

## Part No. MAXBAND550MM

### Cable Description

MaxBand® 550-10 Gb/s GIMM Fiber (50/125  $\mu\text{m}$ )

MaxBand® 550 GIMM fiber is designed specially for high speed local area networks (LAN) such as 10 Gb/s Ethernet. Meanwhile, MaxBand® 550 fiber can also be used in lower speed LAN than 10Gb/s. With the extremely refined refractive index profile owing to the optimized PCVD process, MaxBand® 550 GIMM fiber eliminates the central dip and index-disturbance. The MaxBand® 550 fiber satisfies the use at 850 nm and 1300nm. The maximum link distance can reach over 550 meters in 10 Gb/s Ethernet system at 850 nm wavelength. MaxBand® 550 fiber is 50/125  $\mu\text{m}$  type.

### Application

The outstanding optical performance of MaxBand® 550 fiber makes it suitable for applications including not only 10Gb/s bit-rate LAN (including not only Ethernet, but other network formats) but also lower bit-rate systems such as 1000 Mb/s, 100 Mb/s and 10Mb/s network. MaxBand® 550 fiber is applicable in all cable type including ribbon cable, loose tube stranded cable, slotted core cable, unitube cable and tight-buffer cable.

### Process and Coating

Uninet fibers are manufactured using the advanced Plasma Activated Chemical Vapor Deposition (PCVD) process. Because of the inherent advantages of the process, Uninet fibers show extremely refined refractive index (RI) profile control, excellent geometrical performance, low attenuation, etc. The optical fiber is coated with a double layer UV curable acrylate, type DLPC9, which gives the fiber a good protection. Designed for more stringent tight-buffer cable application, the fiber also performs perfectly in loose buffer constructions and demonstrates a high resistance to micro-bending. The coating offers an excellent stable coating strip force over a wide range of environmental conditions and the coating stripping leaves no residues on the bare glass fiber. Ribbon tests show excellent performance in 60°C water soak tests, exceeding 100 days. The DLPC9 coated optical fibers show high and stable values for dynamic stress corrosion susceptibility parameter (nd), which offers a greatly improved applicability to the fiber when used in harsh environments.

### Cable Characteristic

- Designed for use at 850 nm and 1300 nm
- Suited to application in 10 Gb/s speed or lower bit-rate networks such as Ethernet and other LAN systems
- Ensuring the link distance over 550 meters for 10 Gb/s bit-rate at 850 nm wavelength
- DLPC9 coating offering good protection and excellent strip force stability

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## Fiber Core Performance

Characteristics	Conditions	Specified Values	Units
<b>Optical characteristics</b>			
Attenuation	850 nm	≤2.5	[dB/km]
	1300 nm	≤0.7	[dB/km]
Overfilled Modal Bandwidth	850 nm	≥3500	[MHz·km]
	1300 nm	≥500	[MHz·km]
Effective Model Bandwidth	850 nm	≥4700	[MHz·km]
10 Gb/s Ethernet link distanceSX	850 nm	≤550	[m]
Differential Mode Delay	see Not 1&2	850 [see Not 1]	[nm]
Numerical Aperture (NA)		0.200 ± 0.015	
Group index of refraction (Typical)	850 nm	1.482	
	1300 nm	1.477	
Zero dispersion wavelength		≥1295 ≤1320	[nm]
Zero dispersion slope	1295~1300 nm	≤0.001(λ0~1190)	[ps/(nm·km)]
	1300~1320 nm	≤0.11	[ps/(nm·km)]
<b>Backscatter characteristics</b>			
	1300 nm		
Step (mean of bidirectional measurement)		≤0.10	[dB]
Irregularities over fiber length and point discontinuity		≤0.10	[dB]
Difference backscatter coefficient (bidirectional measurement)		≤0.08	[dB/km]
<b>Geometrical characteristics</b>			
Core diameter		50±2.5	[μm]
Core non-circularity		≤6.0	[%]
Cladding diameter		125.0±1.0	[μm]
Cladding non-circularity		≤1.0	[%]
Coating diameter		242±7	[μm]
Coating/cladding concentricity error		≤12.0	[μm]
Coating non-circularity		≤6.0	[%]
Core/cladding concentricity error		≤1.5	[μm]
Delivery length	Standard delivery lengths up to 8.8 km/reel		

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Table Content Continued:

<b>Environmental Characteristics 850 nm, 1300 nm</b>			
Temperature dependence Induced attenuation	-60°C to +85°C	≤0.10	[dB/km]
Temperature-humidity cycling Induced attenuation	-10°C to +85°C, 90% R.H.	≤0.20	[dB/km]
Damp heat dependence Induced attenuation	85°C, 85% R.H., 30 days	≤0.20	[dB/km]
Water soak dependence Induced attenuation	20°C for 30 days	≤0.20	[dB/km]
<b>Mechanical characteristics</b>			
Proof test	off line	≥9.0 ≥1.0 ≥100	[N] [%] [KPSI]
Bending Dependence Induced Attenuation	850 nm, 1300 nm 100 turns, 75 mm diameter	≤0.5	[dB]
Coating strip force	typical average force peak force	1.7 ≥1.3 ≤8.9	[N]
Dynamic stress corrosion susceptibility parameter (nd, Typical)		≥27	[N]

**Note :**

1. The applied ultra tight DMD specifications (inner and outer mask and window) ensure an effective model bandwidth of 4700 MHz·km.
2. A tighter inner mask (from 0 to 18 μm) is used as defined in TIA/EIA-492AAC or IEC 60793-2-10, type A1a (from 5 to 18 μm)