

## 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 MagniLight™ 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.

# MagniLight™

Everything you had before  
and even more

- > Extra bandwidth
- > Ready for network innovations
- > Compatibility



dega design group

## MagniLight™



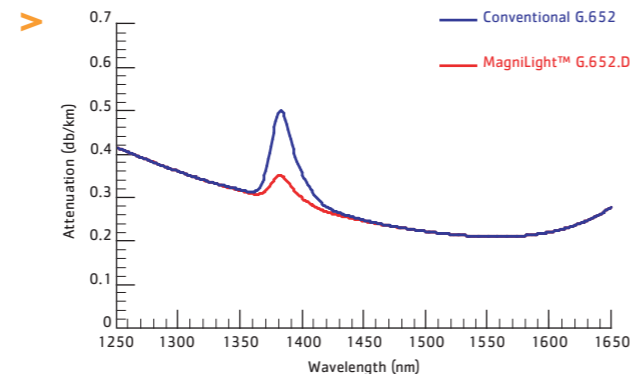
Prysmian Telecom Cables and Systems is a world leader in optical networking, offering a comprehensive range of vertically integrated products and services.

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

### Benefits and Features

- > **Extra Bandwidth**  
MagniLight™ offers 65 % more usable wavelengths than standard single-mode fibre. This means an extra bandwidth of 135 nm.
- > **Ready for network innovations**  
The additional wavelength window offers new options for network exploitation in innovative ways. MagniLight™ is perfectly placed to allow the use of any current or emerging technologies that can reduce network costs by increasing transmission capacity.
- > **Compatibility**  
Fully compatible with standard single-mode fibre, MagniLight™ can be easily integrated into today's network providing excellent transmission performance.

### Typical spectral attenuation



### Mechanical specifications

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

**G.652.D fibre definition according to ITU-T recommendation:** "The sampled attenuation average at wavelengths of  $1383 \pm 3$  nm shall be less than or equal to the maximum value specified for the range 1310 nm to 1625 nm, after hydrogen ageing according to IEC 60793-2-50 regarding the B1.3 fibre category"

### Characteristics

Evolution in manufacturing technology delivers MagniLight™ with a wider usable bandwidth. This is possible by removing the hydroxyl ions (water) from the standard single-mode fibre that cause the attenuation peak around 1383 nm.

### Fibre Coating

Magnilight™ is available with the latest generation coating: Neon™ Plus. This coating is based on the highly acclaimed Neon™ coating used by Prysmian worldwide for well over 10 years.

Key benefits include increased resistance to bending, an important feature for "tight" cable designs or smaller diameter cables. Furthermore, the fibre has improved performance against temperature variations and mechanical disturbances.

### DIMENSIONAL SPECIFICATIONS

| Glass geometry                       | Unit |             |
|--------------------------------------|------|-------------|
| Cladding diameter                    | µm   | 125.0 ± 0.7 |
| Cladding non circularity             | %    | ≤ 0.8       |
| Core/cladding concentricity error    | µm   | ≤ 0.6       |
| Coating geometry                     | Unit |             |
| Outer coating diameter               | µm   | 245 ± 5     |
| Coating/cladding concentricity error | µm   | ≤ 12.0      |

### OPTICAL SPECIFICATIONS

| Attenuation coefficients | Unit  |               |
|--------------------------|-------|---------------|
| @ 1310 nm                | dB/km | ≤ 0.35        |
| @ 1383 nm (water peak)*  | dB/km | ≤ 0.31 ± 0.35 |
| @ 1550 nm                | dB/km | ≤ 0.21        |
| @ 1625 nm                | dB/km | ≤ 0.23        |

\* After H2 ageing performed according to IEC 60793-2 test procedure.

| Macrobanding attenuation            | Unit |        |
|-------------------------------------|------|--------|
| 100 turn, 50 mm diameter at 1550 nm | dB   | ≤ 0.05 |
| 100 turn, 60 mm diameter at 1625 nm | dB   | ≤ 0.1  |

| Dispersion coefficients                    | Unit                     |              |
|--|--------------------------|--------------|
| In the range 1285 – 1330 nm                | ps/(nm.km)               | ≤ 3.5        |
| @ 1550 nm                                  | ps/(nm.km)               | ≤ 18         |
| @ 1625 nm                                  | ps/(nm.km)               | ≤ 22         |
| Zero dispersion wavelength ( $\lambda_0$ ) | nm                       | 1302 to 1322 |
| Typical $\lambda_0$                        | nm                       | 1314         |
| Slope $S_0$ at $\lambda_0$                 | ps/(nm <sup>2</sup> .km) | ≤ 0.089      |
| Polarization mode dispersion (PMD)         | ps/√km                   | ≤ 0.1        |
| PMD link design value**                    | ps/√km                   | ≤ 0.07       |

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

| Mode Field Diameter | Unit |            |
|---------------------|------|------------|
| @1310 nm            | µm   | 9.2 ± 0.4  |
| @1550 nm            | µm   | 10.4 ± 0.5 |

| Cable cut-off wavelength ( $\lambda_{cc}$ ) | Unit |        |
|---|------|--------|
|   | nm   | ≤ 1260 |

### Question

What is the difference between G.652.C and .D?

### Answer

Only the PMDQ value that is: ≤ 0.5 ps/√km for .C and ≤ 0.2 ps/√km for .D

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