

## About Us

With over 25 years experience of manufacturing optical fibres, Prysmian is able to offer an extensive product portfolio made to achieve the highest levels of quality and performance.

With a deep understanding of present and future market requirements, Prysmian's product range is targeted at the differing needs of the customer.

Prysmian is in the unique position of having access to all three major manufacturing processes; MCVD (Modified Chemical Vapour Deposition), OVD (Outside Vapour Deposition) and VAD (Vapour Axial Deposition).

This enables Prysmian to obtain an optimised range of products for different applications.

## Enquiries

The optical characteristics of DeepLight™ can be tailored to meet your precise specifications. Whatever your requirements, if you need more information or would like to place an order, please call Prysmian Telecom Cables and Systems on +39 02 6449 7568.

# DeepLight™

**A new generation of submarine optical fibre**

- > **Higher total capacity**
- > **Longer repeater spans**
- > **Longer total length**



dega design group

## DeepLight™

Prysmian Telecom Cables and Systems is a world leader in optical networking, offering a comprehensive range of vertically integrated products and services.

We create everything from in-house local area networks to international communication links spanning oceans and continents.



### Benefits

#### > Higher total capacity

The fibre features enhanced optical characteristics which allow it to carry more wavelengths at higher channel speeds. As a result, significantly larger volumes of traffic can be supported.

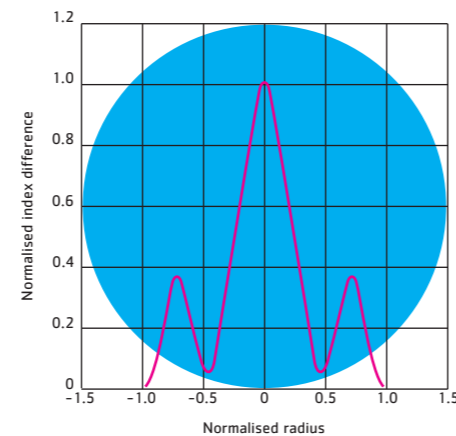
#### > Longer repeater spans

DeepLight™ is able to deliver increased repeater spans due to the larger core size of the fibre. This results in a more manageable and cost effective submarine solution.

#### > Longer total length

By providing better signal quality over longer distances, DeepLight™ enables unregenerated transoceanic distances to be achieved.

>



DeepLight™ typical refractive index profile

### Mechanical specifications

DeepLight™ is proof tested at an elongation greater than or equal to 2%. This fibre is characterised in terms of Weibull plot and n value (Stress Corrosion Susceptibility Factor), with typical values above 19 (Dynamic Test).

By combining massive capacity over greater distances, DeepLight™ provides the ultimate solution for your submarine cabling requirements.

### Characteristics

DeepLight™ is an innovative fibre product meant for submarine cable applications using ultra-high capacity WDM transmission. DeepLight™ combines cutting-edge optical engineering and advanced fibre technology in order to minimize optical non-linear effects, which are particularly detrimental for long haul WDM transmission. Thanks to this property DeepLight™ allows longer distances to be covered and enables an increase in overall capacity at reduced costs. Refinements to the glass and coating geometries together with excellent attenuation and PMD properties deliver DeepLight™ as the solution for long-haul submarine requirements. DeepLight™ is a non zero dispersion fibre compliant with ITU-T Recommendation G.655 and IEC 60793-2 type B4 fibres.

### Key features

- DeepLight™ is suitable for all submarine systems.
- Thanks to modifications of basic fibre properties, a larger usable core is available for the propagation of light within the fibre.
- Very high capacity data transmission is made possible, as key technological design elements create a competitive optical structure.

### A complete submarine solution

As a manufacturer of optical fibre with knowledge of making submarine systems, Prysmian offers a unique understanding of the requirements. DeepLight™ supports Prysmian's submarine fibre portfolio, offering a complete solution to any submarine requirement. Complementary to existing Prysmian products, DeepLight™ is fully compatible with all submarine fibres.

Refinements to the glass geometries of DeepLight™ enhance the splicing process:

#### DIMENSIONAL SPECIFICATIONS

Glass geometry	Unit	
Cladding diameter	µm	125.0 ± 1.0
Cladding non circularity	%	≤ 1.0
Core/cladding concentricity error	µm	≤ 0.8
Coating geometry	Unit	
Outer coating diameter	µm	245 ± 5
Coating/cladding concentricity	µm	≤ 10

The mode field diameter (MFD) and the effective area have been optimised for: splicing process, non-linear effect (power density) and bending performances.

#### OPTICAL SPECIFICATIONS

Attenuation coefficients	Unit	
@ 1560 nm	dB/km	≤ 0.23
Dispersion coefficients	Unit	
@ 1560 nm	ps/(nm*km)*	-3.4 ± -1.0
Slope (@ 1560 nm)	ps/(nm²*km)	≤ 0.12
Polarisation mode dispersion (PMD)	ps/√km	≤ 0.1

\* Actual values can be agreed with the customer according to specific requirements.

Mode Field Diameter	Unit	
@ 1550 nm	µm	9.3 ± 0.3
Typical effective area (@ 1550 nm)	µm²	70

Any questions? Our team of experienced technical staff is ready to talk to you. See contact details.