

# Part No. UWSS050X

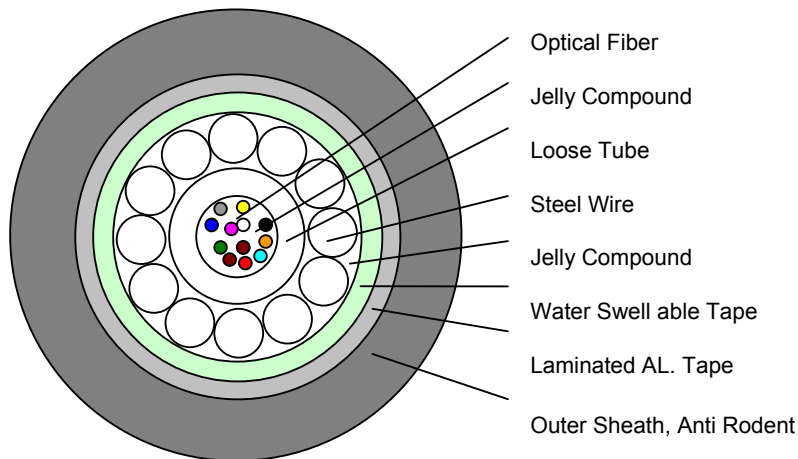


## Cable Construction & Description

### Loose Tube Fiber Optic Cable

MM, 50/125, Lap Sheath, Single Armor, Single Jacket, x is Number of Cores & x ≤ 12

## Cable Cross Section



## Application

Duct, Aerial, Burial

## 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	

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## Cable Information

- Fiber Coloring:** UV Curable Acrylic Color Ink
- No. of Tube:** 1 Tubes
- No. of fiber/Tube:** 12 Fibers
- Loose Tube Material:** PBT
- Filling compound (Tube):** Thixotropic Jelly
- Strength Member:** Steel Wire
- Water Blocking (Core):** Water Swell Jelly
- Laminated AL. Tape:** Nom. 0.3mm Thick
- Outer Sheath:** Nom. 1.8mm Black MDPE
- Cable Marking:** Cable type, Fiber Counts, Name of Manufacturer, Year of Manufacturing, Cable Length in meter
- Cable Outside Diameter:** Nom. 9.8mm
- Cable Weight:** Approx. 135kg/km
- Packing:** Export Wooden Drum
- Bending Radius:**
  - Static: 10D (Diameter of cable)
  - Dynamic: 20D (Diameter of cable)

## Optical Fiber Performance

### 1. Optical & Geometrical Performance

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- Core Diameter:**  $50 \pm 2.5\mu\text{m}$
- Cladding Diameter:**  $125 \pm 1\mu\text{m}$
- Cladding Non-Circularity:**  $\leq 1\%$
- Coating Diameter :**  $245 \pm 10\mu\text{m}$
- Coat/Clad Concentricity Error:**  $\leq 12\mu\text{m}$
- Coating Dia. Non-Circularity:**  $\leq 6\%$
- Core/Clad Concentricity Error:**  $\leq 1.5\mu\text{m}$
- Attenuation Coefficient:**  $\leq 2.7\text{dB/km}$  at 850nm,  $\leq 0.8\text{dB/km}$  at 1300nm
- Bandwidth:**  $\geq 400\text{MHz.km}$  at 850nm,  $\geq 800\text{MHz.km}$  at 1300nm
- Numerical Aperture:**  $0.20 \pm 0.015$
- Point Discontinuity:**  $\leq 0.1\text{ dB}$  at 850 & 1300nm
- Effective Group Index of:** 1.482 at 850nm
- Refraction (Neff):** 1.477 at 1300nm

### 2. Mechanical & Environmental Performance

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- Proof Test Level:**  $\geq 0.69\text{ GPa}(\geq 100\text{kpsi})$
- Macro bending (at 75mm dia. x100 turns):**  $\leq 0.5\text{ dB}$  at 850 & 1300nm
- Temperature Dependence (-60°C to 85°C):**  $\leq 0.10\text{ dB/km}$  at 850 & 1300nm
- Damp Dependence (+80°C, 85%RH for 30Days):**  $\leq 0.20\text{ dB/km}$  at 850 & 1300nm
- Water soak Dependence (+20°C for 30Days):**  $\leq 0.20\text{ dB/km}$  at 850 & 1300nm

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## Mechanical & Environmental Performance

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