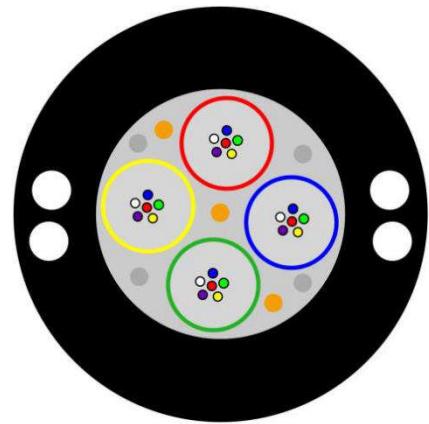# optivine

Micro-Module Multi-Purpose Fiber Optic Cable

Type: MMMP 24/M6 G657A2 60m 4SFRP SJ HDPE CO

Application & Standards

~ For aerial or duct installation;

~ Fully dielectric cable;

~ Easy strippable micro-modules without any tools needed;

~ IEC 60794-1-2 - Basic optical cable test procedures;

~ XP C 93-850-3-25 - Color code of fiber optic cables;

~ ITU-T G.657A2 - Characteristics of a bending-loss insensitive single-mode optical fibre and cable

Cable Construction

~ Optical Fibres

~ Jelly

~ Easy strippable micromodule

~ Aramid Yarns

~ Waterproof Yarns

~ Strength Member (2x2 side FRP)

~ Outer Sheath (Black HDPE)

Technical Characteristics

Optical Fiber Performance	
Characteristic	**Specified Value**
Attenuation Coefficient:	
at 1310nm :	≤ 0.36 dB/km
at 1550nm :	≤ 0.22 dB/km
Mode Field Diameter: at 1310nm	8.6±0.4µm
Chromatic Dispersion: at 1330nm	≤ 3.5 ps/(nm.km)

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at 1550nm	≤ 18 ps/(nm.km)	
at 1625nm	≤ 22 ps/(nm.km)	
Zero Dispersion Wavelength	1300 ~ 1324 nm	
Zero Dispersion Slope	≤ 0.092 ps/(nm^2.km)	
Cable Cut off Wavelength (λcc)	≤ 1260 nm	
Macro Bending Loss	10 cycles ø 15mm at 1550	≤ 0.03 dB
	10 cycles ø 15mm at 1625	≤ 0.10 dB
	1 cycle ø 10mm at 1550	≤ 0.10 dB
	1 cycle ø 10mm at 1625	≤ 0.20 dB
	1 cycle ø 7.5mm at 1550	≤ 0.50 dB
	1 cycle ø 7.5mm at 1625	≤ 1.0 dB
Cladding Diameter	125 ±1 µm	
Cladding Non-Circularity	$\leq 1.0\%$	
Core-Cladding Concentricity error	≤ 0.6 µm	
Proof Test	≥ 0.69 GPa (100kpsi)	
Dynamic Fatigue	≥ 20	

Fiber Optic Cable Parameters		
Fiber Type **	G.657A2	
Fiber Count	24	
Module Count	4	
Average Outer Sheath Thickness (mm)	1.7	
Approximate Cable Diameter (mm)	8.0	
Approximate Cable Weight (kg/km)	50	
Tensile Strength (Short Term) - Fiber Strain ≤0.33%	1600 N	For 60 m span*** / Duct
Tensile Strength (Long Term) - Fiber Strain ≤0.1%	500 N	For 60 m span*** / Duct
Crush (Short Term)	2000 N/10 cm	
Impact	5J, R=300mm, 3 impacts	
Torsion	40N, 20 cycles, ±90º	
Water Penetration	3m sample, 1m height, 24h	
Minimum Bending Radius (Installing)	25 x D	
Minimum Bending Radius (Operating)	15 x D	
Temperature (Operation)	-30°C ~ +70 °C	
Temperature (Transportation and Storage)	-40°C ~ +70 °C	
Packing	Wooden drum with protection	
Delivery Lengths	To be confirmed, ± %5 tolerance	

The above design is only a sample of the options available. Contact our sales team for other specifications. Our policy of continuous improvement may result in a change of specifications without notice.

Marking	<OPTIVINE> + <MICROMODULE> + <fiber count and type> + <DUCT AND AERIAL> + <manufacturing date> + <length marking>

Fiber Color Identification

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	Blue	Green	Yellow	Violet	White	Orange	Grey	Brown	Black	Aqua	Pink

Module Color Identification****

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	Blue	Green	Yellow	Violet	White	Orange	Grey	Brown	Black	Aqua	Pink

*   Drawing it's for indicative purpose only.

**   Other fiber types can be used upon request.

***   A span of 60 m can be reached under NESC medium conditions (wind speed 17.7m/s, ice thickness 6.5mm).

****   If more than 12 tubes are used, the color code will be repeated again containing black rings

*****   Customized solutions can be offered upon request.