

ITU-T

The long-time leader in optical fibre and cable standardization

Major Recommendations:

G.650.1, G.650.2, G.650.3 Definitions and test methods for use in factory and installed single-mode fibre and cables

G.652 The characteristics of a single-mode optical fibre and cable with zero-dispersion wavelength around 1310 nm, but which can also be used in the 1550 nm region

G.653 The characteristics of a single-mode optical fibre and cable with zero-dispersion wavelength shifted into the 1550 nm region, specified to take advantage of the attenuation minimum in that spectral region

G.654 The characteristics of a single-mode optical fibre and cable with zero-dispersion wavelength around 1300 nm, with the cut-off wavelength shifted and the loss optimized for use in the 1530-1625 nm region

G.655 The characteristics of a single-mode optical fibre and cable, which has the absolute value of the chromatic dispersion coefficient greater than some non-zero value throughout the wavelength range from 1530 to 1565 nm, in order to reduce the growth of non-linear effects which can be particularly deleterious in DWDM systems

G.656 The characteristics of a single-mode optical fibre and cable which has the positive value of the chromatic dispersion coefficient greater than some non-zero value throughout the wavelength range of 1460-1625 nm

G.657 The characteristics of a bending-loss insensitive single-mode optical fibre and cable for the access network

These standards provide attributes and values for optical fibres and cables which are needed to support:

- Network applications such as those recommended in Recommendation **ITU-T G.957** up to 2.5 Gbit/s
- Network applications up to 10 Gbit/s in Recommendation **ITU-T G.691**, and 40 Gbit/s in Recommendations **ITU-T G.693** and **ITU-T G.959.1**, which may include Dense Wavelength Division Multiplexing (DWDM)
- Network applications in the extended E- and S-band wavelength range from 1360 to 1625 nm, as in **ITU-T G.695** for Coarse Wavelength Division Multiplexing (CWDM)
- Repeated and repeaterless optical submarine systems as described in Recommendations **ITU-T G.977**, **ITU-T G.973**, **ITU-T G.973.1**, **ITU-T G.973.2**, which may also include DWDM
- Passive Optical Networks (PONs) such as those described in Recommendations **ITU-T G.983.x** and **ITU-T G.984.x**

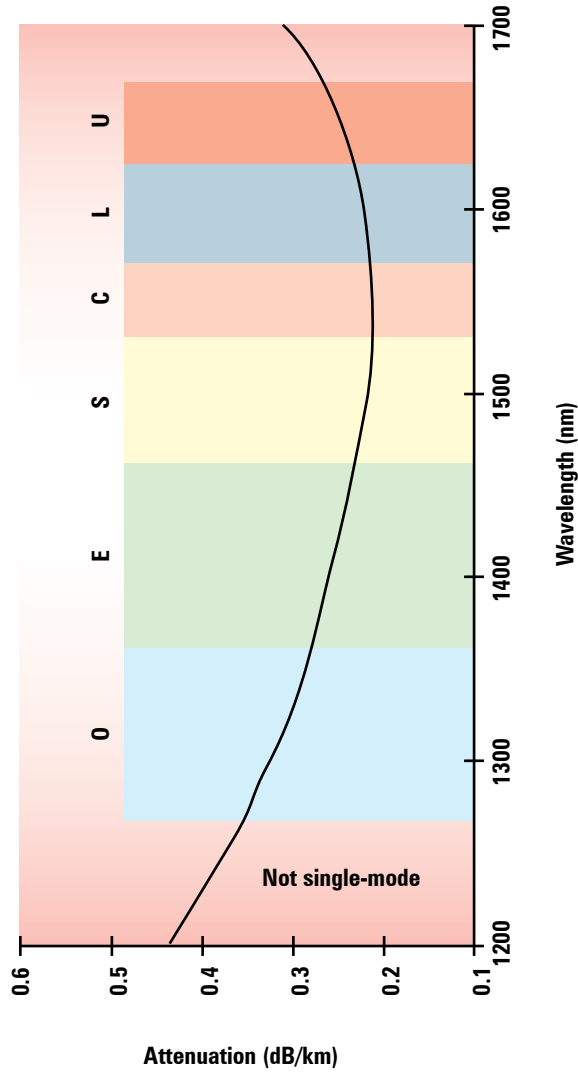
For more information on optical fibre and cable Recommendation activity, please check the ITU-T Study Group 15 website at: www.itu.int/ITU-T/com15

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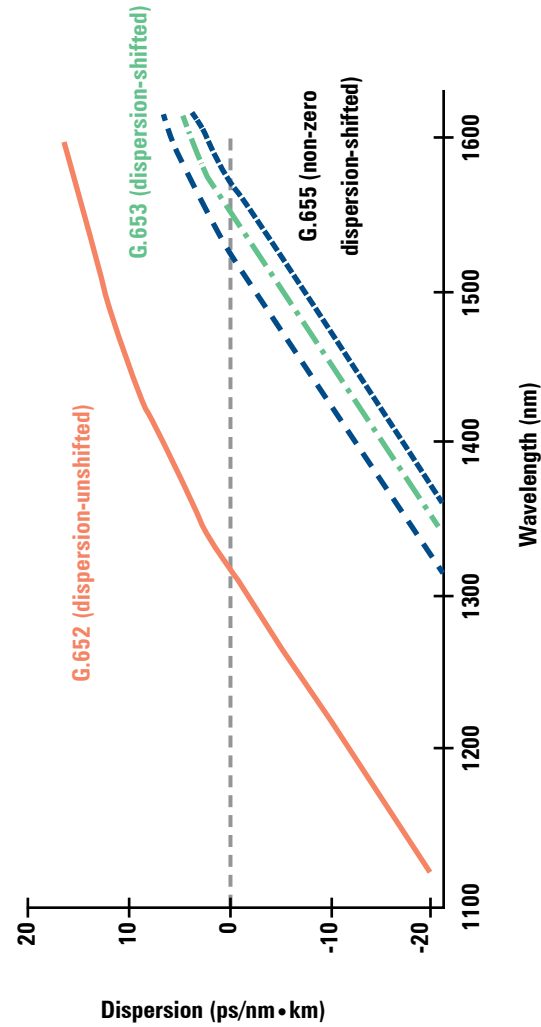


Optical Fibres and Cables

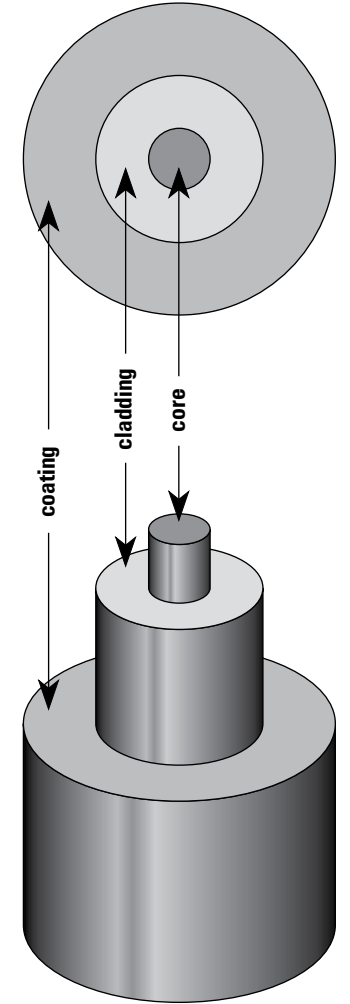
Single-mode fibre inherent attenuation throughout the six spectral bands



Chromatic dispersion: the rate of pulse spreading, which can limit a fibre's information-carrying capacity



An optical fibre consists of a light-guiding core, a glass cladding, and a plastic coating for abrasion protection



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See: www.itu.int/publications/bookshop/how-to-buy.html

(this site includes information on free access to ITU-T Recommendations)