

LightScope ZWP

Reduced attenuation

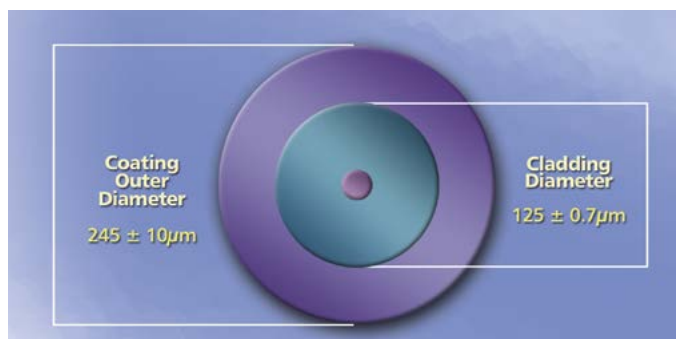
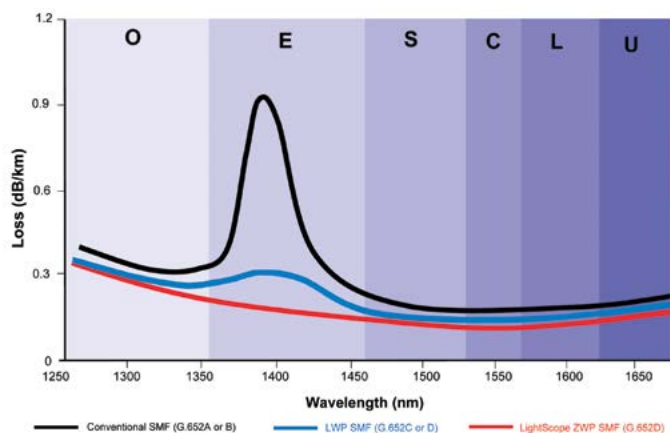
LightScope ZWP cable is designed for use with wavelengths between 1260 nm and 1625 nm, including the formerly off-limit wavelengths in the E-band. LightScope ZWP fiber cable provides superior attenuation performance throughout this range, including a lower attenuation performance at 1383 nm than at 1310 nm. Manufacturing improvements that ensure this lowered attenuation also provide stable performance over time. This improved performance now results in lower cabled attenuation across the entire spectrum, thus providing maximum network reach and greater design flexibility.

LightScope ZWP—reduced water peak

Standard singlemode fiber cable has a pronounced attenuation increase at 1383 nm. This region, called the water peak, is an area within the fiber's transmission spectrum where light is increasingly absorbed by the hydroxyl (OH-) ions present within the structure of the glass core. Hydroxyl ions are the cause of increased attenuation within the E-band. The formation of these ions is prevented during the manufacturing of LightScope ZWP, thereby eliminating attenuation spikes in the E-band and rendering this portion of the transmission spectrum usable. The E-band accounts for 30 percent of the transmission spectrum available in silica glass fibers.

LightScope ZWP cable provides superior low water peak performance in the E-band over the lifetime of the product. This performance is ensured by a unique ultra-purifying manufacturing process that virtually eliminates hydroxyl ions in the glass fiber. The decrease in attenuation over the water peak region and relatively lower 1400 nm band dispersion results in a singlemode fiber with increased transmission spectrum and the economic benefits of less-expensive transmission options.

Attenuation performance across operating bands

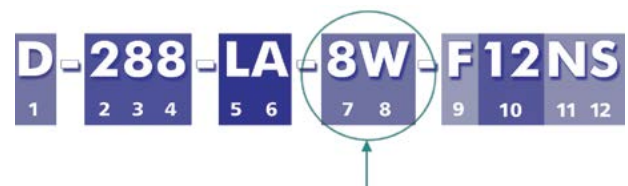
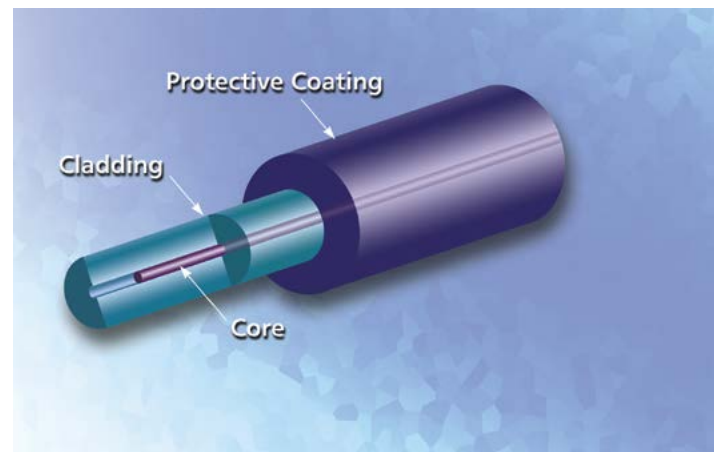


LightScope ZWP

Features and benefits
Opens up transmission over the previously unusable wavelength range from 1360 nm to 1460 nm known as the "Extended Band" or E-band.
Enables full-spectrum transmission from 1260 nm to 1625 nm, adding 30 percent more bandwidth.
Utilizing the full transmission spectrum translates to added capacity for new technological advancements, such as video on demand (VOD), Dedicated Wavelength Services™ for businesses or other applications, etc.
Fully backward compatible with legacy standard singlemode fiber-optic networks.
Provides future bandwidth flexibility and upgradeability.
Enables 16-channel coarse wavelength division multiplexing (CWDM) as a lower cost alternative to dense wavelength division multiplexing (DWDM) in unamplified portions of hybrid fiber coaxial (HFC) networks.
Compliant to the latest ITU-T G.652 A through D requirements and G.657.A1.

LightScope ZWP singlemode fiber

Optical characteristics, wavelength specific	
Attenuation, loose tube cable	
1310 nm	0.34 dB/km
1385 nm	0.31 dB/km
1550 nm	0.22 dB/km
Attenuation, tight buffer cable	
1310 nm	0.50 dB/km
1385 nm	0.50 dB/km
1550 nm	0.50 dB/km
Mode field diameter	
1310 nm	9.2 + 0.3 μ m
1385 nm	9.6 + 0.6 μ m
1550 nm	10.4 + 0.5 μ m
Group refractive index	
1310 nm	1.467
1385 nm	1.468
1550 nm	1.468
Dispersion	
1310 nm	3.5 ps/(nm-km) from 1285 to 1330 nm
1550 nm	18 ps/(nm-km)



To order LightScope ZWP® fiber, be sure to specify 8W as the fiber type (positions 7 and 8) in the CommScope catalog number.

Specifications are subject to change without notice.

Designed to meet TIA/EIA 492-CABB; ITU G.652.D and G.657.A1 requirements.

LightScope ZWP

Physical characteristics	
Cladding diameter	125 ± 0.7 µm
Core/clad offset	< 0.5 µm max
Coating diameter (uncolored)	235–245 µm
Coating diameter (colored)	246-260 µm
Coating/cladding concentricity error, max.	12 µm
Clad non-circularity	< 1%

Mechanical characteristics	
Proof test	100 kpsi (0.69 Gpa)
Coating strip force	0.3–2.0 lbf (1.3–8.9 N)
Fiber curl	> 4 m radius of curvature
Dynamic fatigue parameter	> 20 nd
Macrobend 100 turns @ 60 mm mandrel 550 nm	0.03 dB maximum
Macrobend 100 turns @ 60 mm mandrel 625 nm	0.03 dB maximum
Macrobend 1 turn @ 20 mm mandrel 550 nm	0.75 dB maximum

Optical characteristics, general	
Point defects	0.10 dB
Cutoff wavelength	< 1260 nm
Zero dispersion wavelength	1302–1322 nm
Zero dispersion slope	0.090 ps/(km-nm-nm)
Polarization mode	
Dispersion link design value	< 0.04 ps/sqrt(km)

Environmental specifications		
Temperature dependence	-60°C to +85°C	< 0.05 dB
Temperature humidity cycling	-10°C to 85°C up to 95% RH	< 0.05 dB
Water immersion	23 + 2°C	< 0.05 dB
Heat aging	85 + 2°C	< 0.05 dB

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Everyone communicates. It's the essence of the human experience. *How* we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers—we provide the essential expertise and vital infrastructure your business needs to succeed. The world's most advanced networks rely on CommScope connectivity.



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