

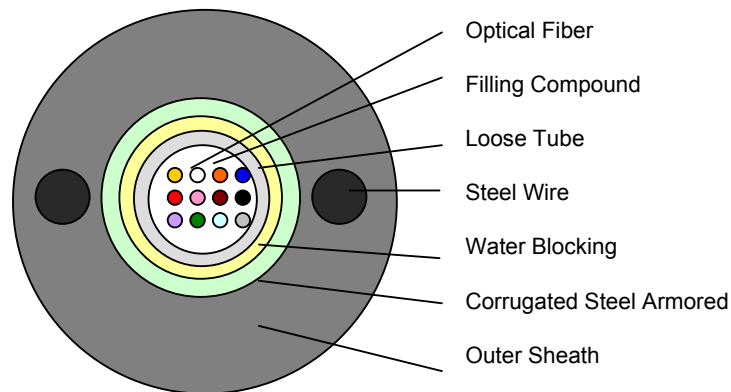
Part No. UCSS09X



Cable Construction & Description

Loose Tube Fiber Optic Cable
 SM, 2~ 12C, Single Jacket, Single Armored,
 x is Number of Cores & X<= 12

Cable Cross Section



Identification of optical fiber & Loose Tube

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

Application

Duct, Aerial

UCSS09X

Cable Information

- Fiber Coloring:** UV Curable Acrylic Color Ink
- No. of Tube:** 1 Tubes
- No. of fiber/Tube:** Max. 12 Fibers
- Loose Tube Material:** PBT
- Filling compound (Tube):** Thixotropic Jelly
- Strength Member:** Steel Wire(Nom.1.2mm Dia. * 2c)
- Water Blocking:** Water Swell able Material
- Corrugated Steel Tape:** Nom. 0.25mm Thick.
- Outer Sheath:** Nom. 2.7mm Thick. Black MDPE,
Anti Rodent outer sheath protect cable from Ultra Violet radiation
- Cable Marking:** Cable type, Fiber Counts, Name of Manufacturer, Year of Manufacturing,
Cable Length in meter
- Cable Outside Diameter:** Nom. 10.0mm ~ 15.0 mm
- Cable Weight:** Approx. 100 kg/km
- Packing:** Export Wooden Drum
- Bending Radius:**
 - Static: 10D (Diameter of cable)
 - Dynamic: 20D (Diameter of cable)

Optical Fiber Performance

1. Optical & Geometrical Performance

-
- Mode Field Diameter:** $9.3 \pm 0.2\mu\text{m}$ at 1310 nm
 - Mode Field Concentricity Error:** $\leq 0.8\mu\text{m}$
 - Cladding Diameter:** $125 \pm 1\mu\text{m}$
 - Cladding Non-Circularity:** $\leq 1\%$
 - Coating Diameter :** $245 \pm 10\mu\text{m}$
 - Coating Non-Circularity Error:** $\leq 6\%$
 - Attenuation Coefficient:** $\leq 0.36\text{dB/km}$ at 1310nm, $\leq 0.22\text{dB/km}$ at 1550nm
 - Chromatic Dispersion:** $\leq 3.5\text{ps/nm/km}$ at 1285~1330nm, $\leq 18\text{ps/nm/km}$ at 1550nm
 - Cut-off Wavelength (λ_{c}):** $\leq 1260\text{nm}$
 - Zero Dispersion Wavelength:** 1300~1322nm
 - PMD Coefficient:** $\leq 0.2\text{ps}/\sqrt{\text{km}}$
 - Point Discontinuity:** $\leq 0.05 \text{ dB}$ at 1310 & 1550nm
 - Effective Group Index of:** 1.4677 at 1310nm(Typical)
 - Refraction (n_{eff}):** 1.4682 at 1550nm(Typical)

2. Mechanical & Environmental Performance

-
- Proof Test Level:** $\geq 0.69 \text{ GPa}(\geq 100\text{kpsi})$
 - Macro bending (at 75mm dia. x100 turns):** $\leq 0.05 \text{ dB}$ at 1550nm
 - Temperature Dependence (-60°C to 85°C):** $\leq 0.05 \text{ dB/km}$ at 1550nm
 - Damp Dependence (+80°C,85%RH for 30Days):** $\leq 0.05 \text{ dB/km}$ at 1550nm
 - Water soak Dependence (+20°C for 30Days):** $\leq 0.05 \text{ dB/km}$ at 1550nm

UCSS09X

Mechanical & Environmental Performance

Item	Reference	Test Condition	Acceptance Criteria
Tensile Strength	IEC 794-1-E1	Long Term: 1000N, Short Term: 3000N	Attenuation Increase: $\leq 0.05\text{dB}$
Crush	IEC 794-1-E3	Loading: 5000N/100mm	Attenuation Increase: $\leq 0.05\text{dB}$
Impact	IEC 794-1-E4	Loading: 10N.m , Cycle: 5	Attenuation Increase: $\leq 0.05\text{dB}$
Repeated Bend	IEC 794-1-E6	Bending Radius: X 20D, Cycle: 30	Attenuation Increase: $\leq 0.05\text{dB}$
Torsion	IEC 794-1-E7	Length: 1m, Torsion angle: ± 180 , Cycle: 10	Attenuation Increase: $\leq 0.05\text{dB}$
Cable Bend	IEC 794-1-E11	Bending Radius: X 10D, Cycle: 10, Turns: 5	Attenuation Increase: $\leq 0.05\text{dB}$
Temp. Cycling	IEC 794-1-F1	Step: $+20^{\circ}\text{C} \rightarrow -40^{\circ}\text{C} \rightarrow +70^{\circ}\text{C} \rightarrow +20^{\circ}\text{C}$, 24Hrs	Attenuation Increase: $\leq 0.1\text{dB/km}$
Water Penetration	IEC 794-1-F5	Length: 1m, Height: 1m, Times: 24Hrs	No Leakage