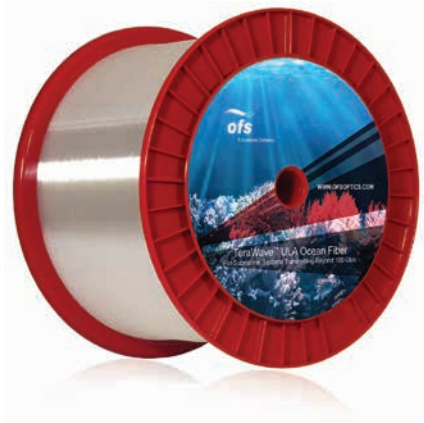




A Furukawa Company

TeraWave™ ULA Ocean Optical Fiber

For Submarine Systems Transmitting Beyond 100 Gb/s



Features and Benefits

- Enables launch of higher signal power into the span
- Reduces amplifier noise
- Supports polarization-multiplexed, coherent transport using high spectral efficiency modulation formats
- Enables higher transmission speeds with more wavelengths over trans-oceanic distances
- Proof tested to 200 kpsi to help ensure long-term reliability under extreme conditions

Applications

- Ultra-long haul networks using advanced modulation formats and coherent detection such as transoceanic networks
- Applications without repeaters, such as coastal festoons and deep-water crossings

Overview

TeraWave™ ULA Ocean Fiber is optimally designed for 100 Gb/s coherent transport in submarine systems for distances up to 12,000 km. It is fully compliant with the ITU G.654 standard for cutoff-shifted fiber.

Product Description

A breakthrough in ocean fiber technology, TeraWave ULA Fiber offers a unique combination of the industry's largest effective area, excellent cabling performance, and significantly reduced attenuation for reliable coherent transmission at 100 Gb/s and beyond over trans-oceanic distances. The fiber has ultra large effective area ($153 \mu\text{m}^2$) that reduces nonlinearities, enabling the launch of higher signal power into the span, and low attenuation (0.176 dB/km at 1550 nm) that reduces signal loss.

The ultra large effective area is an enabling feature for future migration to denser signal constellations for increased spectral efficiency.

TeraWave ULA Fiber is manufactured using OFS' proprietary manufacturing process, which produces a fiber with low water peak (LWP) performance and ultra-low polarization mode dispersion (PMD).

TeraWave ULA fiber technology is designed for coherent transport of ultra-long haul networks with high spectral efficiency.

For additional information please contact your sales representative.

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

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Product Characteristics

Transmission Characteristics

Attenuation @ 1550 nm (nominal)	0.176 dB/km
Relative Dispersion Slope @1550 nm (nominal)	0.0031/nm
Dispersion @1550 nm (nominal)	21 ps/nm-km
Mode Field Diameter @ 1550 nm (nominal)	13.8 μ m
Effective Area (nominal)	153 μ m ²
Cable Cutoff Wavelength (max)	1530 nm
PMD @ 1550 nm (nominal)	0.02 ps/ \sqrt km
Effective Group Index of Refraction (nominal)	1.466 @ 1550 nm
Point Discontinuities @ 1550 nm	< 0.10 dB

Geometrical Characteristics

Clad Diameter	125 \pm 0.7 μ m
Core/Clad Concentricity Error (max)	0.5 μ m
Clad Non-circularity (max)	1.00 %
Coating Diameter, uncolored (nominal)	255 μ m
Coating/Clad Concentricity Error (max)	12 μ m

Mechanical and Other

Tensile Proof Test (min)	200 kpsi
Dynamic Fatigue Parameter (nd)	\geq 20
Coating Strip Force (Mechanical)	102 to 918 g

Colors 18 colors available (including olive, lime, magenta, dark green, clear, and tan)

Matching Sets Yes

Engineered Fiber Sets

OFS has the capability to color and splice ocean fibers to meet stringent cable requirements. Fibers are selected to meet customer specifications for number of fibers, colors, lengths, and transmission properties. They are then assembled into sets. Final measurements help ensure that customer specified performance is met for all fibers in the set.



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