

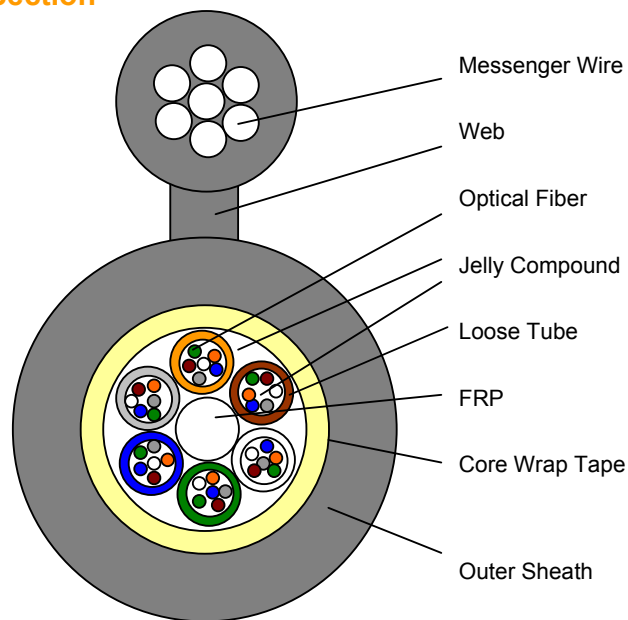
# Part No. UFRP-MW-09X

## Cable Construction & Description

### Loose Tube Fiber Optic Cable

SM, 2~36C, Fig.8, Self-Supporting, Single Jacket, x is Number of Cores &  $x \leq 36$

## Cable Cross Section



## Application

Aerial

# UFRP-MW-09X

## Cable Information

- Fiber Coloring:** UV Curable Acrylic Color Ink
- No. of Tube:** Max. 6Tubes
- No. of fiber/Tube:** Max. 6 Fibers
- Loose Tube Material:** PBT
- Filling compound (Tube):** Thixotropic Jelly
- Central Strength Member:** FRP (Nom. 2.3mm Dia.)
- Water Blocking (Core):** Water Swell Jelly
- Core Wrap:** Water Swell able Tape
- Messenger Wire:** Gal. Steel Wire(1.5mm\*7wires)
- Outer Sheath (Figure-8):** Black MDPE
- Cable Core:** Nom. 2.0mm Thick.
- Web Size:** (2.5W x 3.0H) ± 0.5mm
- Messenger Wire:** Nom. 1.5mm Thick.
- Cable Marking:** Cable type, Fiber Counts, Name of Manufacturer, Year of Manufacturing, Cable Length in meter
- Cable Outside Diameter:** Nom. 22.0 / 11.5mm
- Cable Weight:** Approx. 240kg/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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- Mode Field Diameter:** 9.3 ± 0.5µm at 1310 nm
- Mode Field Concentricity Error:** ≤ 0.8µm
- Cladding Diameter:** 125µm
- Cladding Non-Circularity:** ≤ 1%
- Coating Diameter :** 245 ± 10µm
- Coating Non-Circularity Error:** ≤ 6%
- Attenuation Coefficient:** ≤ 0.36dB/km at 1310nm, ≤ 0.22dB/km at 1550nm
- Chromatic Dispersion:** ≤3.5ps/nm/km at1285~1330nm, ≤18ps/nm/km at 1550nm
- Cut-off Wavelength (λ<sub>cc</sub>):** ≤ 1260nm
- Zero Dispersion Wavelength:** 1300~1322nm
- PMD Coefficient:** ≤ 0.2ps/√km
- Point Discontinuity:** ≤ 0.05 dB at 1310 & 1550nm
- Effective Group Index of:** 1.4677 at 1310nm(Typical)
- Refraction (N<sub>eff</sub>):** 1.4682 at 1550nm(Typical)

### 2. Mechanical & Environmental Performance

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

# UFRP-MW-09X

## 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

## 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°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