Glossary of Terms: Cables and Wires

A

Acceptance angle – The half-angle of the cone within which incident light is totally internally reflected by the fiber core. It is equal to arcsin (NA).

Aerial cable – A cable suspended in the air on poles or other overhead structure.

Appliance Wire and Cable – A classification covering insulated wire and cable for internal wiring of appliances and equipment.

Armoured Cable – A cable provided with a wrapping of metal for mechanical protection.

ASA – Abbreviation for American Standards Association. Former name of ANSI.

ASME – Abbreviation for American Society of Mechanical Engineers.

ASTM – Abbreviation for the American Society for Testing and Materials.

ATM (Asynchronous Transfer Mode) – A new emerging data standard that uses many of the same data rates as Fiber Channel and SONET.

Attenuation – The power drop or signal loss in a circuit, expressed in decibels (db). Generally attenuation increases (signal level decreases) with both frequency and cable length.

AWG – Abbreviation for American Wire Gauge. A standard measurement of the size of a conductor.

AWM – Designation for Appliance Wiring Material.

B

Bit – A binary digit, smallest element of information in binary system.

Bit (Binary Digit) – A basic unit for the datas of a digital transmitting system. A group of 8 Bit is usually expressed as one Byte.

Bit rate – The number of bits of data transmitted over a phone line per second.

B & S Gauge – Standard for Brown & Sharpe Gauge. The wire diameter standard is same as AWG.

Breakdown Voltage – The voltage at which the insulation between two conductors will break down.

British Standard Wire Gauge – A modification of the Birmingham Wire Gauge and the legal standard of Great Britain for all wires. It is variously known as Standard Wire Gauge (SWG), New British Standard (NBS), English Legal Standard, and Imperial Wire Guide.

Building Wire – Insulated wires used in building for light and power, 600 volts or less, usually not exposed to outdoor environment.

Buffer – A protective coating over an optical fibre. A soft material extruded tightly over the fibre coating, mechanically isolates individual fibres.

BUS – A network which functions like a signal line and is shared by a number of nodes.

C

Cable – Multicore stranded insulated wires under protective sheath to conduct electrical energy e.g. power cable, telecommunication cable, installation cable, data cable etc.

Cable Core – The portion of an insulated cable lying under the protective covering.

Cable Sheath – A protecting covering over the cable core to prevent outer damages.

Capacitance (Capacity) – That property of a system of conductors and a dielectric which permits the storage of electricity when potential difference exists between the conductors. A capacitance value is always positive.

Capacitive Coupling – Electrical interaction between two conductors caused by the capacitance between them.

CATV – Acronym for Community Antenna Television.

CEBEC – Belgium approval agency; Comite Electrotechnique Belge Service de la Marque.

CEE – European standards agency; International Commission on Rules for the Approval of Electrical Equipment.

Cellular insulation – Insulating material in foamed or sponge form with the cells closed or interconnected.

CENELEC – European standards agency; European Committee for Electrotechnical Norms.

Chromatic dispersion – The speed of an optical pulse travelling in a fiber changes if its wavelength changes. Chromatic dispersion can be measured by the measurement of travel time at different wavelength.

Circuit – The entire route of an electrical current. A complete path over which electrons can flow from the negative terminals of a voltage source through parts and wires to the positive terminals of the same voltage source.

Glossary of Terms: Cables and Wires

Circuit Sizes – A popular term for building wire sizes 14 through 10 AWG.

Circular Mil (CM) – Used to define cross-sectional areas of conductors. Area of a circle 1/1000 inches in a diameter. 1 mil (0,001 inch) is equal to square mil x 0,78540.

Cladding – A low-refractive index, glass or plastic that surrounds the core of a fiber. Optical cladding promotes total internal reflection for the propagation of light in a fiber.

Coaxial Cable – A cable consisting of two cylindrical conductors with a common axis, separated by a dielectric. The outer conductor or shield is commonly used to prevent external radiation from affecting the current flowing in the inner conductor.

Coherent waves – The phenomenon related to the existence of a correlation between the phases of the corresponding components of two waves or between the values of the phase of a given component of one wave at two instants in time or two points in space.

Colour Code – A system of identifying different insulated cores by means of colours, numbers, printing etc.

Concentric lay – Cable core composed of a central core surrounded by one or more layers of helically laid insulated wires or cores.

Conductor – A material capable of easily carrying an electrical conductivity. A wire or combination of wires not insulated from one another, suitable for carrying electric current.

Control Cable – A multi-conductor cable made for operation in control of signal circuits.

Copolymer – A compound resulting from the polymerization of two different monomers.

Copperweld – Copper covered steel wire. Copper and steel welded together. The trade name of Flexo Wire Division (Copperweld Steel Corp.) for their copper-clad steel conductors.

Cord – A small, flexible insulated cable.

Cord Set – Portable cords fitted with a wiring device at one or both ends. Cord is a small flexible insulated conductor or group of conductors, normally not larger than AWG 10 – up to 4 cores.

Core – In cables, a component or assembly of components over which other materials are applied, such as additional components, shield, sheath, or armour.

Corona – A discharge due to ionization of air around a conductor with a potential gradient exceeding a certain critical value. A high voltage electrical discharge that attacks insulation.

Crimp – Act of compressing a connector barrel around a cable in order to make an electrical connection.

Cross-linked – Setting up the chemical links between the molecular chains. A form of polyethylen material whose moleculars are more closely linked to produce a greater balance of physical and electrical properties. (XLPE – compound)

Crosstalk – Interference caused by audio frequencies. Undesired electrical currents in conductors caused by electromagnetic or electrostatic coupling from other conductors or from external sources. Also, leakage of optical power from one optical conductor to another.

CSA – Abbreviation for Canadian Standards Association, a non-profit independent organization which operates a listing service for electrical and electronic materials and equipment. The Canadian counterpart of the Underwriter's Laboratories.

Current – Flow of electricity measured in amperes. Practical unit is the ampere which represents the transfer of one coulomb per second.

Current rating – The maximum continuous electrical flow of current recommended by a given wire in a given situation, expressed in amperes.

Cut off wavelength – For a singlemode fiber, the wavelength above which the fiber exhibits single-mode operation.

D

dB – see decibel

D.C. – Abbreviation for direct current (D – C), Electricity that flows in one direction only.

Decibel (dB) – One-tenth of a bel. Unit to express differences of power level. Example: The decibel is 10 times the common logarithm of the power ratio. It is used to express power gain in amplifiers or power loss in passive circuits or cables.

DEMKO – Approval agency of Denmark. Denmarks Elektriske Material Kontrol.

Dielectric Breakdown – The voltage required to cause an electrical failure or breakthrough of the insulation.

Glossary of Terms: Cables and Wires

Dielectric Strength – The maximum voltage insulation can withstand without rapture. Usually expressed as a voltage gradient, e.g. volts per mil.

Dispersion – A general term for those phenomena that cause a broadening or spreading of light as it propagates through an optical fiber. The three types are modal, material, and waveguide

Drain Wire – An uninsulated wire used as an earth connection. This is generally laid over the component or under the screening, braiding etc.

Duct – An underground or overhead tube or conduit for carrying electrical cables.

E

EIA – Abbreviation for Electronic Industries Association.

Elastomer – Any material that will return to its original size after stretching. Elastomer is a rubber or rubber-like material which will stretch repeatedly to 200 percent or more and return rapidly with force to its approximate original shape.

Electromagnetic Coupling – Energy transfer by means of a varying magnetic field.

Electromagnetic Induction – The production of a voltage in a coil due to a change in the number of magnetic lines of force (flux linkages) passing through the coil.

Elongation – The fractional increase in the length of a material stressed in tension.

EMC – Electromagnetic Compatibility (EMV).

EMF – Abbreviation for Electro Motive Force – force determinating flow of electricity (voltage).

EMI – Any electrical or electromagnetic interference that causes undesirable response, degradation, or failure in electronic equipment. Optical fibers neither emit or receive EMI.

EMV – Designation for electromagnetic compatibility (EMC).

EPR – Ethylene-propylene copolymer rubber. The copolymer is chemically cross-linked.

ETFE – Ethylene tetrafluoroethylene

F

FDDI – Fiber Distributed Data Interface. Very high speed Computer Network working with fiber optics.

FEP – Fluorinated ethylene propylene

Ferrule – A component of a connector that holds fiber in place and aids in its alignment, usually cylindrical in shape with a hole through the center.

Filled Cable – A telephone cable construction in which the cable core is filled with a material that will prevent moisture from entering or passing through the cable.

Fine Stranded Wire – Stranded wire with component strands of 36 AWG or smaller.

Flame Resistance – The ability of a material not to propagate flame once the heat source is removed.

Flammability – The measure of the material's ability to support combustion.

Flat Cable – A cable in flat form, where the cores lying parallel longitudinally but essentially with flat surfaces.

Foamed Plastics – Insulations having a cellular structure.

Foils – A thin supporting film of continuous sheet such as plastic foil, metal foil, laminated foil etc. for static shielding, contacts and other electrical applications.

FR-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.

FRNC – Flame Retardant Non Corrosive

G

Gauge – A term used to denote the physical size of a wire.

Graded-index fiber – An optical fiber whose core has a nonuniform index of refraction. The core is composed of concentric rings of glass whose refractive indices decrease from the center axis. The purpose is to reduce modal dispersion and thereby increase fiber bandwidth.

Ground Conductor – An electrical conductor for the connection to the earth, making a complete electrical circuit.

H

Helix – A continuous spiral winding.

Henry – The unit of inductance (H).

Hertz (Hz) – A unit of measurements of the frequency equal to one cycle per second.

High Temperature Wire and Cable – Electrical wire and cables having thermal operating characteristics of 150°C and higher.

Glossary of Terms: Cables and Wires

Hi-Pot – A test designed to determine the highest voltage that can be applied to a conductor without electrically breaking down the insulation.

High Voltage – Generally, a wire or cable with an operating voltage of 600 volts and above.

Hook-up Wire – Single conductor used to hook-up electrical parts of instruments for low current and voltage (under 1000 volts).

Hybrid Cable – Multi-conductor cable containing two or more types of components.

Hypalon – Du Pont's trade name for their chlorosulfonated polyethylene, an ozone resistant synthetic rubber (90° C).

Hz – Abbreviation for Hertz.

I

ICEA – Abbreviation for Insulated Cable Engineers Association.

IEC – European Standardization agency; International Electrotechnical Commission.

IEEE – Abbreviation for Institute of Electrical and Electronics Engineers.

Impedance – Resistance to flow of an alternating current at a particular frequency, expressed in ohms. It is a combination of resistance R and reactance X, measured in ohms.

Index profile – A graded-index optical fiber, the refractive index as a function of radius.

Induction – An influence exerted by a charged body or by a magnetic field on adjacent bodies without apparent communication.

Inductive Coupling – Crosstalk resulting from the action of the electromagnetic field of one conductor on the other.

Insulation – A non-conducting substance, named as dielectric, surrounding the conductor.

Interface – The two surfaces on the contact side of both halves of a multiple-contact connector which face each other when the connector is assembled. Common interconnection point for devices, e.g. RS232 Interface: Mouse-Personalcomputer.

ISDN – Integrated Services Digital Network. A standard protocol for digital telecommunications transmissions.

J

Jacket – An overall covering of a cable, called also sheath – which protects against the environment and stress.

Jumper – A short length of conductor used to make a temporary connection between terminals, around a break in a circuit, or around an instrument.

K

KEMA KEUR – Approval agency of Netherlands. Keuring van Elektrotechnische Materialien.

KV – Abbreviation for kilovolt = 1000 volts.

KVA – Abbreviation for kilovolt ampere = 1000 volts x amperes.

KW – Abbreviation for kilowatt = 1000 watt.

Kynar – Fluorocarbon insulation rated –65° C to +135° C, typically used as insulation for wire wrap-wire. A Pennwalt trade name for polyvinylidene floride.

L

Laser – Light Amplification by Stimulated Emission of Radiation. An electro-optic device that produces coherent light with a narrow range of wavelengths, typically centered around 780 nm, 1310 nm, or 1550 nm.

Laminated Tape – A tape consisting of two or more layers of different materials bonded together.

LAN = **Local Area Network** – A network located in a localised area e.g. in an office, building, complex buildings whose communication technology provides a high-bandwidth, low-cost medium to which many nodes can be connected.

LED – Light Emitting Diode.

LOCA – Abbreviation for Loss of Coolant Accident, a system malfunction associated with nuclear generating stations.

Loop Resistance – The total resistance of two conductors in a closed circuit, measured round trip from one end.

Loss Factor – The loss factor of an insulating material is equal to the product of its dissipation and dielectric constant.

M

MCM – Cross-section of greater AWG-sizes. 1 MCM = 1000 circular mils = 0,5067 mm^2.

Meg or Mega – Prefix meaning 1 million = 1.000 000 = 10^6.

Glossary of Terms: Cables and Wires

Megarad – A unit for measuring radiation dosage. 1 megarad = one million rads = 10^6 rad or 10^6 cJ/kg.

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

MHz – One million cycles per second = mega-hertz = 10^6 Hz.

Modem – Abbreviation for Modulator/Demodulator. Device which allows to transmit electrical data via analogues transmission paths with limited band-width, e.g. Computer data via telephone lines.

MTW – An acronym for thermoplastic insulated Machine Tool Wire.

Multi-conductor – A combination of two or more conductors in a cable under jacket.

Multimode-Fiber – A type of optical fiber that supports more than one propagation mode.

Mutal Capacitance – Capacitance between two conductors when all other conductors are connected together to shield and ground.

Mylar® – Du Pont trademark for polyester material.

N

National Electric Code Article 725 – The NEC Article which covers remote control, signal and communication power limited circuits that are not an integral part of the device or appliance.

National Electric Code Article 760 – The NEC Article which covers the fire and burglar alarms installation of wire and equipment operating at 600 Volts or less.

National Electric Code (NEC) – A set of regulations governing construction and installation of electrical wiring and apparatus in the United States, estab-lished by the American National Board of Fire Underwriters.

NEMA – National Electrical Manufacturers Associa-tion.

NEMKO – Approval agency of Norway. Norges Elek-triske Materiellkontroll.

Neoprene – A synthetic rubber of thermosetting material with good resistance to oil, chemical, and flame, known as polychloroprene – mostly used as jacketing.

Neper – An electrical unit similar to decibel, used to express the ratio between two amount of power existing at two distinct points. 1 Neper = 8,686 deci-bels.

NFPA – Abbreviation for National Fire Protection Association. Administrative Sponsor of the National Electric Code (ANSI Standards Committee Cl).

Numerical Aperture NA – The "light-gathering ability" of a fiber, defining the maximum angle to the fiber axis at which light will be accepted and propagated through the fiber. NA = sin ϕ, where ϕ is the acceptance angle.

Nylon – A group of polyamide polymers, used for wire and cable jacketings with good chemical and abrasion resistance.

O

Ohm – The electrical unit of resistance. The value of resistance through which a potential difference of one volt will maintain a current of one ampere.

Optical Fiber – Any filament or fiber, made of dielectric materials, that guides light, whether or not it is used to transmit signals. Synonym: optical wave-guide.

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.

OVE – Approval agency of Austria. Oesterreichischer Verband für Elektrotechnik.

Overlap – A certain portion of a foil or band which laps over the leading edge of a helical or longitudin-ally wrapping tape.

Ozone – A faintly blue gasious, reactive form of oxygen, obtained by the silent discharge of electri-city in ordinary oxygen or in air.

Ozone Index – Percentage of oxygen necessary to support combustion in gas mixture.

P

Pair – 2 insulated wires twisted together in a certain lay-length to built a single circuit of trans-mission line.

Patch Cable – A cable with plugs or terminals on each end of the conductors to temporarily connect circuits of equipment together. In the IBM Cabling System, a length of Type 6 cable with data connec-tors on both ends.

Patch Cord – A flexible piece of electrical cord terminated at both ends with plugs, used for inter-connecting circuits on a pasteboard.

Patch Panel – Distribution area to rearrange fiber connections and circuits.

Glossary of Terms: Cables and Wires

pH – The measure of acidity or alkalinity of a substance. PH values are described from 0 to 14. Value 7 indicate the neutrality. Numbers below 7 result increasing acidity and number greater than 7 increasing alkalinity.

Pick – Distance between two adjacent crossover points of braiding wires or filaments, measured in picks per inch.

Pigtail – A short length of optical fiber, permanently fixed to a component, used to couple power between the component and a transmission fiber.

Plenum – The air return way of a central air handling system, either ductwork or open space over a dropped ceiling.

Plenum Cable – Cable approved by Underwriters Laboratories for installation in plenums without the need for conduit.

Plug – The part of the two mating halves of a connector which is movable when not fastened to the other mating half.

Polychloroprene – Chemical name of neoprene. A rubber-like compound for jacketing and also for insulating where cables are subject to rough usage, oils, moisture, solvents, greases and chemicals.

Polyester (PETP) – A resin formed by the reaction between a dibasic acid and a dithydroxy alcohol. Polyethylene terephthalate, used extensively as a moisture resistant cable core wrap.

Polyethylene (PE) – This material is basically pure hydrocarbon resins with excellent dielectric properties, i.e. low dielectric constant, low dielectric loss across the frequency spectrum, mechanically rugged and resists abrasion and cold flow. The insulating materials derived from polymerization of ethylene gas.

Polyerm – A material of high molecular weight formed by polymerization of lower molecular weight molecules.

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

Polypropylene (PP) – A thermoplastic similar to polyethylene but stiffer and having higher softening point (temperature); excellent electrical properties.

Polyurethane (PUR) – Class of polymers known for good abrasion and solvent resistance. A copolymer of urethane is similar in properties to neoprene, usually used as a coldcuring moulding compound.

Polyvinyl Chloride (PVC) – This is a group of thermoplastic compounds composed of polymers of polyvinyl chloride or its polymer, vinylacetate, in combination with certain stabilizers, fillers, plasticizers, pigments etc., widely used for wire and cable insulations and several jackets.

Power Cables – Cables of several sizes, construction, and insulation, single or multi-conductor, designed to distribute primary power to various types of equipment, such as cables ≧0,6/1 kV.

Power Factor – The ratio between the true power in watts and the apparent power in volts – amperes.

Primary Coating – The plastic coating applied directly to the cladding surface of the fiber during manufacture to preserve the integrity of the surface.

Printed Wiring – A printed circuit intended to provide point-to-point electrical connections.

Propagation – Delay time required for an electrical wave to travel between two points on a transmission line.

R

Rayleigh Scattering – The scattering of light that results of from small inhomogeneities in material density or composition.

Reel – A revolvable flanged device made of wood or metal, used for winding of wires or cables.

Refractive index – The ratio of the velocity of light in a vacuum to its velocity in the medium. Synonym: Index of Refraction.

Resistance – Property of an electric circuit which determines for a given current the rate at which electric energy is converted into a heat and has a value, is measured in ohms.

RG/U – Abbreviation for Radio Government, Universal. RG is the military designation for coaxial cable in Mil-C-17. R = Radio, G = Guide, U = Utility.

Ribbon Cable – A flat cable consisting of two or more insulated conductors laid parallel in one plane and held together by means of adhesive or woven textile yarns.

RMS (Root Mean Square) – The effektive value of an alternating current or voltage.

Rubber (Wire Insulation) – Term used to describe wire insulations made of thermosetting elastomers, occur naturally or may be made synthetically.

Glossary of Terms: Cables and Wires

S

S – Rubber insulated heavy duty flexible cable, stranded copper wires with separator. Two or more colour coded, stranding with filler, wrapped with separator, rubber jacket. 600 V.

Semi-Rigid – A cable containing a flexible inner core and a relatively inflexible sheathing.

Semi-Rigid PVC – A hard semi-flexible polyvinyl-chloride compound with low plasticizer content, (shore A ≧97), for Termi-Point – connecting technique.

Semi-Solid – An insulation cross-section having a partially open space between the conductor and the insulation perimeter.

SEMKO – Approval agency of Sweden.

Separator – A layer of insulating material which is placed between a conductor and its dielectric, between a cable jacket and the component it covers, or between various components of a multiple-conductor cable.

Silicone – A thermosetting elastomer with excellent heat-resistant. Polymeric materials in which the recuring chemical groups contain silicon and oxygen atoms at links in the main chain.

Simplex – Transmission only in one direction.

Singlemode-Fiber – A small-core optical fiber that supports only one mode of light propagation above the cutoff wavelength. Typical diameter is 9–10 µm, the dispersion very low. Singlemode fibers are proper for long distance transmissions.

SJ – Junior hard service, rubber-insulated pendant or portable cord. Same construction as type S, but 300 V. Jacket thickness different.

SJO – Same as SJ, but neoprene, oil resistant compound outer jacket. Can also be made "water-resistant" 300 V, 60° C.

SJT – Junior hard service thermoplastic or rubber-insulated conductors with overall thermoplastic jacket. 300 V, 60° C to 105° C.

SJTO – Same as SJT but oil resistant thermoplastic outer jacket. 60° C.

SO – Hard service cord, same construction as type S except oil resistant neoprene jacket. 600 V, 60° C to 90° C.

Solid Conductor – A conductor consisting of a single wire.

SONET – Synchronous Optical Network.

SP-1 – All rubber, parallel-jacketed, two-conductor light duty cord for pendant or portable use in damp locations. 300 V.

SP-2 – Same as SP-1, but heavier construction, with or without third conductor for grounding purposes. 300 V.

SP-3 – Same as SP-2, but heavier construction for refrigerators or room air conditioners. 300 V.

SPT-1 – Same as SP-1, except all-thermoplastic. 300 V. With or without third conductor for grounding.

SPT-2 – Same as SP-2, except all-thermoplastic. 300 V. With or without third conductor for grounding.

SPT-3 – Same as SP-3, except all-thermoplastic. 300 V. With or without third conductor for grounding.

Spark Test – A test designed to locate pinholes in an insulated wire by application of an electrical potential across the material for a very short period of time while the wire is drawn through an electrode field.

Splice – An interconnection method for joining the ends of two optical fibers in a permanent or semi-permanent fashion. Maybe thermally fused or mechanically applied.

ST – Hard service cord, jacketed, same as type S, except all-plastic design. 600 V, 60° C to 105° C.

Step index Fiber – An optical fiber, either multi-mode or singlemode, in which the core refractive index is uniform throughout so that a sharp step in refractive index occurs at the core-to-cladding interface.

STO – Same as ST but with oil resistant thermoplastic outer jacket. 600 V, 60° C.

SV – Vacuum cleaner cord, two or three-conductor, rubber-insulated. Overall rubber jacket. For light duty in damp locations. 300 V, 60° C.

SVO – Same as SV except neoprene jacket. 300 V, 60° C.

SVT – Same as SV except all-plastic, construction. With or without third conductor for grounding purposes only. 300 V, 60° C to 90° C.

T

Tape Wrap – A spirally applied tape over an insulated or uninsulated wire.

Tear Strength – The force required to initiate or continue a tear in a material under specified conditions.

Glossary of Terms: Cables and Wires

Temperature Rating – The maximum temperature at which an insulating material may be used in continuous operation without loss of its basic properties.

TEW – Canadian Standard Association type appliance wires. Solid or stranded single conductor, plastic-insulated. 600 V, 105° C.

TF – Fixture wire, thermoplastic-covered solid or 7 strands. 60° C.

TFE – Tetrafluoroethylene.

TFF – Same as TF but flexible stranding. 60° C.

THHN – 90° C, 600 V nylon jacketed building wire.

Thermocouple Lead Wire – An insulated pair of wires used from the couple to a junction box.

Thermoplastic – A material which softens when heated and becomes firm on cooling.

THW – Thermoplastic vinyl insulated building wire. Flame-retardant, moisture and heat-resistant 75° C. Dry and wet locations.

THWN – Same as THW but with nylon jacket overall. 75° C.

Transmission – Transfer of electric energy from one location to another through conductors or by radiation or induction fields.

Tray Cable – A factory-assembled multi-conductor or multipair control cable approved under the National Electrical Code for installation in cable trays.

Triaxial Cable – A three-conductor cable constructed in three coincident axes, of which one conductor in the centre, second circular conductor concentric with the first and the third circular conductor insulated from the concentric with the first and second, usually with insulation, a braiding and a outer jacket.

TW – Thermoplastic vinyl-jacketed building wire, moisture resistant 60° C.

Twisted Pairs – A cable composed of two small insulated conductors twisted together without a common covering.

U

UL – Abbreviation for Underwriter's Laboratories, Inc.

Ultraviolet – Optical radiation for which the wavelengths are shorter than those for visible radiation, that is approximately between 1 nm and 400 nm.

Unilay Stranding – A conductor constructed in bunch form having more than one layer in a concentric stranding with a common length and direction of lay and contains 19, 27, 37 and any number of strands.

V

VDE – West Germany approval agency.

Velocity of light – The velocity of light is 300.000 km/s in vacuum. In a medium it depends on the refractive index and the wavelength.

Velocity of Propagation – Ratio of speed of flow of electric current in an insulated cable to the speed of light. Usually expressed in percentage.

Volt – A unit of electromotive force.

Voltage – The term most often used in place of electromotive force, potential difference, or voltage drop to designate the electric pressure that exists between two points and is capable of producing a current when a closed circuit is connected between two points.

Voltage Drop – The amount of voltage loss from original input to point of electrical device.

Voltage Rating – The highest voltage that may be continuously applied to a wire in comformance with standards.

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).

W

Wall Thickness – The thickness of the applied insulation or jacket.

WAN – Wide Area Network. A network of connected computers that covers a great geographical area.

Water Absorption – A test to determine the water absorbed by a material after a given immersion period.

Wire – A conductor, either bare or insulated. A slender rod of metal usually referring to a single conductor, such as size 9 AWG and smaller.

Wire Gauge – A system of numerical designation of wire sizes.

X

XLPE – Cross-linked polyethylene.

Y

Yield Strength – The minimum stress at which a material will start to physically deform without further increase in load.

Z

Zytel – Du Pont's trade name for nylon resins.