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Glossary of Terms

<p>AL: The chemical symbol for aluminum.</p>	<p>Abrasion Resistance: Ability for a material or cable to resist surface wear.</p>
<p>Accelerated Life Test: A test in which certain factors such as voltage, temperatures, etc., to which a cable is subjected are increased in magnitude above normal operating values to obtain observable deterioration in a reasonable period of time and thereby afford some measure of the portable cable life under operating voltage, temperatures, etc.</p>	<p>A.C. Resistance: The total resistance offered by a device in an alternating current circuit due to inductive and capacitive effects, as well as the direct current resistance.</p>
<p>Active Current: In an alternating current, a component in phase with the voltage; the working component as distinguished from the idle or watt-less component.</p>	<p>Active Pressure: In an A.C. circuit, the pressure, which produces a current, is distinguished from the idle or watt-less component.</p>
<p>Adhesion: The state in which two surfaces are held together by interfacial forces, which may be chemical or mechanical in nature.</p>	<p>Aging: The irreversible change in properties or appearance of a material with time and under specific conditions (usually accelerated representations of environmental states, such as high temperature, oxygen or other various conditions).</p>
<p>Alloy: A metal formed by combining two or more different metals to obtain desirable properties.</p>	<p>Alternating Current (AC): Electrical current that continually reverses its direction. It is expressed in cycles per second (hertz or Hz).</p>
<p>Alternating Voltage: The voltage developed across a resistance or impedance through which an alternating current is flowing.</p>	<p>Ambient Temperature: Any all-encompassing temperature within a given area.</p>

<p>American Wire Gauge: A standard used to describe the physical size of a conductor.</p>	<p>Ampacity: The maximum current an insulated wire or cable can safely carry without exceeding either the insulation or jacket material limitations. (Same as Current Carrying Ampacity)</p>
<p>Ampere: The unit of current. One ampere is the current flowing through one ohm of resistance at one volt potential.</p>	<p>Ampere's Law: Ampere's Law states that for any closed loop path, the sum of the length elements times the magnetic field in the direction of the length element is equal to the permeability times the electric current enclosed in the loop.</p>
<p>Anneal: The process of controlled heating and cooling of metal to achieve predetermined characteristics as to tensile strength and elongation. Annealing copper renders it less brittle.</p>	<p>ANSI: The American National Standards Institute.</p>
<p>Appliance Wire and Cable: Appliance wiring material is a classification of Underwriters Laboratories Inc., covering insulated wire and cable intended for internal wiring of appliances and equipment.</p>	<p>Area of Conductor: The size of a conductor cross-section, measured in circular mils, square inches, etc.</p>
<p>ASA: The American Standards Association; former name ANSI.</p>	<p>ASME: The American Society of Mechanical Engineers.</p>
<p>ASTM: The American Society for Testing and Materials.</p>	<p>AWG: Abbreviation for American Wire Gauge. A standard system used in the United States for designing the size of an electrical conductor based on geometric progression between two conductor sizes. Based on a circular mil system. 1 mil equals .001 inch.</p>
<p>AWM: Designation for appliance wiring material.</p>	<p>Balanced Circuit: A circuit so arranged that the impressed voltages on each conductor of the pair are equal in magnitude but opposite in polarity with respect to ground.</p>
<p>Bare Conductor: A conductor having no covering. A conductor with no coating or cladding on the copper.</p>	<p>Bending Radius: A term used to denote the minimum radius that an insulated cable or cables may be safely bent during insulation.</p>

<p>Binder: A helically-applied tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.</p>	<p>Breakdown of Insulation: Failure of an insulation resulting in a flow of current through the insulation. It may be caused by the application of too-high voltage or by defects or decay.</p>
<p>Breakdown Voltage: The voltage at which the insulation between two conductors break down.</p>	<p>Breakout: The point at which a conductor or group of conductors breaks out from a multi-conductor cable to complete circuits at various points along the main cable.</p>
<p>B&S: Abbreviation for "Brown and Sharp Wire Gauge" same as American Wire Gauge.</p>	<p>Building Wire: Wire used for light and power, 600 volts or less, usually exposed to outdoor environments.</p>
<p>Bunch Stranding: A group of wires of the same diameter twisted together without a predetermined pattern.</p>	<p>Buried Cable: A cable installed directly into the earth without use of underground conduit. Also called "direct-burial cable."</p>
<p>Bus: Wire used to connect two terminals inside of an electrical unit.</p>	<p>Butt: Joining of two conductors end to end, with no overlap and with the axes in line.</p>
<p>Butt-Splice: A splice in which two wires from opposite ends butt against each other, or against a stop, in the center of a splice.</p>	<p>°C: Degrees Celsius</p>
<p>Cable: A group of individually insulated conductors in twisted or parallel configuration, with or without an overall coating.</p>	<p>Cable Assembly: A completed cable and its associated hardware ready to install.</p>
<p>Cable Filler: The material used in multiple conductor cables to occupy the spaces formed by the assembly of components; thus forming a core of the desired shape (normally cylindrical).</p>	<p>Cabling: The twisting together of two or more insulated conductors to form a cable.</p>
<p>Capacitance: Storage of electrically-separated charges between two plates having different potentials. The value depends largely on the surface area of the plates and the distance between them.</p>	<p>Certificate of Compliance (C of C): A certificate that shows the product being shipped meets customer specifications.</p>

<p>Certified Test Report (CTR): A report providing actual test data on a cable. Tests are normally run by the Quality Control Department, which shows that the product being shipped conforms to test specifications.</p>	<p>Charge: The quantity of electricity held statically in a condenser or an insulated conductor.</p>
<p>Charging Current: Current produced when a DC voltage is first applied to conductors of an un-terminated cable. It is caused by the capacitive reactance of the cable and decreases exponentially with time.</p>	<p>Circuit: The complete path through which flows or part of the complete path, such as one conductor. A popular term for building wire sizes 14 through 10 AWG.</p>
<p>Circular Mil: The area of a circle one mil. (.001") in diameter, $7,854 \times 10^{-7}$ sq. inches. Used in expressing wire cross sectional area.</p>	<p>Coating: A material applied to the surface of a conductor to prevent environmental deterioration, facilitate soldering, or improve electrical performance.</p>
<p>Cold Test: Any test to determine the performance of cables during or after subjection to a specified low temperature a specified time.</p>	<p>Color Code: A system for a circuit identification through use of solid colors and contrasting tracers.</p>
<p>Combination Unilay: A stranding configuration that uses two strand sizes to achieve a 3% reduction into the conductor diameter without compression.</p>	<p>Compact Stranded Conductor: A unidirectional or conventional conductor manufactured to a specified diameter, approximately 8 to 10% below the nominal diameter of a non-compact conductor of the same sectional area.</p>
<p>Compatibility: The ability of dissimilar materials to exist in mutual proximity or contact without changing their physical or electrical properties.</p>	<p>Compressed Stranding: A stranding configuration with concentric strands, in which either all layers or the outer layer only is passed through a die to reduce the conductor diameter by 3%.</p>
<p>Compound: An insulating or jacketing material made by mixing two or more ingredients.</p>	<p>Concentric Stranding: A central wire surrounded by one or more layers or helically-wound strands in a fixed, round, geometric arrangement.</p>
<p>Concentricity: In a wire or cable, the measurement of the location of the center of the conductor with respect to the geometric center of the surrounding insulation.</p>	<p>Conductivity: The capability of a material to carry electrical current, usually expressed as a percentage of copper conductivity (copper being 100%)</p>
<p>Conductor: An uninsulated wire suitable for carrying electrical current.</p>	<p>Conduit: A channel for holding and protecting conductors and cables made of metal or an insulating material, usually circular in cross section, as in pipe.</p>

<p>Connector: A device used to physically and electrically connect two or more conductors.</p>	<p>Contact: The part of a connector that actually carries the electrical current and that is touched together or separated to control the flow.</p>
<p>Continuity Check: A test to determine whether electrical current flows continuously throughout the length of a single wire or individual wires in a cable.</p>	<p>Control Cable: A multi-conductor cable made for operation in control or signal circuits.</p>
<p>Cord: A small, flexible, insulated cable.</p>	<p>Core: In cables, a component or assembly of components over which additional components (shields, sheath, etc.) are applied.</p>
<p>Corrosion: The deterioration of a material by chemical reaction or galvanic action.</p>	<p>CPE: Jacketing compound based on chlorinated polyethylene.</p>
<p>Cross-Sectional Area: The area of a conductor exposed by cutting the conductor perpendicular to its longitudinal plane, expressed in circular mils, square inches. Or square millimeters.</p>	<p>Crosstalk: Signal interference bonds between long-chain thermoplastic polymers by means of chemical or electron bombardment. The properties of the resulting thermosetting material are usually improved.</p>
<p>CSA: Abbreviation for Canadian Standards Association. The Canadian counterpart of the Underwriters Laboratories.</p>	<p>Cu: The chemical symbol for copper.</p>
<p>Current: The flow of electricity in a circuit, measured in amperes.</p>	<p>Current-Carrying Capacity: The maximum current an insulated conductor or cable can continuously carry without exceeding its temperature rating. It is also called ampacity.</p>
<p>Cut-Through: Resistance of solid material to penetration by an object under conditions of pressure, temperature, etc.</p>	<p>Cycle: The complete sequence of alteration or reversal of the flow of an alternating electric current.</p>
<p>Damp Location: An outdoor location that is partially protected from weather or an indoor location, subject to moderate degree of moisture, such as a barn or basement.</p>	<p>Derating Factor: A factor used to reduce the current carrying capacity of a wire when used in environments other than that for which the value was established.</p>
<p>Die: A device used in the drawing of the wire; that element through which the wire is drawn to achieve a predetermined diameter. A mold used to form the plastic compound around a wire or cable.</p>	<p>Dielectric: Any insulating material between two conductors that permits electrostatic attraction and repulsion to take place across it.</p>

<p>Dielectric Absorption: The property of an imperfect dielectric whereby there is an accumulation of electric charges within the body of the material when it is placed in an electric field.</p>	<p>Dielectric Breakdown: The voltage at which a dielectric material is punctured, which is divisible by thickness to give dielectric strength.</p>
<p>Dielectric Constant (K): The ratio of the capacitance of a condenser with dielectric between the electrodes, to the capacitance when air is between the electrodes. Also called Permittivity and Specific Inductive Capacity.</p>	<p>Dielectric Test: A test in which a voltage higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions.</p>
<p>Direct-Burial Cable: A cable installed directly into the earth.</p>	<p>Direct Capacitance: The capacitance measured directly from conductor to conductor through a single insulating flyer.</p>
<p>Direct Current (DC): An electric current that flows in only one direction.</p>	<p>Direct Current Resistance (D.C.R.): The resistance offered by a circuit to the flow of direct current.</p>
<p>Drawing: In wire manufacturing, pulling the metal through a die or series of die to reduce diameter to a specified size.</p>	<p>Duct: An underground or overhead tube for carrying electrical conductors.</p>
<p>Eccentricity: Like concentricity, a measure of the center of a conductor's location with respect to the circular cross-section of the insulation, expressed as a percentage of displacement of one circle within the other.</p>	<p>EIA: Electronic Industries Association</p>
<p>Elastomer: An elastic, rubber-like substance.</p>	<p>Elongation: The amount that a conductor can stretch before breaking when a pulling force is applied.</p>
<p>Embossing: A marker identification by means of thermal identification leaving raised lettering on sheath of cable.</p>	<p>Emergency Overload: Load that occurs when larger-than-normal currents are carried through a cable or wire over a certain period.</p>
<p>Ends: In braiding, the number of essentially parallel wires or threads on a carrier.</p>	<p>Energize: To apply rated voltage to a circuit or device in order to activate it.</p>
<p>Equilay: More than one layer of helically laid wires with the direction of lay reversed for successive layers, both with the length of lay the same for each layer.</p>	<p>ERQ: Economic Run Quantity</p>

<p>Extrusion: The process of continuously forcing both a plastic or elastomer and a conductor core through a die, thereby applying a continuous coating of insulation or jacket to the core or conductor.</p>	<p>Feeder: The circuit conductor between the service equipment and the final branch circuit over current device.</p>
<p>Field: A region of space characterized by the existence of a force generated by electric charge.</p>	<p>Filled Cable: A telephone cable or construction in which the cable core is filled with a material that will prevent moisture from entering or passing through the cable.</p>
<p>Filler: 1.) A material used in multi-conductor cables to occupy large interstices formed by the assembled conductors. 2.) An inert substance added to a compound to improve properties or decrease cost.</p>	<p>Fixture Wire: A conductor used in lighting or similar equipment, or used to connect a lighting fixture to branch circuit conductors. Common types include TF, TFN, AND TFFN.</p>
<p>Flame Resistance: The ability of a material to restrict the spread of combustion to a low rate of travel, so that the flame will not be conveyed.</p>	<p>Flame Retardant: A chemical added in insulation materials to make them less combustible, such as antimony oxide (to PVC) or alumina trihydrate.</p>
<p>Flammability: The measure of the material's ability to support combustion.</p>	<p>Flammability Test: A test to determine the ability of a cable to resist ignition when placed near a source of heat or flame and to self-extinguish when removed from this source.</p>
<p>Flat Cable: A cable with two smooth or corrugated, but essentially flat surfaces.</p>	<p>Flat Conductor: A wire having a rectangular cross section, as opposes to round or square conductors.</p>
<p>Flat Conductor Cable: A cable with a plurality of flat conductors.</p>	<p>Flex Life: The measurement of the ability of a conductor or cable to withstand repeated bending.</p>
<p>Flexible: The quality of a cable or cable component that allows for bending under the influence of outside force, as opposed to limpness, which is bending due to the cable's own weight.</p>	<p>Flexibility: The ease with which a cable may be bent.</p>
<p>FPM: Feet Per Minute</p>	<p>FT-1: A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test. This designation has been replaced by VW-1.</p>

<p>Frequency: Number of times an alternating current reverses itself in one second. Expressed on Hertz (Hz), which is one cycle per second.</p>	<p>Gauge: A term used to denote the physical size of a wire.</p>
<p>Ground: A conducting connection between an electrical circuit and the earth or other large conducting body to serve as an earth, thus making a complete electrical circuit.</p>	<p>Hard-Drawn Copper Wire: Copper wire that has not been annealed after drawing.</p>
<p>Harness: An arrangement of wires and cables, usually with many breakouts, with have been together or pulled into a rubber or plastic sheath, used to interconnect an electric circuit.</p>	<p>Hash-Mark Stripe: A non-continuous helical stripe applied to a conductor for identification.</p>
<p>Heat Distortion: Distortion or flow of a material of configuration due to the application of heat.</p>	<p>Heat Endurance: The time of heat aging that a material can withstand before failing a specific physical or electrical test.</p>
<p>Heat Resistance: Ability of a substance to maintain physical and chemical identity and electrical integrity under specified temperatures.</p>	<p>Heat Shock: A test to determine stability of a material by sudden exposure to a high temperature for a short period of time.</p>
<p>Helical Stripe: A continuous, colored stripe applied to a conductor for circuit identification.</p>	<p>Hertz (Hz): A term that has replaced cycles-per-second as a unit of energy.</p>
<p>Hi Pot: A test designed to determine the highest voltage that can be applied to a conductor without electrically breaking down the insulation.</p>	<p>High Voltage: Generally, a wire or cable with an operating voltage of over 35,000 volts.</p>
<p>Hook-Up Wire: A single insulated conductor used for low current, low voltage (usually under 600 volts) applications within enclosed electronic equipment.</p>	<p>ICEA: Insulated Cable Engineers Association (formerly IPCEA)</p>
<p>IEC: International Electro-technical Commission. Similar to the ISO in structure and scope.</p>	<p>IEEE: Institute of Electrical and Electronics Engineers</p>
<p>Impedance: The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particular frequency. It is a combination of resistance R and reactance X, measured in Ohms.</p>	<p>Induced Current: An electric current set up in a circuit by cutting lines of force. A current caused by electromagnetic induction.</p>

<p>Inductance: The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. (Measured in Henry's.)</p>	<p>Insulation: A material having high resistance to the flow of electric current. Often called a dielectric in radio frequency cable.</p>
<p>Insulation Level-100%: Cable for use on grounded systems or where the system is provided with relay protection such that ground faults will be cleared as rapidly as possible, but in any case within one minute.</p>	<p>Insulation Level-133%: Cable for use on grounded systems or where the faulted section will be de-energized in a time not exceeding one hour.</p>
<p>Insulation Resistance (I.R.): The resistance offered by insulation to an impressed DC voltage, tending to produce a leakage current through the insulation.</p>	<p>Insulation Thickness: The wall thickness of the applied insulation.</p>
<p>ISO: International Standards Organization</p>	<p>Jacket: An outer covering, usually non-metallic, mainly used for protection against the environment.</p>
<p>Jumper Cable: A short, flat, cable interconnecting two wiring boards or devices.</p>	<p>KCMIL: One thousand circular mils.</p>
<p>Kilo: A numerical prefix denoting 1,000</p>	<p>KV: Kilovolt (1000 volts)</p>
<p>KVA: Kilovolt</p>	<p>KW: Kilowatt</p>
<p>Lay: The axial distance required for one cabled conductor or conductor strand to complete one revolution about the axis around which it is cabled.</p>	<p>Lay Direction: The twist in the cable as indicated by the top strands while looking along the axis of the cable away from the observer. Described as "right hand" or "left hand".</p>
<p>Leakage Current: The undesirable flow of current through or over the surface of insulation.</p>	<p>LEED: Leadership in Energy & Environmental Design; program of the U.S. Green Building Council.</p>
<p>Life Cycle: A test to determine the length of time before failure in a controlled and usually accelerated environment.</p>	<p>Listed: Conductors or other equipment included in a list published by a nationally recognized testing laboratory.</p>

<p>Longitudinal Wrap: Tape applied longitudinally with the axis of the core being shielded.</p>	<p>MC Cable (Metal-Clad): Type MC cables have 2 or more solid or stranded copper conductors in sizes 18 AWG and larger. The construction of 600 Volt MC cable consists of copper circuit and grounding conductors covered with thermoplastic insulation, an overall polypropylene cable assembly tape and an outer galvanized steel or aluminum interlocked armor.</p>
<p>MCM: One thousand circular mils.</p>	<p>Megaohm: One million ohms.</p>
<p>Megohmmeter: A testing device that applies a DC voltage to a conductor and measures the resistance (in millions of ohms) offered by the conductors insulation.</p>	<p>Member: A group of insulated wires to be cabled with other stranded groups into multiple-membered cable.</p>
<p>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.</p>	<p>Metal-Clad Cable: Type MC. A multi-conductor cable, similar to type AC, in which the conductors are twisted together under aluminum or steel armor. (With or without an overall PVC covering.)</p>
<p>MHO: The unit of conductivity. The reciprocal of an ohm.</p>	<p>MHz: Megahertz (one million cycles per second). Formerly mc.</p>
<p>Mil: A unit used in measuring diameter of a wire or thickness of insulation over a conductor. One one-thousandth of an inch (.001”).</p>	<p>Moisture Absorption: The amount of moisture, in percentage, that a material will absorb under specific conditions.</p>
<p>Moisture Resistance: The ability of a material to resist absorbing moisture from the air or when immersed in water.</p>	<p>Monomer: The basic chemical unit used in building a polymer.</p>
<p>MTW: Thermoplastic-insulated machine tool wire. (90°C to 105°C 600V).</p>	<p>Multi-Conductor: More than one conductor within a single cable complex.</p>
<p>Mutual Capacitance: Capacitance between two conductors when all other conductors, including ground, are connected together and then regarded as an ignored ground.</p>	<p>National Electrical Code (NEC): A consensus standard published by the National Fire Protection Association (NFPA) and incorporated in OSHA regulations.</p>
<p>NBFU: National Bureau of Fire Underwriters</p>	<p>NBS: National Bureau of Standards</p>
<p>NEC: National Electrical Code</p>	<p>NEMA: National Electrical Manufacturers Association</p>

<p>NFPA: National Fire Protection Association</p>	<p>NM-B: Type NM, Non-metallic Sheathed Cable. A cable assembly consisting of insulated conductors jacketed with a nonmetallic material (usually PVC).</p>
<p>Nominal O.D.: The desired diameter for a cable that is established within a \pm tolerance.</p>	<p>Non-Contaminating PVC: A polyvinyl Chloride formulation that does not produce electrical contamination through plasticizer migration.</p>
<p>Nylon: A group of polyamide polymers that are used for wire and cable jacket.</p>	<p>O.D.: Outside diameter</p>
<p>Off-Center: Conductor displaced within the cross-section of its insulation.</p>	<p>Ohm: Unit of resistance such that a constant current of one ampere produces a force of one volt.</p>
<p>Oil Aging: Cable aged in an accelerated manner by placement in an oil bath and heated to a pre-set temperature for a slated time.</p>	<p>Oil Resistance: The ability of a conductor or cable insulation to resist physical degradation caused by exposure to oil.</p>
<p>OSHA: Occupational Safety and Health Administration</p>	<p>Overall Diameter: Finished diameter over wire and cable.</p>
<p>Overlap: The amount the trailing edge laps over the leading edge of a tape wrap.</p>	<p>Oxidation: The process of uniting a compound with oxygen, usually resulting in an unwanted surface degradation of the material or compound.</p>
<p>Pair: Two insulated wires of a single circuit associated together.</p>	<p>Pairing: The union of two insulated single conductors through twisting.</p>
<p>. Parallel Cable: Two insulated conductors side-by-side in a cable.</p>	<p>. Peak Voltage: The maximum instantaneous voltage.</p>
<p>Pay-Off: The process of feeding a cable of wire from a bobbin, reel, or other package. In addition, a device used for paying out wire or cable into a piece of equipment or machinery.</p>	<p>Pigment: A chemical added to the insulation compounds to impart color for a circuit identification.</p>
<p>Percent Conductivity: Conductivity of a material expresses as a percentage of that of copper.</p>	<p>Plastic Deformation: Change in dimensions under load that is removed.</p>

<p>Plasticizer: A chemical agent added to plastics to make them softer and more pliable.</p>	<p>Polyester: Polyethylene terephthalate that is used extensively in the production of a high-strength, moisture-resistant film used as a cable core wrap.</p>
<p>Polyethylene: A thermoplastic material having the chemical identity of polymerized ethylene.</p>	<p>Polymer: A substance made of many repeating chemical units or molecules. The term polymer is often used in place of plastic, rubber, or elastomer.</p>
<p>Polypropylene: A thermoplastic polymer of propylene.</p>	<p>Polyvinyl Chloride (PVC): A thermoplastic material composed of polymers of vinyl chloride, which may be rigid or elastomeric, depending on specific formulation.</p>
<p>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 an angle between the voltage applied and current resulting.</p>	<p>PPE: Portable Power Elastomer. Same as type W, except that it is a thermoplastic elastomer insulation and jacket, whereas type W is all thermoset.</p>
<p>Primary Insulation: The first layer of non-conductive material applied over a conductor, whose prime function is to act as electrical insulation.</p>	<p>Pulling Eye: A device fastened to a cable to which a hook may be attached in order to pull the cable into, or from, a duct.</p>
<p>Pulse Cable: A type of coaxial cable constructed to transmit repeated high-voltage pulses without degradation.</p>	<p>Put-Up: Refers to packaging of wire and cable. The term itself refers to the packaged product that is ready to be stored or shipped.</p>
<p>PVC: See Polyvinyl Chloride.</p>	<p>Quad: A four-conductor cable.</p>
<p>Rated Temperature: The maximum temperature at which an electric component can operate for extended periods without undue degradation or safety hazard.</p>	<p>Rated Voltage: The maximum voltage at which an electric component can operate for extended periods without loss of its basic properties.</p>
<p>Registration: Alignment of one object with relation to another. Also called register.</p>	<p>Reinforcement: A material used to reinforce, strengthen, or give dimensional stability to, another material.</p>
<p>Resin: An organic substance of natural or synthetic origin characterized by being polymeric in structure and predominantly amorphous. Most resins, though not all, are of high molecular weight and consist of a long chain or network molecular structure.</p>	<p>Resistance: In DC circuits, the opposition a material offers to current, measured in ohms. In AC circuits, resistance is the real component of impedance, and may be higher than the value measured at DC.</p>

<p>RH: Type RH. A rubber or XLPE-insulated conductor for use at 75⁰C in dry locations.</p>	<p>RHH: Type RHH. A rubber or XLPE-insulated conductor for use at 90⁰ C in dry locations.</p>
<p>RHW: Type RHW. A rubber or XLPE-insulated conductor for use at 75⁰ C in dry and wet locations.</p>	<p>RHW-2: Type RHW-2. A rubber or XLPE-insulated conductor for use at 90⁰ C in dry and wet locations.</p>
<p>Ridge Marker: One or more ridges running laterally along the outer surface of a plastic insulated wire for purposes of identification.</p>	<p>Ringing Out: The process of locating or identifying specific conductive paths by means of passing current through selected conductors.</p>
<p>RMS or rms: Root Mean Square</p>	<p>Rockwell Hardness: A test for determining hardness in which a hardened steel ball or diamond point is depressed into a material and measured.</p>
<p>R₀HS: European directive for the Restriction of Hazardous Substances.</p>	<p>Round Conductor: A conductor whose cross-section is substantially circular.</p>
<p>Rupture: In breaking strength or tensile strength tests, the point at which the material physically comes apart, as opposed to elongation, yield strength etc.</p>	<p>S: Heavy-duty, flexible, rubber-insulated and jacketed portable cord, 600V.</p>
<p>SAE: Society of Automotive Engineers</p>	<p>Secondary Insulation: A high-resistance dielectric material that is placed over primary insulation to protect it from abrasion.</p>
<p>Self-Extinguishing: The characteristic of a material that is extinguished after the igniting flame is removed.</p>	<p>Semi-Conducting Tape: A tape of such resistance that when applied between two elements of a cable, the adjacent surfaces of the two elements will maintain substantially the same potential.</p>
<p>Separator: A layer of insulating material such as textile, paper, polyester, etc., used to improve stripping qualities, flexibility, mechanical or electrical protection to the components.</p>	<p>Sheath: The outer covering or jacket of a multi-conductor cable.</p>
<p>Shield: A metallic layer placed around a conductor or group of conductors to prevent electrostatic interference between the enclosed wires and external fields.</p>	<p>Shock Test: A test to determine the ability of a cable to withstand a violent physical concussion such as might occur during handling or use.</p>

<p>Shore Hardness: An instrument measure of the surface hardness of an insulating or jacket material.</p>	<p>SIS: Indicates single conductor having synthetic thermosetting insulation of heat-resistant, moisture-resistant, flame-retarding grade. Also made with chemically cross-linked polyethylene insulation. Used for switchboard wiring only, 90°C.</p>
<p>SJEOOW: Same as type SJEW, except oil-resistant insulation and oil-resistant jacket.</p>	<p>SJEW: Junior hard service, rubber-insulated pendant, or portable cord. Same construction as type S, but 300V. Jacket thickness is different. Weather, water, and sunlight resistant.</p>
<p>SJT: Junior hard service, thermoplastic, or rubber-insulated conductors with overall thermoplastic jacket. 300V, 60°C to 105°C.</p>	<p>SJTO: Same as SJT, but with an oil-resistant, thermoplastic outer jacket. 60°C.</p>
<p>Skin Effect: The tendency of alternating current, as its frequency increases, to travel only on the surface of a conductor.</p>	<p>SO-SEO: Hard service cord, same construction as type S, except with an oil-resistant, neoprene jacket, 600V, 60°C to 90°C.</p>
<p>Solid Conductor: A single unit not divided into parts.</p>	<p>Spacing: Distance between the closest edges to two adjacent conductors.</p>
<p>Spark Test: A test designed to locate imperfections (usually pin-holes) in the insulation of a wire or cable by application of a voltage for a very short period of time while the wire is being drawn through the electrode field.</p>	<p>Specific Gravity: The ratio of the density (mass per unit volume) of a material to that of distilled water.</p>
<p>Spiral Wrap: The helical wrap of a material over a core.</p>	<p>ST: Hard-service, jacketed, same as type S, except all plastic construction. 600V, 60°C TO 105°C.</p>
<p>Stabilizer: A metallic compound added to PVC to maintain the integrity of the insulation compound during processing and use.</p>	<p>STO: Same as ST, but with oil-resistant, thermoplastic outer jacket. 600V, 60°C.</p>
<p>STOW/STOW: Service cord with oil-resistant, thermoplastic jacket and weather resistant. STOW meets CSA approval for outdoor use. Can be water resistant. UL 600V.</p>	<p>STW/STW: Service cord with thermoplastic and weather-resistant jacket, but not oil-resistant. Can be UL water resistant. STW meets CSA approval for outdoor use. 600V.</p>
<p>Strand: A single uninsulated wire.</p>	<p>Stranded Conductor: A conductor composed of individual groups of wires twisted together to form an entire unit.</p>

<p>Sunlight Resistance: The ability of a conductor or cable insulation to resist degradation caused by exposure to ultraviolet rays.</p>	<p>Take-Up: The process of accumulating wire or cable onto a reel, bobbin, or some other type of pack. Also, the device for pulling wire or cable through a piece of equipment or machine.</p>
<p>Tank Test: A voltage dielectric test in which the test sample is submerged in water and voltage is applied between the conductor and ground.</p>	<p>Tape Wrap: A spirally applied tape over an insulated or uninsulated wire.</p>
<p>TC: Tray Cable</p>	<p>Tear Strength: The force required to initiate or continue a tear in material under specified conditions.</p>
<p>Temperature Rating: The maximum temperature at which an insulating material may be used in continuous operation without loss of its basic properties.</p>	<p>Tensile Strength: The pull stress required to break a given specimen.</p>
<p>Terminals: Metal wire termination devices designed to handle one or more conductors and to be attached to a board, bus, or block with mechanical fasteners or clips.</p>	<p>Test Lead: A flexible, insulated lead wire used for making tests, connecting instruments to a circuit temporarily, or for making temporary electrical connections.</p>
<p>TEW: Canadian Standards Association-type appliance wires. Solid or stranded single conductor, plastic insulated. 600V, 105°C.</p>	<p>TFFN: Fixture wire; thermoplastic covered, stranded with a Nylon sheath, 90°C</p>
<p>Thermal Aging: Exposure to a thermal condition or programmed series of condition for pre-described periods.</p>	<p>Thermal Rating: The maximum and/or minimum temperature at which a material will perform its function without undue degradation.</p>
<p>Thermal Shock: A test to determine the ability of a material to withstand heat and cold by subjecting it to rapid and wide changes in temperatures.</p>	<p>Thermocouple: A device consisting of two dissimilar metals in physical contact, which when heated will develop an emf output.</p>
<p>Thermoplastic: A material that softens when heated and becomes firm on cooling.</p>	<p>Thermoset: A material that hardens or sets by heat, chemical, or radiation cross-linking techniques and that, once set, cannot be resoftened by heating:</p>
<p>THHN: 90°C, 600V, Nylon-jacketed building wire for dry and damp locations.</p>	<p>THHN-2: Incorrect reference, commonly misapplied when TWHN-2 is called out.</p>

<p>THW: Thermoplastic, vinyl-insulated building wire. Flame retardant, moisture and heat resistant. 75°C. Dry and wet locations.</p>	<p>THWN: 75°C, 600V, Nylon-jacketed building wire for dry or wet locations.</p>
<p>THWN-2: 90°C, 600V, Nylon-jacketed building wire for dry or wet locations.</p>	<p>Tinned Copper: Tin coating added to aid in soldering and inhibiting corrosion.</p>
<p>Tray: A cable tray cable is a unit or assembly of units or sections and associated fitting made of non-combustible materials forming a rigid structural system used to support cables.</p>	<p>Tray Cable: A factory-assembled, multi-conductor or multi-pair control, signal, or power cable specifically approved under the National Electrical Code for insulation trays.</p>
<p>Tubing: A tube of extruded, non-supported plastic or metallic material.</p>	<p>Twisted Pair: A twisted pair is composed of two small separately insulated wires twisted together without a common covering.</p>
<p>UF: Thermoplastic underground feeder and branch circuit cable.</p>	<p>UL: Abbreviation for Underwriters Laboratories Inc., a not for profit independent organization that operates a listing service for electrical and electronic materials and equipment.</p>
<p>Unidirectional Concentric Strandings: A stranding where each successive layer has a different lay length, thereby retaining a circular form migration of strands from one layer to another.</p>	<p>Unilay: More than one layer of helically laid wires with the direction of lay and length of the lay the same for all layers.</p>
<p>USE: Underground Service Entrance cable, rubber-insulated, neoprene or XLPE jacketed.</p>	<p>Valley: Any void between the insulated conductors of a cable or between a cable core and its covering.</p>
<p>Volt: A unit of electrical pressure. One volt is the amount of pressure that will cause one ampere of current in one ohm of resistance.</p>	<p>Voltage: Electrical potential or electromotive force expressed in volts.</p>
<p>Voltage Drop: The amount of voltage loss from original input in a conductor of given size and length or over a connection such as a termination.</p>	<p>Voltage Levels: Power-limited 0-300 volts. Low voltage 600-2000 volts. Medium voltage 5000-69000 volts.</p>
<p>Voltage Rating: The highest voltage that may be continuously applied to a wire in conformance with standards or specifications.</p>	<p>Volume Resistivity (Specific Insulation Resistance): The electrical resistance between opposite faces of a 1-cm cube of insulating material, commonly expressed in ohms/centimeter.</p>

<p>Vulcanization: An irreversible process during which a rubber or polymeric compound changes in its chemical structure (for example, cross linking) to become thermoset.</p>	<p>VW-1: A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test, formerly designated FR-1. Multi-conductor flat or round portable power cables without a grounding conductor.</p>
<p>Wall Thickness: The thickness of the applied insulation or jacket.</p>	<p>Water Absorption: Water, by percent weight, absorbed by a material after a given immersion period.</p>
<p>Watt: A unit of electrical power. One watt is equivalent to the power represented by one ampere of current under a pressure of one volt in a DC circuit.</p>	<p>Wire: A single conductor, typically with a covering of insulation.</p>
<p>Wire Gauge: A measure of the diameter or size of wires. The sizes are expressed by numbers.</p>	<p>Working Voltage: See Voltage Rating.</p>
<p>XHHW-2: High Temperature (90°C), chemically cross-linked, polyethylene jacketed, small diameter building wire.</p>	<p>XLPE: Cross-linked polyethylene.</p>
<p>Yield Strength: The minimum stress at which a material will start to physically deform without further increase in load.</p>	