

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 FreeLight™ 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.

FreeLight™

The latest generation of high performance optical fibre

- > Lower systems costs
- > Higher total capacity
- > Futureproof design
- > Easy splice



dega design group

FreeLight™

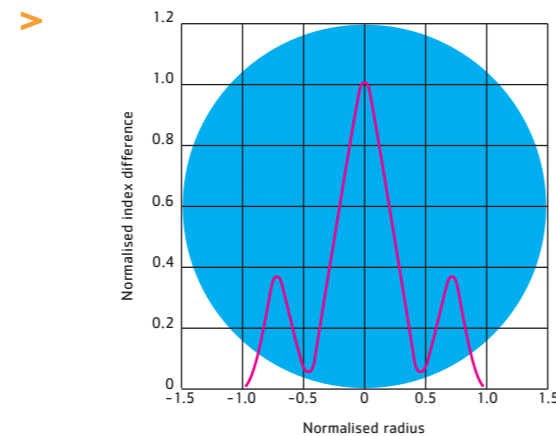
Prysmian Telecom Cables and Systems is a world leader in optical networking, offering a comprehensive range of vertically integrated products and services.

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

Benefits

- > **Lower systems costs**
By providing better signal quality over longer distances FreeLight™ can cut the costs of running a high performance network by up to 50%.
- > **Higher total capacity**
Enhanced optical characteristics of the fibre allow it to carry more wavelengths at higher channel speeds, thus supporting significantly larger volumes of traffic.
- > **Futureproof design**
With its multi-terabit capacity, the product can accommodate massive growth in traffic over many years without needing to be replaced.
- > **Easy splice**
By improving the splice performance, FreeLight™ gives the customer more flexibility in the design of his network. In fact, splice loss is reduced by over 15%, setting a new standard.

FreeLight™ typical refractive index profile



Mechanical specifications

FreeLight™ is proof tested at an elongation greater than or equal to 1%. This fibre is characterised in terms of Weibull plot and n value (StressCorrosion Susceptibility Factor), with typical values above 19 (DynamicTest).



“FreeLight™ gave us the most competitive price-performance across every network configuration.” *Swisscom*

Characteristics

FreeLight™ is a highly innovative fibre product specially designed for ultra-high capacity terrestrial WDM and DWDM applications. A combination of state-of-the-art optical engineering and advanced fibre technology aids the suppression of non linear effects, such as four wave mixing (FWM) and cross phase modulation (XPM), thus enabling much larger quantities of information to be transmitted over FreeLight™. Refinements to the glass and coating geometries of the fibre together with excellent attenuation and PMD properties result in a superior medium for large-scale data communication at a reduced cost per bit transported. FreeLight™ is a non zero dispersion fibre compliant with ITU-T Recommendation G.655 and IEC60793-2 type B4 fibres.

Case study

As part of a trans-European information superhighway, Swisscom needed to build a high-performance communications link between Basel in Switzerland and Chiasso on the Italian border. Swisscom chose FreeLight™ because it met those requirements in full, while offering world-class quality and reliability. Swisscom will be leasing lines to Pan European operators.

Geometrical characteristics of FreeLight™ have been improved to enhance the splicing process:

DIMENSIONAL SPECIFICATIONS

Glass geometry	Unit	
Cladding diameter	µm	125.0 ± 0.7
Cladding non circularity error	%	≤ 1.0
Core/cladding concentricity error	µm	≤ 0.5
Coating geometry	Unit	
Outer coating diameter	µm	245 ± 5
Coating/cladding concentricity	µm	≤ 10

Fibres are characterised both in the Conventional and in the Extended Band for attenuation and chromatic dispersion performances.

OPTICAL SPECIFICATIONS

Attenuation coefficients	Unit	
@1383 nm	dB/km	≤1.0
@1550 nm	dB/km	≤0.23
@1625 nm	dB/km	≤0.25

Dispersion coefficients	Unit	
In the range 1530-1565 nm	ps/(nm*km)	2.0 - 6.0
In the range 1565-1625 nm	ps/(nm*km)	4.5 - 11.2
Polarisation mode dispersion (PMD)	ps/√km	≤0.1
PMD link design value*	ps/√km	≤0.04

* Link design value definition complies with IEC 61282-3.

Mode Field Diameter	Unit	
@1550 nm	µm	9.6 ± 0.4
Typical effective area (@ 1550 nm)	µm²	72

Cable cut-off wavelength (λ _{cc})	Unit	
	nm	≤ 1450

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