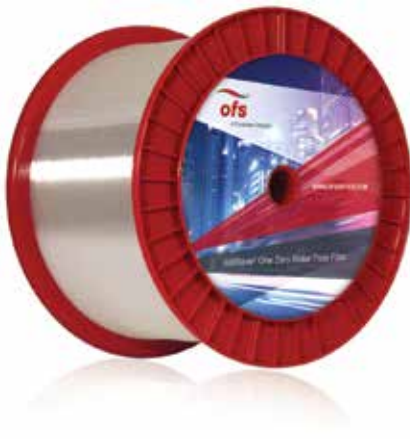




# AllWave® One Fiber – Zero Water Peak

Full Spectrum, Bend Optimized, Low Loss, One Fiber



## Features and Benefits

- Full spectrum, low-loss, bend optimized fiber
- Very low loss across the 1260 nm – 1625 nm wavelength spectrum for longer reach and improved reliability
- Industry's tightest geometric control for ultra-low splice loss and improved connector performance
- High purity silica for long-term attenuation stability and mechanical reliability
- Ultra-low PMD for speed and distance upgrades

## Applications

AllWave One Fiber provides outstanding cable performance for the entire optical network including:

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

## Overview

AllWave One Zero Water Peak (ZWP) Single-Mode Optical Fiber combines three benefits in one fiber to help improve network performance over conventional single-mode fibers. This fiber goes beyond award-winning AllWave Fiber with a 15% lower loss specification at 1550 nm, a 40% smaller minimum bend radius, a 67% lower bend loss and a 33% improved Polarization Mode Dispersion (PMD) link design value.

## Product Description

AllWave One Fiber performs reliably in demanding networks with specifications superior to both ITU-T G.652.D and G.657.A1. With an attenuation  $\leq 0.33$  dB/km at 1310 nm and  $\leq 0.18$  dB/km at 1550 nm, this fiber provides extra margin and/or extended reach for demanding applications.

AllWave One Fiber bends to the needs of challenging Outside Plant (OSP) networks. With a minimum bend radius of 10 mm and 80% lower bend loss than conventional G.652.D fiber, this fiber helps to increase the reliability and reach of applications in the bend-sensitive 1460 nm – 1625 nm bands. AllWave One Fiber has the same 9.2  $\mu$ m mode field diameter and is completely backward compatible with the installed base of conventional single-mode fibers for seamless splicing and faster testing.

For additional information please contact your sales representative.

You can also visit our website at [www.ofsoptics.com](http://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	
at 1310 nm	≤ 0.33 dB/km	
at 1385 nm	≤ 0.31 dB/km	
at 1490 nm	≤ 0.21 dB/km	
at 1550 nm	≤ 0.18 dB/km	
at 1625 nm	≤ 0.20 dB/km	
Attenuation vs. Wavelength <sup>1</sup>		
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
<sup>1</sup> 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	≤ 0.50 dB
	1625 nm	≤ 1.0 dB
10 turns on a 15 mm radius mandrel	1550 nm	≤ 0.05 dB
	1625 nm	≤ 0.30 dB
100 turns on 25 & 30 mm radius mandrels	1550 nm	≤ 0.03 dB
	1625 nm	≤ 0.01 dB
Chromatic Dispersion		
Zero Dispersion Wavelength (λ <sub>0</sub> )	1302 - 1322 nm	
Zero Dispersion Slope (S <sub>0</sub> )	≤ 0.090 ps/nm <sup>2</sup> -km	
Typical Dispersion Slope	0.087 ps/nm <sup>2</sup> -km	
Cut-off Wavelength (λ <sub>cc</sub> )	≤ 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) <sup>2</sup>		
Fiber PMD Link Design Value (LDV) <sup>3</sup>	≤ 0.04 ps/√km	
Maximum Individual Fiber	≤ 0.1 ps/√km	
Typical Fiber LMC PMD	≤ 0.02 ps/√km	
<sup>2</sup> 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.		
<sup>3</sup> 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 <sub>f</sub> ) ≥ 20	