

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 conformance 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.