Fiber Optic Glossary

Questions – give us a call
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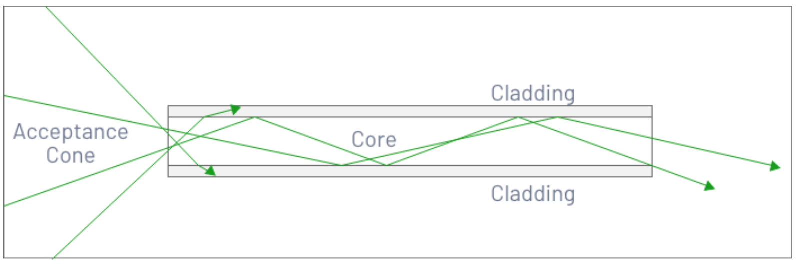
A

Absorption A property of glass fiber. Natural impurities in the glass of fiber optic cable turn part of the light energy of the signal into heat. Signal energy lost this way is said to be absorbed.

Acceptance angle Fiber optic cables can take in (receive) light that travels at a certain angle relative to the fibers axis. The maximum angle at which the light is fully received is the acceptance angle/cone.
Adapters A mechanical device which aligns fiber optic cable connectors and contain the split (interconnect) sleeve that holds the two ferrules together.



Adapter sleeve A mechanical fixture within the adapter body aligns and holds two terminated fiber connectors together.

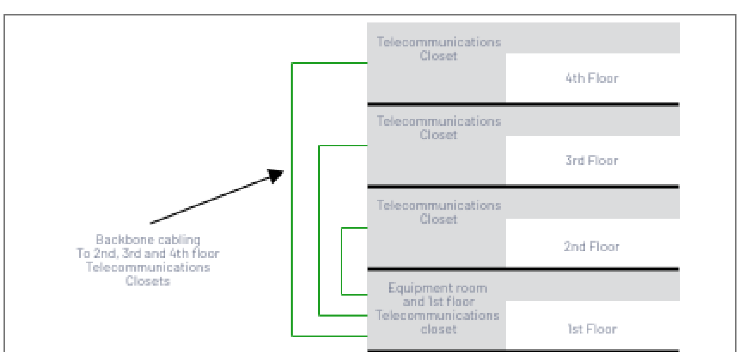
Aramid yarn Also known as Kevlar®, aramid yarn is typically yellow in color and is used as a protective woven strength member, which provides the cable with support and tensile strength while pulling.

Asynchronous transfer mode (ATM) networking technology switches optical and electronic signals broken into cells of 53 bytes.

Attenuation is a measure of lost signal strength during transmission. Attenuation is measured as decibels per kilometer distance (dB/km) for signals of specific wavelengths. See intrinsic loss and extrinsic loss.

B

Backbone cabling refers to the cable connections within and between buildings, telecommunications closets, entrance facilities, and equipment rooms. Backbone cabling includes transmission media, main and intermediate cross-connects, and terminations at these locations.



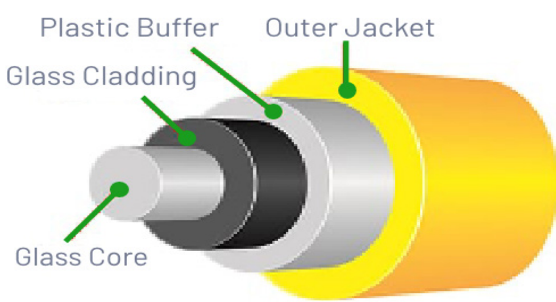
Star Topology of Equipment Room and Telecommunications Rooms Connected

Bandwidth The amount of information an optical fiber signal can carry over a distance. Bandwidth is measured in MHz-km and GHz-km because distance is a critical factor affecting bandwidth.

Birefringence Describes an optical property of a material with a refractive index that depends on the polarization and propagation direction of light. Slight imperfections in optical fibers can cause polarized light to travel at different speeds in the fiber and degrade fiber-optic signal integrity.

Bragg scattering A distribution of scattered light caused by a change in a material's refractive index. See fiber Bragg grating.

Buffer In a fiber optic cable, the protective layer that surrounds the cladding. Fiber optic fabrication methods include tight-tube or loose-tube buffers.



C

Cladding One or more layers of low-refractive index materials that contact a core material made of a material of a higher refractive index. Cladding provides a lower refractive index at the core interface. This causes reflection in the core and enables light waves to travel through the fiber.

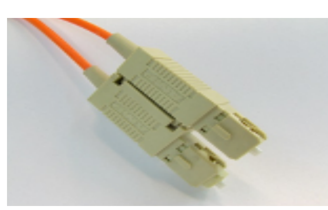
Coating (buffer coating) A coating of multiple layers of plastic are applied to the fiber buffer to preserve its strength, absorb shock, and provide extra protection. These buffer coatings are available in thicknesses of 250 microns to 900 microns.

Cleave The process of scoring and breaking an optical fiber end to terminate a connector.

Coarse wavelength-division multiplexing (coarse WDM) In fiber-optic communications, a technology that uses different wavelengths (colors) of laser light to multiplex several optical carrier signals onto a single optical fiber.

Coating A protective layer used to protect the cladding from the environment. This coating is applied over the fiber cladding during the fiber drawing/manufacture process.

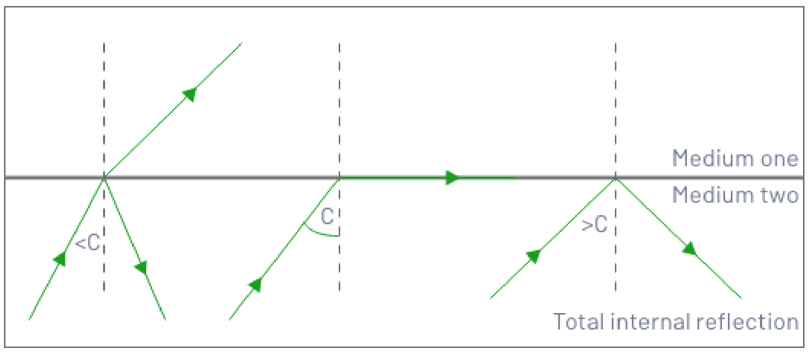
Connector A mechanical device used to align, attach, and decouple the fiber to a transmitter, receiver, or other fiber. Commonly used connectors include LC, ST, SC, SC/APC, and LC/APC. The LC and SC variants can be coupled together with a clip and are commonly referred to as Duplex connectors. MTP/MPO connectors are also



Core The central region of an optical fiber through which light travels. The interface between the core and the cladding is responsible for the total internal reflection that constrains the light signal inside the core.

Coupler A device that either combines two or more fiber inputs into one fiber output or divides one fiber input into two or more fiber outputs. See directional coupler.

Critical angle The critical angle is defined as the maximum angle, defined relative to the fibers axis, for which total internal reflection (TIR) occurs at the core/cladding interface. TIR confines the light signal within the fiber core. TIR is the mechanism behind the propagation of optical signals.



Cutoff wavelength The shortest wavelength for which a single-mode fiber will propagate (transmit) one mode. Single-mode fiber will transmit two or more modes at wavelengths shorter than this cutoff value.

D

Dark fiber This euphemism refers to fiber cable runs supplied without any electronic or optical signaling equipment in its path. This unused fiber becomes useful if/when more data bandwidth/capacity is required.

Decibel (dB) A unit of measurement used to express the relative strength of a signal.

dB: Table of Ratios

dB	P(in)/P(out)	V(in)/V(out)
-30	0.001	0.032
-10	0.10	0.32
-6	0.25	0.50
-3	0.50	0.71
-1	0.79	0.89
-0.6	0.87	0.93
-0.3	0.93	0.97
-0.1	0.98	0.99
0	1.00	1.00
0.1	1.02	1.01
0.3	1.07	1.04
0.6	1.15	1.07
1	1.26	1.12
3	2.0	1.4

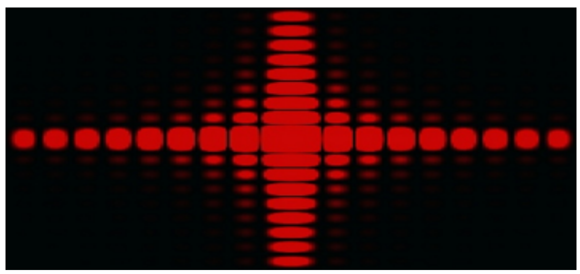
Fiber optic and most other power measurements are expressed using a logarithmic (powers of 10) scale in units of decibel (dB). The dB unit is a ratio as defined by the equation dB = 10*log (power1/power2). Ten times more power (101) reflects an increase of 10 dB. One hundred times more power (102) equals an increase of 20 dB. For voltage values the equation is dB = 20*log (voltage1/voltage2). Voltage has a multiplier of 20x because power is proportional to voltage squared. I used to be able to derive that but, that was then.
Signal losses are reflected by negative values. For example, -3 dB represents an optical power reduced to ½ of the original value while -6 dB indicates a voltage signal power level reduced by ½.

Decibels milliwatt (dBm) For absolute measurements the reference power is defined as 1mW. So, for 1 milliwatt of power using the equation dBm = 10*log (power/1mW) we arrive at dBm = 0. Similarly, 10 mW is 10 dBm. Power levels less than 1 mW result in negative values. For example, 0.1 mW is -10 dBm, while .01 mW would be -20 dBm.

Decibels microwatt (dBμ) A measurement of decibels (dB) measured at a power of at one microwatt (μW). One thousand μW equals 1 mW. The same considerations as discussed for dBm apply except the reference power level is 1 μW. Hence a power level of 1 μW equals 0 dBμ while 10 μW is 10 dBμ and 0.1 μW id -10 dBμ.

Dielectric Any non-metallic material that is not conductive. Glass fiber is not electrically conductive hence is labeled as a dielectric.

Diffraction This light interference phenomenon occurs when light passes through a narrow aperture (or across an edge) of dimensions similar to the wavelength of the light. Diffraction creates an interference between light waves and forms a characteristic diffraction pattern of dark and light areas.



Diffraction grating A plate of glass or metal intentionally ruled with very close parallel lines to produce a spectrum of light created by diffraction and interference. In fiber optics applications a diffraction grating acts as a filter, which reflects specific wavelengths of light and transmits all others. See fiber Bragg grating.

Directional coupler A directional coupler transmits light differently and dependent on transmission direction. See "coupler" in this glossary.

Dispersion causes spreading or broadening of light pulses as they travel through a fiber. Three types of dispersion are important in fiber optic communication channels: 1) modal, 2) chromatic (color), and 3) polarization mode. Dispersion acts as a limit to data bandwidth due to pulse broadening. Fiber type (SM, MM) dictates the dominant mode.

Dispersion compensation is used to reduce dispersion within the fiber. Dispersion-compensating fibers (DCFs) are used to upgrade installed 1310 nm optimized optical fiber links for operations at 1550 nm.

Dispersion-shifted fiber is a Single Mode fiber with an index profile engineered to shift the zero-dispersion wavelength from the natural 1300 nm to the minimum-loss window at 1550 nm. Hence, both dispersion and absorption are minimized at the operational wavelength of 1550 nm.

Duplex fiber cable or patch cord consist of two fibers used in applications where data needs to be transferred bi-directionally.

Dense wavelength-division multiplexing (DWDM) A technology, similar to CWDM (see above) that uses different wavelengths of laser light to multiplex/combine several optical carrier signals onto a single fiber. DWDM wavelength bands are narrow and allow far more signal bands than possible with CWDM.

E

Erbium-doped fiber amplifier An EDFA is an optical amplifier that boosts all channels in the optical signal at the same time. An Erbium-doped waveguide amplifier (EDWA) creates a higher gain by utilizing a waveguide.

Electro-absorption modulator (EAM) is a semiconductor device that will modulate a laser beam signal using a modulated applied voltage. An EAM can operate at a modulation bandwidth of tens of gigahertz making them particularly useful for fiber optic communications. An EAM is integrated with a distributed feedback laser diode on a single photonic integrated circuit using standard semiconductor processing techniques.

Electromagnetic interference EMI creates noise/interference in electrical signals caused by nearby radiation of electrical and/or magnetic fields. Because fiber optics rely on optical signals, they are not susceptible to EMI.

Enclosure A cabinet used to organize and cover cable terminations and splices. Enclosure applications include telecommunications closets, main equipment rooms, main or intermediate cross-connects, and entrance facilities.

End face The surface area of the optical fibers ferrule. Optical fiber is centered and polished at the end face.

Epoxy A resin used to secure fiber to a connector ferrule. Fiber epoxies are set by exposure to elevated temperatures for a manufacturer-prescribed time. Epoxy style connectors are much less common nowadays with the invention of the Pre-Polished Mechanical Fiber Connectors.

Etalon This is a passive filter that measures small differences in the wavelength of light by using the interference pattern it creates. It is also known as a Fabry–Pérot interferometer.

Evanescent waves Evanescent (quickly fading) waves are created as a consequence of total internal reflection. While the entire light wave is reflected back into the fiber core, there is some penetration into the cladding. The evanescent wave travels along the core/cladding interface.

Extrinsic fiber loss defines the signal loss that an external source causes in an optical transmission system. In a fiber-optic link, axial misalignment, end separation, angular misalignment, and poor end finish contribute to extrinsic loss.

F

Factory polishes Fiber cable end faces expertly polished during the manufacturing process. These polishes include physical contact (PC), SPC super physical contact (SPC), ultra-physical contact (UPC), and angled physical contact (APC).

Ferrule A rigid tube that houses and protects the stripped end of a fiber while also aligning the fiber end with the connector socket. Typical ferrule materials include ceramics, plastic, and stainless steel.

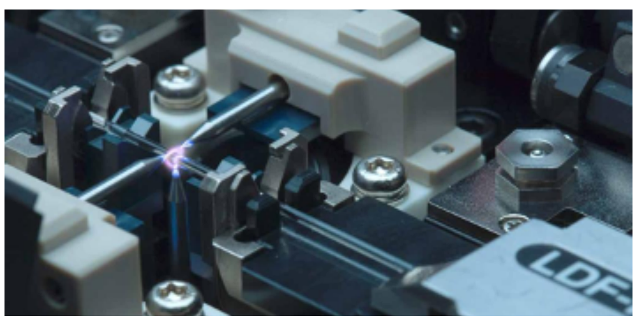
Fiber optic cable consists of a thin filament of glass that includes a core (inner region), a cladding (outer region), and a protective coating. The fiber is the equivalent to the copper core of a communication cable except the fiber transmits optical signals.

Fiber Bragg grating is a type of distributed Bragg reflector, which includes a series of periodically spaced zones in a short length of optical fiber. The grating acts as a filter, which reflects specific wavelengths of light and transmits all others.

Fiber laser A laser design, which combines the beam delivery and laser cavity into a single system inside an optical fiber. Fiber laser systems generate signals within the fiber.

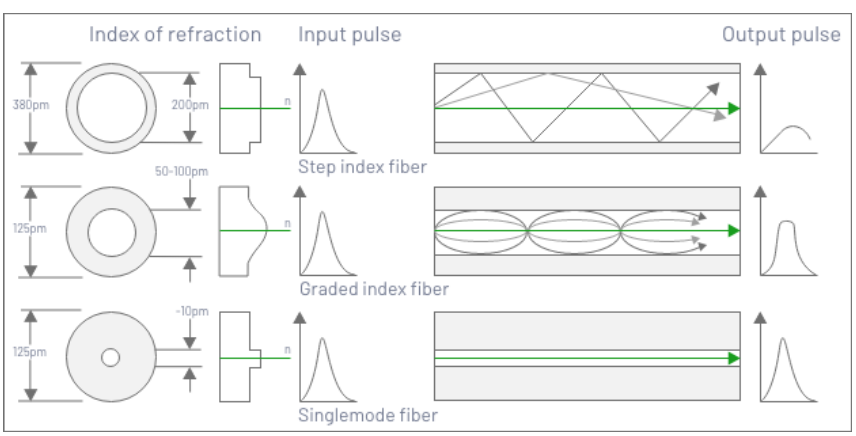
Fiber optic communications A form of communications in which information/data travels through optical fibers in the form of light. Transceivers at either end of the fiber optic link convert an electrical signal to an optical signal and vice versa.

Fusion splice A method that joins two fiber ends. A fusion splice applies heat to the fiber to fuse or melt the ends and form a single fiber with minimal signal loss/reflection at the splice.



G

Graded-index fiber A multi-mode fiber designed to compensate for modal dispersion. The refractive index of graded-index fiber changes gradually with increasing distance from the fibers axis. This design approach avoids abrupt changes of refractive index at the fibers core-cladding interface.



I

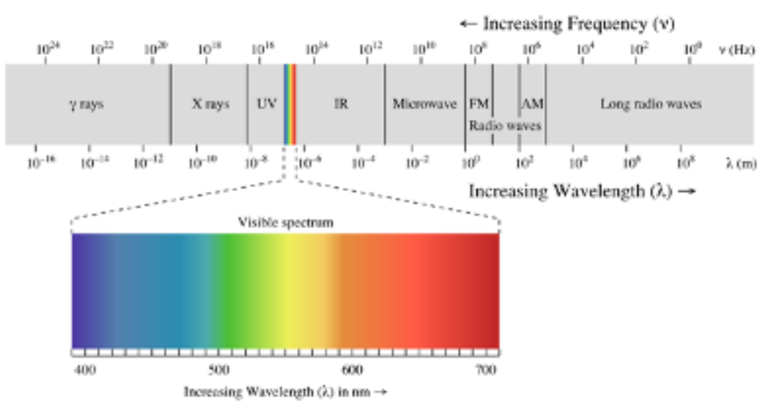
Index of refraction (also called the refractive index) The ratio of the speed of light in a vacuum to the speed of light in the refractive medium. Calculate the index of refraction (n) by dividing the velocity of light of a given wavelength in empty space by its velocity (v) in a specific medium (e.g. fiber optic core). Refractive indices are always greater than one as light slows in all medium as compared to its speed in a vacuum.

Index of Refraction

$$N = \frac{C}{V}$$

C: Velocity of light in vacuum
V: Velocity of light in the medium

Infrared The range of light wavelengths just longer than the wavelength band which can be detected by the human eye (400 – 700 nm) or equivalently, 400 – 750 Thz frequencies. IR wavelengths span a far broader band from approximately 700 nm to nearly 1 mm. RF waves begin where the IR waveband ends. Fiber-optic systems transmit signals in the short end of the IR spectrum between 700 and 1,700 nm.



Injection loss (also called insertion loss) The amount of power that leaks out or is otherwise lost after the insertion of a component, such as a coupler, splice, or connector into a previously unbroken path.

Innerduct is a pathway within a duct, designed to facilitate later cable placement, or to protect new cables being installed.

Interference In fiber optics, the combination of light waves, in which the wave amplitudes add together is determined by rules of interference. Constructive interference produces bright light when the peaks of two separate waves are in phase with each other. Destructive interference produces dark zones, which occur when the peaks of one wave align with the valley of a second wave (180 deg out of phase).

Intrinsic loss The various types of signal loss caused by fiber cable details. Examples of intrinsic loss include splice loss (caused by a mismatched numerical aperture or reflections at any boundary) and absorption (light energy absorbed in the glass fiber itself).

L

Laser is an acronym for "Light Amplification by Stimulated Emission of Radiation". Lasers use stimulated emission to generate a coherent beam of light of a single (or nearly single) wavelength. Semiconductor diode lasers are the usual light sources in fiber optic systems.

Laser diode A laser diode is used to create light that is transmitted through optical fibers. These semiconductor devices are used for single-mode fiber and high-bandwidth, multi-mode fiber applications, such as Gbit Ethernet.

Lashing wire A custom-made wire used to attach one cable to another. Installers will often lash fiber optic cables to telephone or power cables in aerial applications. This technique uses the tensile strength of another, already routed cable to support the fiber optic cable.

Light-emitting diode (LED) A semiconductor device that emits incoherent light with a wide range of wavelengths. An LED is typically used as the signal source for lower-bandwidth, multi-mode fiber applications and are significantly less expensive than a laser diode.

Loose tube A type of fiber optic cable, used primarily outdoors, especially in unsheltered conditions such as aerial or direct-buried installations. As its name implies, cable construction includes a protective tube, which surrounds one or more fibers in the cable. Often strengthened with aramid fibers, the tube isolates the fibers from mechanical and environmental stresses such as wet ground and pulling cable.

M

Macrobending All macroscopic deviations of the fibers axis from a straight line. These bends may create imperfect guiding of the light resulting in angles greater than critical angle required for TIR. The result: light leaks out of the fiber core creating signal loss.

Mechanical splice is one of several types of fiber optic joint. A mechanical splice joins two fiber ends to maintain continuous signal transmission.

Microelectromechanical systems MEMS devices are miniaturized mechanical and electro-mechanical elements fabricated using semiconductor process techniques. In fiber optic applications, MEMs devices include movable mirrors, controlled by electronic signals, that switch or redirect the path of light.

Microbending In a fiber, the loss of light due to small deviations of the fibers axis from a straight line. Usually, these distortions are invisible to the naked eye.

Micron (also known as μm) One micrometer is one millionth of a meter. Fiber cross-sections are expressed in microns.

Modal dispersion occurs because different propagation modes take different amounts of time to travel through multi-mode fiber. The result is a temporal spreading of light pulses which limits data bandwidth.

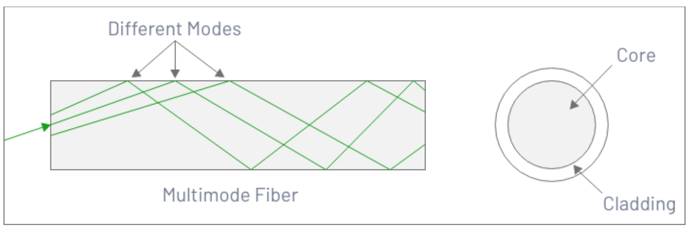
Mode A reflective path that light takes in a fiber. Each mode has its own pattern of electromagnetic fields as it propagates through the fiber. There is only one mode in single-mode fiber. In multi-mode fiber, a signal generates multiple modes, which cause pulse dispersion at the receiving end transceiver.

Mode field diameter is the diameter of the zone in which the single mode propagates down a single-mode fiber. The MFD is slightly larger than the core diameter.

Modulation The process of coding information by varying the properties of a periodic waveform, called the carrier signal, with a modulating signal that typically contains information (e.g. digital bit streams) which will be demodulated at the end of the channel.

Multi-mode An optical fiber with a core large enough to propagate more than one mode of light. The typical diameter of multi-mode fibers is 62.5 micrometers or 50 micrometers.

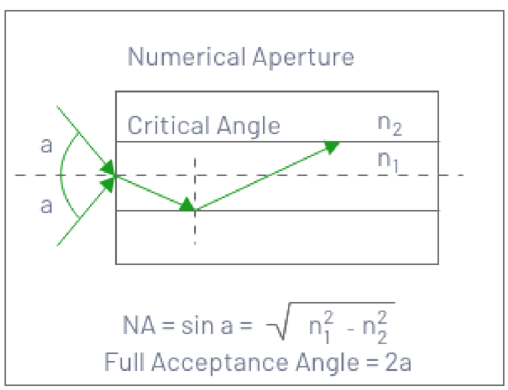
Multiplexer A device that combines two or more signals into a single modulated bit stream transmitted through a single fiber and then recovered separately by a demultiplexer.



N

Nanometer (nm) One billionth of a meter or one thousandth of a micron. The nanometer is the most common unit used in measuring the wavelengths of light in the visible waveband (400 nm to 700 nm).

Numerical aperture (NA) The maximum angle to the fiber axis, at which light is accepted and propagated throughout the fiber. A fibers numerical aperture value represents its light-gathering ability. Also, see acceptance angle.



O

Optical network A network that processes, switches, and transmits signals in optical form.

Optical switch A device that routes optical signals to their appropriate destination. These devices enable users to selectively switch optical signals on and off or switch signals from one channel to another.

Optical waveguide An optical fiber acts as an optical waveguide that guides light along the fiber length.

Optical Time Domain Reflectometer An OTDR test device sends a short pulse of light down a fiber and measures backscattered light from that pulse. An OTDR will measure fiber attenuation and can identify and locate splices and connectors.

Optical-electrical-optical or Optical-Optical-Optical OEO refers to devices that convert light to electricity for manipulation and then back out to light. All-optical devices (OOO), such as optical switches, do not convert from optical to electrical back to optical.

Optical fiber non-conductive riser (OFNR) A type of fiber-optic cable that contains no electrically conductive components. As a riser cable it is generally intended for vertical runs from floor to floor.

Optical fiber non-conductive plenum (OFNP) A type of fiber-optic cable that contains no electrically conductive components. Plenum cables are used for horizontal runs within an air handling plenum. OFNP cables are designed to prevent the spread of fire or toxic fumes through air ducts.

Optical amplifier A device that boosts signals in an optical fiber. See, for example, EDFA.

Optical channel OCH is a channel that transmits a signal in a fiber optic link using only one wavelength of light.

P

Passive optical network A PON is any fiber-optic system that lacks active components between its distribution point and remote receiver nodes. A PON can create a point-to-multipoint architecture, using unpowered fiber optic splitters, to enable a single optical fiber to serve multiple end-points.

Patch cord (also called a cable assembly, patch cable, or jumper) A fixed length of cable with a connector at each end, it is used to connect (patch in) to electronic or optical devices for signal routing. Ethernet patch cords are ubiquitous.

Photodiode is a semiconductor device that receives an optical signal and changes it to an electrical current/signal.

Photon A particle of light representing the smallest discrete amount or quantum of light. Photons travel at the speed of light in a vacuum and at slightly reduced rates inside a fiber optic cable. (See index of refraction for a speed of light discussion)

Photonic Having to do with light or photons.

Physical contact connector (PC) Refers to the type of fiber-optic cable connector that makes physical contact with two terminated fiber ends. This type of connection minimizes signal losses.

Pigtail A short length of fiber, in which one end attaches to a component, and the other end is intentionally free with no connector for eventual splicing to another fiber cable.

Plenum An open space commonly found in enterprise or industrial buildings, located above dropped ceilings and below raised floors. Plenums provide air circulation in HVAC systems.

Plenum rating A fire safety rating for cables designed to minimize fire and fire-induced toxic fumes as defined by standards of the National Fire Protection Association.

Polarization A property of light waves, polarization defines the orientation of the lines of electric flux in an electromagnetic wave. Visible light can be polarized by reflection from a metallic surface. Polarized sunglasses reduce glare by blocking reflection-induced linear polarization.

Polarization is commonly used in telecommunications for the connection between a source laser and a modulator, since the modulator requires polarized light as input.

Polarization mode dispersion The modal dispersion that arises from slight irregularities in optical fiber properties (see index of refraction). Because the speed of light in optical fibers varies with polarization the different polarizations create modal dispersion.

Polishing paper Also known as lapping film, polishing paper is made with a fine grit to remove fiber end-surface imperfections caused by fiber cleaving. The fine grit ensures a smooth surface which, when used with a connector, is made to be flush with the end of the ferrule.

Polishing puck is a device that you will use to hold a connector while polishing the fiber end face.

Pulling eyes and eye sleeves Devices that help installers pull cable through ducts. Pulling eyes are made with high performance polymers ensuring strength during tough cable pulls. Enjoy this DLV video showing a pre-terminated fiber cable being pulled through a 1.00" corrugated innerduct.

R

Raman amplifier A fiber optic signal-boosting device that work by shifting energy from a powerful pump beam to a weaker signal beam.

Receiver (Rx) is an optoelectronic device that converts optical signals to electrical/binary signals. (see photodiode).

Reflection A behavior of light that causes light traveling in one medium (e.g. air) to deflect when it encounters a medium with a different index of refraction. For those that enjoy trigonometry, when a ray of light is reflected from a smooth surface the angle of specular reflection is equal to the angle of incidence. (See index of refraction).

Refraction A behavior of light that describes the propagation of light when moving from one medium to another medium with a different index of refraction.

For those that enjoy trigonometry, the light behaves as defined by Snell's Law which states that the sine of the angle of incidence times the index of refraction of the first medium is equal to the sine of the angle of refraction times the index of refraction of the second medium (n1sin01=n2sin02).

Refractive index The ratio of the velocity of light in a vacuum to the velocity of light in a specific medium. (See index of refraction for a discussion of the velocity of light).

Repeater A type of transceiver used to regenerate the optical signal and reduce pulse distortions (e.g. dispersions).

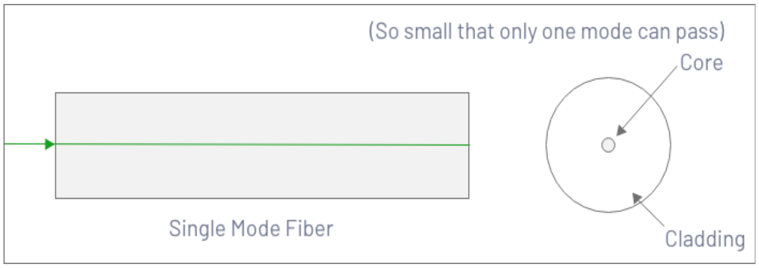
Riser rated Cable that is used between floors in non-plenum areas. Fire requirements on riser cable are not as strict as plenum rated cables. Thus, you can always replace a riser cable with plenum, but you cannot replace a plenum cable with riser in a plenum space.

S

Scattering Imperfections in the optical fiber will cause a beam of light particles to scatter and hence travel in many different directions. This glass-light interaction contributes to signal losses.

Synchronous digital hierarchy SDH is a scale of data rates for fiber optic systems. SDH is the synchronous technology used everywhere except the US, Canada and Japan. SDH is the internationally recognized counterpart to SONET. SDH uses light-emitting diodes (LED) or lasers to transmit signals in synchronous optical fiber communications. The table below addresses equivalencies between the two standards.

Sonet Signal	Bit Rates	Equivalent SDH signal
STS-1 OC-1	51.84 Mb/s	STM-0
STS-3 OC-3	155.52 Mb/s	STM-1
STS-12 OC-12	622.08 Mb/s	STM-4
STS-48 OC-48	2488.32 Mb/s	STM-16
STS-192 OC-192	9953.28 MB/s	STM-64
STS-768 OC-768	39813.12 Mb/s	STM-256



Single-mode A type of optical fiber. In single-mode fibers, the signal travels in one mode (path). This single-mode feature makes SM fiber ideal for long-haul and very-high data rate applications. Typically, SM fiber consists of an 8-to-10 μm core (9 μm being the most common) within a 125-μm cladding.

Soliton In fiber optics, a soliton is a solitary, self-reinforcing laser pulse. A soliton maintains its shape while it propagates long distances at a constant velocity.

Synchronous optical network SONET is an alternative to Synchronous Digital Hierarchy. Both SONET and SDH provide a set of standardized digital communication protocols. (See Synchronous Digital Hierarchy for equivalencies).

Splice A method used to join two ends of optical fiber. Installers use fusion and mechanical splicing methods in fiber-optic applications.

Splice closure A container used to hold and protect splice trays.

Splice tray A splice tray is useful for organizing and protecting spliced fibers.

Split sleeve The split sleeve aligns the ferrules of two terminated connectors.

Splitter A splitter literally splits the light from one fiber and adds it into many new fibers.

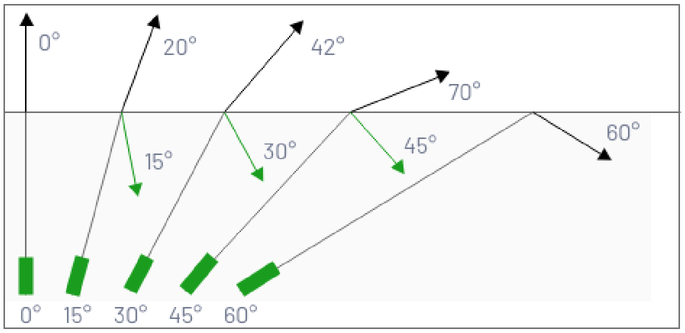
Step-index fiber Step-index fibers have cores of a uniform refractive index, which decreases suddenly at the core-cladding interface. There is no index grading – the cladding and core have single, yet different, indices with no radial variations within.

T

Threshold current is the minimum current needed to generate a light beam from a laser diode.

Tight buffer A protective coating applied to fiber cable that provides high strength (tensile), durability and ease of termination. The buffer is extruded over the fiber coatings. Typically this coating is 900 μm thick.

Total internal reflection A behavior of light at the boundary of two media with different refractive indices. Total internal reflection occurs when all light energy in a medium (such as a fiber optic core) is not refracted into the cladding. Instead all that light is reflected at the core/cladding interface and constrained to travel inside the core.



Transceiver An optical device, which combines a transmitter for creating light signals from electrical signals and a receiver which converts the transmitter-generated light signal back to an electrical signal for further processing.

Transmitter (Tx) An optoelectronic device such as an LED or laser diode that converts an electrical signal to an optical signal for transmission through the fiber optic cable to be received by the receiver and converted back to an electrical signal.

Transparent network Refers to sending or accessing data over a network in such a way that the information is invisible to users communicating with the network. A fiber-optic network that only uses optical signals would be an example of a transparent network.

Tunable laser Tunable lasers enable continuous adjustments to wavelengths over a wide range.

V

Vertical cavity surface-emitting laser (VCSEL) A type of semiconductor laser diode, pronounced "vixel". A VCSEL emits a laser beam from its surface rather than its edge. VCSELs are cheaper to manufacture in quantity, easier to test, and more efficient to operate. Also, VCSELs require less electrical current to produce specific, coherent energy output.

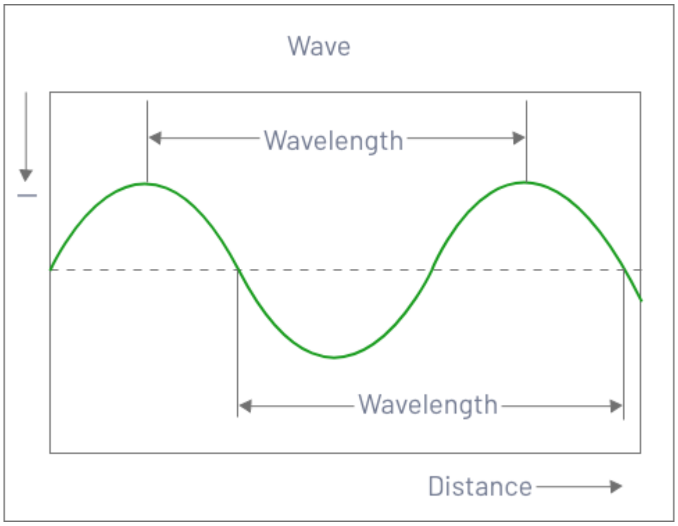
Variable optical attenuator (VOA) A type of optical device. Users can adjust VOAs to block different amounts of a signal passing through it.

W

Waveguide is any structure that guides electromagnetic waves along a path. An optical fiber is one type of optical waveguide. (See planar waveguide, optical waveguide).

Waveguide array A device that separates wavelengths from an optic beam by passing it through an array of waveguides, each optimized for different wave bands.

Wavelength The length of a wave measured from any point on one wave to the corresponding point on the next. The wavelengths of light used in optical fibers are measured in nanometers. Common wavelengths used in fiber optic applications include 850 nm, 1300/1310 nm, 1550 nm, and 1nm.


Wave
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