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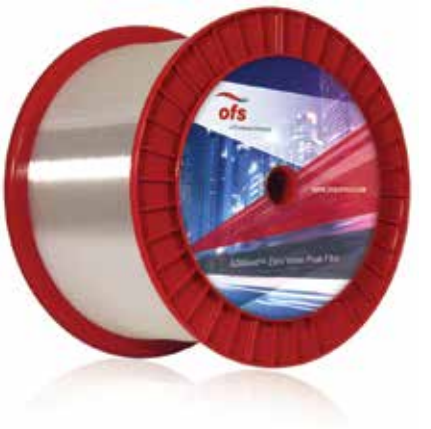
A Furukawa Company

AllWave® + Fiber - Zero Water Peak

The industry's first zero water peak single-mode fiber for reliable full-spectrum performance + enhanced bend performance



Features and Benefits

- Low optical loss across the entire 1260-1625 nm spectrum
- 50% greater usable spectrum than conventional single-mode fiber
- Reduced bend loss across the bend-sensitive 1460-1625 nm S, C and L Bands
- Industry's tightest geometric control for ultra-low splice loss and improved connector performance
- High purity synthetic silica for long-term attenuation stability and mechanical reliability
- Ultra-low fiber PMD for speed and distance upgrades

Applications

AllWave+ Fiber provides outstanding cable performance and design freedom for fiber management systems in:

- FTTX
- Local access
- Mobile backhaul
- Metro access
- Metro edge
- Campus backbones
- Long haul

Overview

When compared to conventional single-mode fiber, AllWave+ Zero Water Peak (ZWP) Single-Mode Fiber dramatically improves performance across the 1260 nm – 1625 nm spectrum. This fiber offers all the benefits of AllWave Fiber plus a 40% smaller minimum bend radius, a 50% lower bend loss and a 33% improved polarization mode dispersion (PMD) link design value.

Product Description

A combination ITU-T G.652.D and G.657.A1 compliant fiber, AllWave+ Fiber delivers low and stable loss in the 1360 nm -1460 nm E-band, enabling 16-channel CWDM, DWDM and FTTX support on a single fiber. In addition, this fiber's bend performance far exceeds G.652.D and complies with G.657.A1, supporting a minimum bend radius of 10 mm and lower bend loss than conventional single-mode fibers.

While this low bend loss improves performance and reliability, it also helps to lower installation costs by allowing the use of smaller cables and terminals. AllWave+ Fiber has the same 9.2 micron mode field diameter as and is fully backward compatible with the installed base of G.652 single-mode fiber for seamless splicing, testing and faster network turn-up.

For additional information please contact your sales representative.

You can also visit our website at www.ofsoptics.com or call 1-888-fiberhelp (1-888-342-3743) USA or 1-770-798-5555 outside the USA.

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Product Specifications

Physical Characteristics		
Clad Diameter	125.0 ± 0.7 µm	
Clad Non-Circularity	≤ 0.7 %	
Core/Clad Concentricity Error (Offset)	≤ 0.5 µm, < 0.2 µm typically	
Coating Diameter (Uncolored)	237 - 247 µm	
Coating-Clad Concentricity Error (Offset)	≤ 12 µm	
Tensile Proof Test	100 kpsi (0.69 GPa)	
Coating Strip Force	Range: 1.0 N ≤ CSF ≤ 8.9 N	
Standard Reel Lengths	50.4 km (31.3 miles)	
Optical Characteristics		
Attenuation	Maximum	Typical
at 1310 nm	≤ 0.34 dB/km	≤ 0.33 dB/km
at 1385 nm	≤ 0.31 dB/km	≤ 0.27 dB/km
at 1490 nm	≤ 0.24 dB/km	≤ 0.21 dB/km
at 1550 nm	≤ 0.20 dB/km	≤ 0.19 dB/km
at 1625 nm	≤ 0.24 dB/km	≤ 0.20 dB/km
Attenuation vs. Wavelength[1]		
Range (nm)	Reference (nm) λ	α
1285 – 1330	1310	0.03
1360 – 1480	1385	0.04
1525 – 1575	1550	0.02
1460 – 1625	1550	0.04
[1] The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength (λ) by more than the value α.		
Attenuation Uniformity / Point Discontinuities at 1310 nm and 1550 nm	≤ 0.05 dB	
Macrobending Attenuation:		
The maximum attenuation with bending does not exceed the specified values under the following deployment conditions:		
Deployment Condition	Wavelength	Induced Attenuation
1 turn on a 10 mm radius mandrel	1550 nm	≤ 0.75 dB
	1625 nm	≤ 1.5 dB
10 turns on a 15 mm radius mandrel	1550 nm	≤ 0.25 dB
	1625 nm	≤ 1.0 dB
100 turns on 30 mm radius mandrel	1550 nm	≤ 0.03 dB
	1625 nm	≤ 0.03 dB
Chromatic Dispersion		
Zero Dispersion Wavelength (λ_0)	1302 - 1322 nm	
Zero Dispersion Slope (S_0)	≤ 0.090 ps/nm^2-km	
Typical Dispersion Slope	0.087 ps/nm^2-km	
Cut-off Wavelength (λ_{CC})	≤ 1260 nm	
Group Refractive Index		
at 1310 nm	1.467	
at 1550 nm	1.468	
Mode Field Diameter		
at 1310 nm	9.2 ± 0.4 µm	
at 1550 nm	10.4 ± 0.5 µm (typical)	
Polarization Mode Dispersion (PMD)[3]		
Fiber PMD Link Design Value (LDV)[4]	≤ 0.04 ps/$\sqrt{km}$	
Maximum Individual Fiber	≤ 0.1 ps/$\sqrt{km}$	
Typical Fiber LMC PMD	≤ 0.02 ps/$\sqrt{km}$	
[2] As measured with low mode coupling (LMC) technique in fiber form, value may change when cabled. Check with your cable manufacturer for specific PMD limits in cable form.		
[3] The PMD Link Design Value complies with IEC 60794-3, September 2001 (N = 20, Q = 0.01%). Details are described in IEC 61282-3 TR Ed 2, October 2006.		
Environmental Characteristics (at 1310, 1550 & 1625 nm)		
Temperature Cycling (-60 + 85 °C)	≤ 0.05 dB/km	
High Temperature Aging (85 ± 2 °C)	≤ 0.05 dB/km	
Temperature & Humidity Cycling (at -10 °C to +85 °C and 85 to ~98% RH)	≤ 0.05 dB/km	
Water Immersion (23 ± 2 °C)	≤ 0.05 dB/km	
Dynamic Fatigue Stress Corrosion Parameter	(n_d) ≥ 20	