

**Life Cycle** A test to determine the length of time before failure in a controlled, usually accelerated, environment.

**Limits of Error** The maximum deviation (in degrees or percent) of a thermocouple or thermocouple extension wire from standard emf-temperature to be measured.

**LOCA** Abbreviation for loss of coolant accident, a system malfunction associated with nuclear generating stations.

**Loc Trac** Alpha's registered trademark for a zipper tubing closure track which does not require any sealants to keep it closed, even during extreme flexing.

**Longitudinal Shield** A tape shield, flat or corrugated, applied parallel to the axis of the core being shielded.

**Longitudinal Shrinkage** A term generally applied to shrink products denoting the discrete axial length lost through heating in order to obtain the recovered diameter.

**Loop Resistance** The total resistance of two conductors measured round trip from one end.

**Loss Factor** The product of the dissipation and dielectric constant of an insulating material.

**Low Loss Dielectric** An insulating material that has a relatively low dielectric loss, such as polyethylene or Teflon.

**Magnetic Field** The region within which a body or current experiences magnetic forces.

**Magnetic Flux** The rate of flow of magnetic energy across or through a surface (real or imaginary).

**Magnetic Noise** Caused by change in current level, e.g. ac powerline (creates magnetic field around that cable) this magnetic field causes the magnetic noise.

**Mastic** A meltable coating used on the inside of some shrink products which when heated flows to encapsulate the interstitial air voids.

**MCM** One thousand circular mils.

**Megarad** A unit for measuring radiation dosage. Equal to one million ( $10^6$ ) rads.

**Messenger** The linear supporting member, usually a high strength steel wire, used as the supporting element of a suspended aerial cable. The messenger may be an integral part of the cable, or exterior to it.

**Mho** The unit of conductivity. The reciprocal of an ohm

**Microphonics** Noise in a system caused by mechanical vibration of components within the system.

**Microwave** A short (usually less than 30 cm.) electrical wave.

**Mil** A used in measuring diameter of a wire or thickness of insulation over a conductor. One one-thousandth of an inch (.001").

**Mis-Match** A termination having a different impedance than that for which a circuit or cable is designed.

**Modulus of Elasticity** The ratio of stress to strain in an elastic material.

**Moisture Absorption** The amount of moisture, in percentage, that a material will absorb under specified conditions.

**Moisture Resistance** The ability of a material to resist absorbing moisture from the air or when immersed in water.

**Monomer** The basic chemical unit used in building a polymer.

**MTW** An acronym for thermoplastic insulated machine tool wire.

**Multiconductor** A cable consisting of two or more conductors, either cabled or laid in a flat parallel construction with or without a common overall covering.

**Mylar** DuPont trade name for a polyester material.

**National Electrical Code (NEC)** A consensus standard published by the National Fire Protection Association (NFPA) and incorporated in OSHA regulations.

**NBS** Abbreviation for National Bureau of Standards. A division of the U.S. Department of Commerce, engaged in fundamental and applied research in physics, chemistry, mathematics and engineering. The Bureau has custody of the National Standards of Measurement.

**NEMA** Abbreviation for National Electrical Manufacturers Association. An association of electrical manufacturers whose primary goal is to standardize specifications particular to their manufacture with the present state-of-the-art.

**NFPA** Abbreviation for National Fire Protection Association. That association responsible as the Administrative Sponsor of the National Electrical Code. Also identified as "ANSI Standards Committee C1."

**Non-Contaminating PVC.** A polyvinyl chloride formulation, which does not produce contamination or discoloration of materials in which it comes in contact.

**Non-Migrating PVC** Polyvinyl chloride compound formulated to inhibit plasticizer migration.

**Nylon** A group of polyamide polymers which are used for wire and cable jacketings.

**OFHC** Abbreviation for oxygen-free, high conductivity copper. It has no residual deoxidant, 99.95% minimum copper content and an average annealed conductivity of 101%.

**Ohm** Unit of resistance such that a constant current of one ampere produces a force of one volt.

**OSHA** Abbreviation for Occupational Safety and Health Act. Specifically the Williams-Steiger law passed in 1970 covering all factors relating to safety in places of employment.

**Outgassing** Percentage of a gas released during the combustion of insulation or jacketing material.

**Overlap** The amount the trailing edge laps over the leading edge of a tape wrap.

**Oxygen Index** Percentage of oxygen necessary to support combustion of a specified material.

**Pair** Two insulated wires of a single circuit associated together.

**Pairing** The union of two insulated single conductors through twisting.

**Pick** Distance between two adjacent crossover points of braid filaments. The measurement in picks per inch indicates the degree of coverage.

**Pitch** In flat cable, the nominal distance between the index edges of two adjacent conductors.

**Plastic Deformation** Change in dimensions under load that is not recovered when the load is removed.

**Plasticizer** A chemical agent added to plastics to make them softer and more pliable.

**Polyester** Polyethylene terephthalate which is used extensively in the production of a high strength moisture resistant film used as a cable core wrap.

**Polyethylene** A family of insulations derived from the polymerization of ethylene gas and characterized by outstanding electrical properties, including high I.R., low dielectric constant, and low dielectric loss across the frequency spectrum. Mechanically rugged, it resists abrasion and cold flow.

**Polymer** A material of high molecular weight formed by the chemical union of monomers.

**Polyolefin** A family of thermoplastics based upon the unsaturated hydrocarbons known as olefins. When combined with butylene or styrene polymers they form compounds such as polyethylene and polypropylene.

**Polyvinylchloride** A general purpose family of insulations whose basic constituent is polyvinylchloride or its copolymer with vinyl acetate. Plasticizers, stabilizers, pigments and fillers are added in lesser quantity to improve mechanical and/or electrical properties of this material.

**Porosity** Multiple air voids in an insulation or jacket wall.

**P.O.S.** Abbreviation for point-of-sale.

**Potting** The sealing of a cable termination or other component with a liquid which thermosets into an elastomer.

**Power Factor** The ratio of resistance to impedance. The ratio of the actual power of an alternating current to apparent power. Mathematically, the cosine of the angle between the voltage applied and the current resulting.

**Primary Insulation** The first layer of non-conductive material applied over a conductor, whose prime function is to act as electrical barrier (sic... insulation).

**Propagation Time** Time required for an electrical wave to travel between two points on a transmission

**Pulling Eye** A device fastened to a cable to