

ABOUT FIBRE

Telephone companies began using fibre-optic technology in the late 1970s to cover long distances. Today more than 80% of the world's long-distance voice and data traffic is carried over optical fibre (CISCO, 2008). The difference between fibre and copper is that instead of using electrical pulses to transmit information, fibre uses light. The advantages of fibre are speed, bandwidth, resistance to interference, and reduced maintenance costs. Initially, fibre was used in long-distance applications because of the high cost related to installing fibre-optic systems, but because the price of fibre has come down considerably there has been a trend to switch from copper infrastructure to fibre in recent years.

APPLICATIONS

Fibre-optic technology has many applications, but in terms of communication fibre is used for traditional telephone service, transmission of data, digital video, and broadband signals such as HDTV. Fibre can be delivered several ways including: Fibre to the Premises (FTTP), Fibre to the Node (FTTN), and Fibre to the Kerb (FTTK). The difference between these deliveries is the distance between the fibre and the end user. Fibre to the Premises minimizes the use of copper or coaxial cable.

Although fibre became popular in long-distance applications, the technology is now used in shorter distances because of increased internet use and demand for data transmission. In addition to fibre cabling having more bandwidth capacity, fibre is more secure than copper. Fibre also offers increased pulling tension and takes up less space under raised flooring and in risers.

The three types of fibre-optic cable are glass, plastic, and plastic clad silica (PCS). Glass has the lowest attenuation rate, plastic has the highest attenuation and the attenuation rate of PCS is in between that of glass and plastic.

RESOURCES

www.ciscopress.com

www.telebyteusa.com

www.processor.com

Wikipedia

www.arcelect.com