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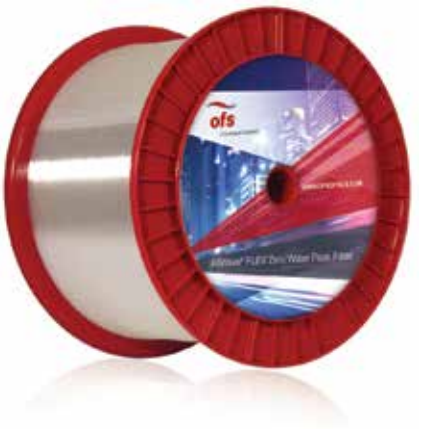
A Furukawa Company

AllWave® *FLEX* Fiber - Zero Water Peak

A New Standard in Optimized Bend Performance and Reliable Low Loss Transmission



Features and Benefits

- Improved bend performance saves space, time and money even for L-Band wavelengths up to 1625 nm
- ZWP Fiber for 50% increase in usable optical spectrum enables 16-channel CWDM and DWDM support
- Coiled into a 10 mm radius loop, fiber incurs loss of < 0.5 dB @ 1625 nm and < 0.2 dB @ 1550 nm
- Easier to install, handle and store in space-constrained applications
- Tight geometry for very low splice loss and improved connector performance

Applications

AllWave *FLEX* ZWP Fiber provides outstanding bend performance and design freedom for fiber management systems in:

- FTTX
- The central office
- High power applications
- Analog video
- Microcables
- Drop cables
- Closures
- Field management/storage apparatus located throughout the network
- At the customer premises
- Any application with transmission speeds of 40 Gb/s and beyond

Overview

AllWave *FLEX* Zero Water Peak (ZWP) Single-Mode Fiber is the first ZWP G.652.D fiber to offer optimized bend performance for any application where small bend diameters may occur. Fully compliant with ITU-T G.657.A, AllWave *FLEX* ZWP Fiber is completely compatible with all conventional single-mode fibers.

Product Description

While AllWave *FLEX* ZWP Fiber retains all the benefits of AllWave ZWP Fiber, it also maintains very low bending loss across the full 1260 nm – 1625 nm wavelength spectrum while also ensuring long-term fiber strength and reliability. In fact, this fiber offers five times better bend performance than conventional single-mode and Leading Low Water Peak (LWP) fibers.

The macrobending and microbending loss improvements of AllWave *FLEX* ZWP Fiber help (1) facilitate more compact cabinet and enclosure designs with more intricate routing; (2) protect against loss from inadvertent fiber bends; and (3) reduce potential damage from cable pulling and flexing. This bend-optimized fiber also helps to improve cable performance in demanding high-stress and low temperature environments with twice the microbend protection of conventional single-mode fibers.

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)	242 ± 5 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	≤ 0.35 dB/km	≤ 0.33 dB/km
at 1385 nm	≤ 0.35 dB/km	≤ 0.27 dB/km
at 1490 nm	≤ 0.24 dB/km	≤ 0.21 dB/km
at 1550 nm	≤ 0.21 dB/km	≤ 0.19 dB/km
at 1625 nm	≤ 0.23 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	≤ 0.2 dB
	1625 nm	≤ 0.5 dB
10 turns on a 15 mm radius mandrel	1550 nm	≤ 0.2 dB
	1625 nm	≤ 0.5 dB
100 turns on a 25 mm radius mandrel	1550 nm	≤ 0.01 dB
	1625 nm	≤ 0.05 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	8.5 - 9.3 µm	
at 1550 nm	9.4 - 10.4 µm (typical)	
Polarization Mode Dispersion (PMD)[3]		
Fiber PMD Link Design Value (LDV)[4]	< 0.06 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 95% RH)	≤ 0.05 dB/km	
Water Immersion (23 ± 2 °C)	≤ 0.05 dB/km	
Dynamic Fatigue Stress Corrosion Parameter	(nd) ≥ 20	