

Glossary

CHANNEL — (1) A path for electrical transmission. Also called a circuit facility, line, link, or path. (2) A specific and discrete bandwidth allocation in the radio frequency spectrum (for example, in a broadband LAN) utilized to transmit one information signal at a time.

CHANNEL TRANSLATOR — Device used in broadband LANs to increase carrier frequency, converting upstream (toward the head-end) signals into downstream signals (away from the head-end).

CHARACTERISTIC IMPEDANCE — An electrical characteristic of transmission lines. When terminated in its characteristic impedance, reflections from the end of a line are minimized.

CHEMICAL STRIPPING — Removal of insulation by chemical means.

CHLOROSULFONATED POLYETHYLENE (CSP) — A rubbery polymer used for insulations and jackets. Manufactured by E.I. DuPont under the trade name of Hypalon.

CIGARETTE WRAP — Tape insulation wrapped longitudinally instead of spirally over a conductor.

CIRCUIT SWITCHING — A switching technique in which an information path (i.e., circuit) between calling and called stations is established on demand for exclusive use by the connected parties until the connection is released.

CIRCUIT TRACING — Locating or identifying a specific conductive path.

CIRCULAR MIL (CM) — A term universally used to define cross-sectional areas of conductors. It is an area equal to the area of a circle 1/1000 of an inch in diameter. As the number of circular mils increase, the size of a wire increases.

CLAD WIRE — Different from coated wire, is any metal covered with a relatively heavy coating of different metal, such as copperweld (copper over steel) or alum-o-weld (aluminum over steel). See Coated Wire.

COATED WIRE — Any metal covered by a relatively thin coating of a different metal such as tin, zinc or other alloy by a dip bath and wipe process, often at high speeds in line with insulating equipment.

COAXIAL CABLE — A cylindrical transmission line comprised of a conductor centered inside a metallic tube or shield, separated by a dielectric material, and usually covered by an insulating jacket.

COHERENT SOURCE — A fiber optic light source which emits a very narrow, unidirectional beam of light of one wavelength (monochromatic).

COIL EFFECT — The inductive effect exhibited by a spiral wrapped shield, especially above audio frequencies.

COLD BEND — Generally refers to a test to determine cable or wire characteristics at low temperatures. The test specimen is cooled in a low temperature box to a specified temperature. The wire specimen is then wound around a mandrel after which it is examined for cracks or other defects caused by bending at low temperatures.

COLD-DRAWING — Reducing the cross section by pulling through a die or dies, at a temperature lower than the recrystallization temperature.

COLD FLOW — Permanent deformation of the insulation due to mechanical pressure (not due to heat softening).

COLOR CODE — A color system for wire or circuit identification by use of solid colors, tracers, braids, surface printing, etc.

COMBINATION STRANDED CONDUCTOR — A conventional concentric conductor in which the wires in the outer layer are larger in diameter than the wires in the inner layer or layers and the diameters of all wires are within plus and minus 5% of the nominal wire diameter for the same size noncombination stranded conductor.

COMMON AXIS CABLING — In multiconductor constructions, a twisting of all conductors about a "common axis" to result in smaller diameter constructions. Tends to result in greater susceptibility to electromagnetic and electrostatic interference.

COMMON MODE NOISE — Noise caused by a difference in "ground potential." By grounding at either end rather than both ends (usually grounded at source) one can reduce this interference.

COMPACT STRANDED CONDUCTOR — A unidirectional or conventional concentric conductor manufactured to a specified diameter, approximately 8 to 10% below the nominal diameter of a noncompact conductor of the same cross-sectional area.

COMPOSITE CABLE — A cable containing more than one gauge size or a variety of circuit types, e.g., pairs, triples, quads, coaxials, etc.

COMPOSITE (CLAD) WIRE — A wire having a core of one metal with a fused outer shell of a different metal.

COMPOSITE CONDUCTOR — A conductor consisting of two or more types of wire, each type of wire being plain, clad, or coated-stranded together to operate mechanically and electrically as a single conductor.

COMPRESSED STRANDED CONDUCTOR — A conventional concentric conductor manufactured to a diameter not more than 3% below the nominal diameter of a noncompressed conductor of the same cross-sectional area.

COMPRESSION LUG OR SPLICE — A connection installed by compressing the connector onto the strand, hopefully into a cold weld.

CONCENTRICITY — The measurement of the location of the center of the conductor with respect to the geometric center of the circular insulation.

CONCENTRIC-LAY CONDUCTOR — A layer of uninsulated wires twisted around a central wire with subsequent layers spirally wrapped around the inner layers to form a single conductor.

CONDUCTANCE — The ability of a conductor to carry an electric charge. The ratio of the current flow to the potential difference causing the flow. The reciprocal of resistance.

CONDUCTIVITY — Capacity of a material to carry electrical current — usually expressed as a percentage of copper conductivity (copper being 100%).

CONDUCTOR — A material suitable for carrying an electric current. Several types are as follows:

COMPACT ROUND CONDUCTOR — a conductor constructed with a central wire surrounded by one or more reshaped (nonround) helically laid wires and formed into final shape by rolling, drawing, or other means.

CONCENTRIC-LAY CONDUCTOR — a conductor constructed with a central wire surrounded by one or more layers of helically laid wires.

CONVENTIONAL CONCENTRIC CONDUCTOR — a conductor constructed with a central wire surrounded by one or more layers of helically laid wires. The direction of lay is reversed in successive layers and generally with an increase in length of lay for successive layers.

