

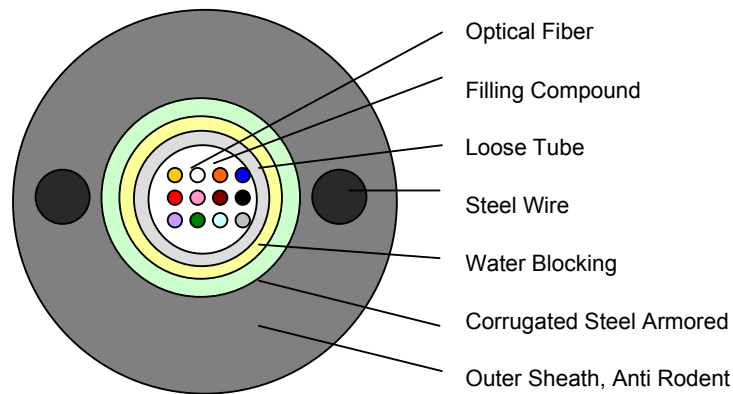
Part No. UCSRS050X



Cable Construction & Description

Loose Tube Fiber Optic Cable
 MM, 2~ 48C, Single Jacket, Two Wire Steel, Corrugated Steel Armored,
 x is Number of Cores & X<= 48

Cable Cross Section



Application

Duct, Aerial, Direct 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	

UCSRS050X

Cable Information

- Fiber Coloring:** UV Curable Acrylic Color Ink
- No. of Tube:** 1 Tubes
- No. of fiber/Tube:** Max. 48 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. 120 kg/km ~ 200 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

- 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:** $\leq 12\mu\text{m}$
- Core/Clad Concentricity Error:** $\leq 1.5\mu\text{m}$
- Coating Dia. Non-Circularity Error:** $\leq 6\%$
- Attenuation Coefficient:** $\leq 2.7\text{dB/km}$ at 850nm, $\leq 0.8\text{dB/km}$ at 1300nm
- Band Width:** $\geq 400\text{MHz.km}$ at 850nm, $\geq 800\text{MHz.km}$ at 1300nm
- Numerical Aperture:** 0.20 ± 0.015
- PMD Coefficient:** $\leq 0.2\text{ps}/\sqrt{\text{km}}$
- Point Discontinuity:** $\leq 0.1 \text{ dB}$ at 850 & 1300nm
- Effective Group Index of:** 1.482 at 850nm
- Refraction (Neff):** 1.477 at 1300nm
- Type of Fiber Core:** GIMM50

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

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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: ≤0.10dB
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- >+70°C->+20°C, 24Hrs	Attenuation Increase: ≤0.1dB/km
Water Penetration	IEC 794-1-F5	Length: 1m, Height: 1m, Times: 24Hrs	No Leakage