0.7 \%$
Coating - Cladding Concentricity Error		$\leq 12 \mu\text{m}$
Fiber Curl Radius		$\geq 4.0 \text{ m}$
Optical Characteristics		
Attenuation Coefficient	at 1550 nm	$\leq 0.22 \text{ dB/km}$
	at 1625 nm	$\leq 0.25 \text{ dB/km}$
Point Discontinuity	at 1550 nm	$\leq 0.05 \text{ dB}$
Cable Cut-off Wavelength (λ_{cc})		$\leq 1450 \text{ nm}$
Chromatic Dispersion Coefficient	at 1530 ~ 1565 nm	$2.0 \sim 6.0 \text{ ps/(nm}\cdot\text{km)}$
	at 1565 ~ 1625 nm	$4.5 \sim 11.5 \text{ ps/(nm}\cdot\text{km)}$
Fiber PMD Value	for individual value	$\leq 0.15 \text{ ps}/\sqrt{\text{km}}$
	for link value	$\leq 0.1 \text{ ps}/\sqrt{\text{km}}$
Mechanical Characteristics		
Proof Stress Level		0.86 GPa (1.2%, 120 kpsi)
	$\varnothing=32 \text{ mm}$, 1 turn at 1550 nm	$\leq 0.5 \text{ dB}$
Bending Induced Attenuation	$\varnothing=32 \text{ mm}$, 1 turn at 1625 nm	$\leq 0.5 \text{ dB}$
	$\varnothing=60 \text{ mm}$, 100 turns at 1550 nm	$\leq 0.05 \text{ dB}$
	$\varnothing=60 \text{ mm}$, 100 turns at 1625 nm	$\leq 0.05 \text{ dB}$
Coating Strip Force (F)	peak	$1.3 \text{ N} \leq F \leq 8.9 \text{ N}$
Dynamic fatigue resistance parameter		≥ 20
Environmental Characteristics ¹		
Temperature Cycling	-60 °C to 85 °C	$\leq 0.05 \text{ dB/km}$
Temperature Humidity Cycling	85 °C at 85% R. H.	$\leq 0.05 \text{ dB/km}$
Water Immersion	at 23 °C	$\leq 0.05 \text{ dB/km}$
Heat Aging	at 85 °C	$\leq 0.05 \text{ dB/km}$

G.657.A1

Optical Fiber Core Specification
Low Macro Bending Sensitive Single-Mode Optical Fiber
Standard, ITU-T G.657.A1 (Uncolored Fiber)

Structural Specifications		
Fiber Materials		
Core Material		Silica (SiO ₂) Doped with Germanium Dioxide (GeO ₂)
Cladding Material		Pure silica (SiO ₂)
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Mode Field Diameter	at 1310 nm	9.0 ± 0.4 μm
	at 1550 nm	10.1 ± 0.5 μm
Cladding Diameter		125.0 ± 0.7 μm
Coating Diameter (Uncolored)		242 ± 7 μm
Core/Cladding Concentricity Error		≤ 0.5 μm
Cladding Non-circularity		≤ 0.7 %
Coating/Cladding Concentricity Error		≤ 12 μm
Coating Non-circularity		≤ 5 %
Fiber Curl Radius		≥ 4.0 m
Optical Characteristics		
Attenuation Coefficient	at 1310 nm	0.33 – 0.35 dB/km
	at 1383 nm ¹	0.32 – 0.35 dB/km
	at 1550 nm	0.19 – 0.21 dB/km
	at 1625 nm	0.20 – 0.23 dB/km
Point Discontinuity	at 1310 nm / 1550 nm	≤ 0.05 dB
Cable Cut-off Wavelength (λ _{cc})		< 1260 nm
Zero-dispersion Wavelength (λ ₀)		1300nm ≤ λ ₀ ≤ 1322 nm
Zero-dispersion Slope (S ₀)		≤ 0.09 ps/(nm ² ·km)
Chromatic Dispersion Coefficient	at 1310 nm	≤ 3 ps/(nm·km)
	at 1550 nm	≤ 18 ps/(nm·km)
	at 1625 nm	≤ 22 ps/(nm·km)
Maximum Individual Fiber PMD		≤ 0.1 ps/√km
Fiber PMD Link Design Value		≤ 0.06 ps/√km
Mechanical Characteristics		
Proof Stress Level		0.70 GPa (1.0%, 100 kpsi)
Bending Induced Attenuation	Ø=10 mm, 1 turn at 1550 nm	≤ 0.75 dB
	Ø=10 mm, 1 turn at 1625 nm	≤ 1.50 dB
	Ø=15 mm, 10 turns at 1550 nm	≤ 0.25 dB
	Ø=15 mm, 10 turns at 1625 nm	≤ 1.00 dB
Coating Strip Force (F)	peak	1.2 N ≤ F ≤ 8.9 N
	average	1.0 N ≤ F ≤ 3.0 N
Dynamic Tensile Strength	median; 0.5 m, unaged	≥ 3.8 Gpa (550 kpsi)
	median; 0.5 m, aged	≥ 3.8 Gpa (550 kpsi)
Fatigue	nominal value	20
Environmental Characteristics ²		
Temperature Cycling	-60 °C to 85 °C	≤ 0.05 dB/km
Temperature Humidity Cycling	-10 °C to 85 °C at 98% R. H.	≤ 0.05 dB/km
Water Immersion	at 23 °C, 14 days	≤ 0.05 dB/km
Dry Heat	at 85 °C, 30 days	≤ 0.05 dB/km
Damp Heat	85 °C at 85% R. H., 30 days	≤ 0.05 dB/km
Performance Characteristics		
Effective Group Index of Refraction N _{eff}	at 1310 nm	1.467
	at 1550 nm	1.468
	at 1625 nm	1.468

G.657.A2

Optical Fiber Core Specification Low Macro Bending Sensitive Single-Mode Optical Fiber Standard, ITU-T G.657.A2 (Uncolored Fiber)

Structural Specifications		
Fiber Materials		
Core Material		Silica (SiO ₂) Doped with Germanium Dioxide (GeO ₂)
Cladding Material		Pure silica (SiO ₂)
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Mode Field Diameter	at 1310 nm	8.8 ± 0.4 μm
	at 1550 nm	9.8 ± 0.5 μm
Cladding Diameter		125.0 ± 0.7 μm
Coating Diameter (Uncolored)		242 ± 7 μm
Core/Cladding Concentricity Error		≤ 0.5 μm
Cladding Non-circularity		≤ 0.7 %
Coating/Cladding Concentricity Error		≤ 12 μm
Coating Non-circularity		≤ 5 %
Fiber Curl Radius		≥ 4.0 m
Optical Characteristics		
Attenuation Coefficient	at 1310 nm	0.33 – 0.35 dB/km
	at 1383 nm ¹	0.32 – 0.35 dB/km
	at 1550 nm	0.19 – 0.20 dB/km
	at 1625 nm	0.20 – 0.23 dB/km
Point Discontinuity	at 1310 nm / 1550 nm	≤ 0.05 dB
Cable Cut-off Wavelength (λ _{cc})		≤ 1260 nm
Zero-dispersion Wavelength (λ ₀)		1300nm ≤ λ ₀ ≤ 1324 nm
Zero-dispersion Slope (S ₀)		≤ 0.092 ps/(nm ² ·km)
Chromatic Dispersion Coefficient	at 1310 nm	≤ 3 ps/(nm·km)
	at 1550 nm	≤ 18 ps/(nm·km)
	at 1625 nm	≤ 22 ps/(nm·km)
Maximum Individual Fiber PMD		≤ 0.1 ps/√km
Fiber PMD Link Design Value ²		≤ 0.06 ps/√km
Mechanical Characteristics		
Proof Stress Level		0.70 GPa (1.0%, 100 kpsi)
Bending Induced Attenuation	Ø=7.5 mm, 1 turn at 1625 nm	≤ 1.00 dB
	Ø=7.5 mm, 1 turn at 1550 nm	≤ 0.50 dB
	Ø=10 mm, 1 turn at 1625 nm	≤ 0.20 dB
	Ø=10 mm, 1 turn at 1550 nm	≤ 0.10 dB
	Ø=15 mm, 10 turns at 1625 nm	≤ 0.10 dB
Coating Strip Force (F)	peak	1.2 N ≤ F ≤ 8.9 N
	average	1.0 N ≤ F ≤ 3.0 N
Dynamic Tensile Strength	median; 0.5 m, unaged	≥ 3.8 Gpa (550 kpsi)
	median; 0.5 m, aged***	≥ 3.8 Gpa (550 kpsi)
Fatigue	Dynamic, aged*** - unaged	20
	Static, aged ³	23
Environmental Characteristics ³		
Temperature Cycling	-60 °C to 85 °C	≤ 0.05 dB/km
Temperature Humidity Cycling	-10 °C to 85 °C at 98% R. H.	≤ 0.05 dB/km
Water Immersion	at 23 °C, 14 days	≤ 0.05 dB/km
Dry Heat	at 85 °C, 30 days	≤ 0.05 dB/km
Damp Heat	85 °C at 85% R. H., 30 days	≤ 0.05 dB/km
Performance Characteristics		
Effective Group Index of Refraction Neff	at 1310 nm	1.467
	at 1550 nm	1.467
	at 1625 nm	1.468

OM4

Optical Fiber Core Specification 50/125/242 µm Multi-Mode Optical Fiber Standard, ITU-T G.651.1 (OM4) (Uncolored Fiber)

Structural Specifications		
Fiber Materials		
Core Material		Silica (SiO ₂) Doped with Germanium Dioxide (GeO ₂)
Cladding Material		Pure silica (SiO ₂)
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Core Diameter		50 ± 2.5 µm
Core Non-circularity		≤ 5 %
Core/Cladding Concentricity Error		≤ 1.0 µm
Cladding Diameter		125.0 ± 1.0 µm
Cladding Non-circularity		≤ 0.7 %
Coating Diameter (Uncolored)		242 ± 5 µm
Coating Non-circularity		≤ 5 %
Coating/Cladding Concentricity Error		≤ 10 µm
Optical Characteristics		
Attenuation Coefficient	at 850 nm	≤ 2.2 ~ 2.3 dB/km
	at 1300 nm	≤ 0.5 ~ 0.6 dB/km
Numerical Aperture		0.200 ± 0.015
Zero-dispersion Wavelength (λ ₀)		1295 nm ≤ λ ₀ ≤ 1340 nm
Zero-dispersion Slope (S ₀)	1295 nm ≤ λ ₀ ≤ 1310 nm	≤ 0.105 ps/nm ² ·km
	1310 nm ≤ λ ₀ ≤ 1340 nm	≤ 0.000375 (1590 - λ ₀) ps/nm ² ·km
Differential Mode Delay (DMD)		See Note. ¹
Fiber Capacity	40GBASE-SR4 / 100GBASE-SR10	170 m ²
	10GBASE-SR	550 m ²
	1GBASE-SR	1100 m
Overfilled Modal Bandwidth	at 850 nm	≥ 3500 MHz·km
	at 1300 nm	≥ 500 MHz·km
Effective Modal Bandwidth (EMB)	at 850 nm	≥ 4700 MHz·km
Bending Loss	Ø=75 mm, 100 turn at 850 nm	≤ 0.5 dB
	Ø=75 mm, 100 turn at 1300 nm	≤ 0.5 dB
Performance Characteristics ²		
Point Discontinuity ⁴	at 850 nm / 1300 nm	≤ 0.1 dB
Irregularities Over Fiber Length	at 850 nm / 1300 nm	≤ 0.1 dB
Reflections		Not allowed.
Effective Group Index of Refraction N _{eff}	at 850 nm	1.482
	at 1300 nm	1.477
Mechanical Characteristics		
Proof Level	Off line	0.7 GPa (100 kpsi)
Dynamic Tensile Strength	median; 0.5 m, unaged and aged ⁵	≥ 3.8 Gpa (550 kpsi)
Dynamic Fatigue Parameter	nominal value, unaged and aged ⁵	25
Coating Strip Force (F)	peak, unaged and aged ⁶	1.3 N ≤ F ≤ 8.9 N
	average, unaged and aged ⁶	1.0 N ≤ F ≤ 3.0 N
Environmental Characteristics ⁷		
Temperature Cycling	-60 °C to 85 °C	≤ 0.1 dB/km
Temperature Humidity Cycling	-10 °C to 85 °C at 4-98% R. H.	≤ 0.1 dB/km
Water Immersion	at 23 °C ± 2 °C, 30 days	≤ 0.1 dB/km
Heat Aging	at 85 °C ± 2 °C, 30 days	≤ 0.1 dB/km
Damp Heat	85 °C at 85% R. H., 30 days	≤ 0.1 dB/km