

# Part No. UWS050X

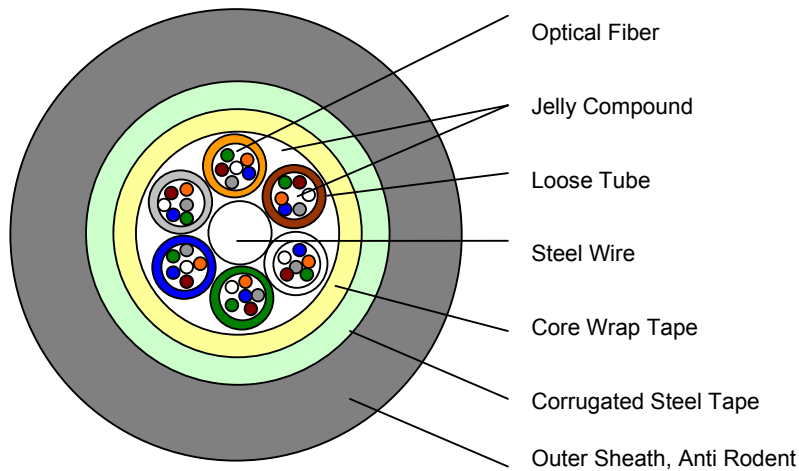


## Cable Construction & Description

### Loose Tube Fiber Optic Cable

MM 2~36C, Single Jacket, Single Armor, x is Number of Cores &  $x \leq 36$

## Cable Cross Section



## Application

Duct, Aerial, Burial

## Identification of optical fiber & Loose Tube

Optical Fiber		Loose Tube	
1	Blue	1	Blue
2	Orange	2	Orange
3	Green	3	Green
4	Brown	4	Brown
5	Grey	5	Grey
6	White	6	White

# UWS050X



## Cable Information

- Fiber Coloring:** UV Curable Acrylic Color Ink
- No. of Tube:** Max. 6 Tubes
- No. of fiber/Tube:** Max. 6 Fibers
- Loose Tube Material:** PBT
- Filling compound (Tube):** Thixotropic Jelly
- Central Strength Member:** Steel Wire
- Water Blocking (Core):** Water Swell able Jelly
- Corrugated Steel Tape:** Nom. 0.25mm 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. 12.4mm
- Cable Weight:** Approx. 170kg/km
- Packing:** Export Wooden Drum
- Bending Radius:**
  - Static: 10D (Diameter of cable)
  - Dynamic: 20D (Diameter of cable)

## Optical Fiber Performance

### 1. Optical & Geometrical Performance

- 
- 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

- 
- 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

# UWS050X

## Mechanical & Environmental Performance

Item	Reference	Test Condition	Acceptance Criteria
Tensile Strength	IEC 794-1-E1	Long Term: 1000N, Short Term: 3000N	Attenuation Increase: ≤0.10dB
Crush	IEC 794-1-E3	Loading: 5000N/100mm	Attenuation Increase: ≤0.10dB
Impact	IEC 794-1-E4	Loading: 10N.m , Cycle: 5	Attenuation Increase: ≤0.10dB
Repeated Bend	IEC 794-1-E6	Bending Radius: X 20D, Cycle: 30	Attenuation Increase: ≤0.10dB
Torsion	IEC 794-1-E7	Length: 1m, Torsion angle: ±180, Cycle:10	Attenuation Increase: ≤0.10dB
Cable Bend	IEC 794-1-E11	Bending Radius: X 10D, Cycle: 10, Turns:5	Attenuation Increase: ≤0.10dB
Temp. Cycling	IEC 794-1-F1	Step:+20°C->-40°C-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