West Islip Schools
Engineering Technology Department

Terms & Definitions for Residential Wiring

Amp (Ampere)
A unit that measures the strength/rate of flow of electrical current.

Armored Cable
Electrical wires protected by metal sheathing.

Branch Circuits
The circuits in a house that branch from the service panel to boxes and devices.

Breaker
A switch-like device that connects/disconnects power to a circuit.

Buss Bar (also Bus Bar)
Separate, metallic strips that extend through the service panel. Breakers slide onto the "hot" busses and neutral and ground wires screw down in their respective busses.

Cable Clamps
Metal clips inside an electrical box that holds wires in place.

Circuit
A continuous loop of current (i.e. incoming "hot" wire, through a device, and returned by "neutral" wire).

Circuit Breaker
The most common type of "overcurrent protection." A breaker trips when a circuit becomes overloaded or shorts out.

Conductor
A wire or combination of wires suitable for carrying an electrical current. Conductors may be insulated or bare. Any material that allows electricity to flow through it.

Conduit
A protective metal tube that wires run through.

Continuity:
The uninterrupted path of electricity. A wire from one end to another has continuity, install a switch between the two end and turn it off to break the path and interrupt the continuity.

Duplex Receptacle
The commonly used receptacle (outlet). Called "duplex" because it has two plug-in sockets.

Fuses
Removable devices that link a circuit at the fuse box. Fuse connections blow apart and break the circuit if an overload or short occurs.

Fixture
Any permanently connected light or other electrical device that consumes power.

GFCI or GFI (Ground Fault Circuit Interrupter)
A specific type of circuit protection that helps safeguard against dangerous shocks. GFCI protection can be provided by a GFCI outlet or a GFCI circuit breaker. GFCI protection is generally required by code for most outlets in a kitchen, all outlets in a bathroom, all exterior outlets, and certain outlets in garages, unfinished basements and laundry areas.

Ground
A connector that runs between a device or circuit to safely conduct current to earth.

Ground Fault
Current misdirected from the hot (or neutral) lead to a ground wire, box, or conductor.

Hot, Neutral, Ground
The three most common circuit wires. The hot brings the current flow in, the neutral returns it to the source, and the ground is a safety route for returning current. The ground and neutral are joined only at the main service panel.

Insulation
A material that is a poor conductor of current and therefore used to shield wires, cables, and connectors.

Junction (Electrical) Box
A square, octagonal, or rectangular plastic or metal box that fastens to framing and houses wires, and/or receptacles and/or switches.

Knockout
A removable piece of an electrical box or panel that's "knocked out" to allow cable to enter the box.

Lead
The short length of a conductor that hangs free in a box or service panel. (i.e. a wire end)

NM
Nonmetallic-sheathed (plastic).

NMC
Solid plastic nonmetallic-sheathing used in wet or corrosive areas, but not underground (see UF).

Ohm
A unit that measures the resistance a conductor has to electricity.

Overcurrent
Any current in excess of the rated current of equipment or the ampacity of a conductor. It may result from overload, short circuit o ground fault.

Overcurrent Device
The device, usually a circuit breaker or fuse, protecting anitem from an overcurrent condition.

Pigtail
A short, added piece of wire connected by a wire connector. Commonly used to extend or connect wires in a box.

Receptacle
An outlet for tapping into an electrical circuit usually with an appliance plug. Duplex wall receptacles are the most common type, but larger appliance receptacles are also found in household electrical systems.

Romex
A brand name of nonmetallic-sheathed cable made by General Cable Corporation. Often mistakenly used as a collective term for NM sheathed cable.

Rough-In
Installing the boxes, cables, and making "in-wall" connections while the walls are still open. Later, final connections are made and the devices and appliances are installed during the trim-out.

Service
The conductors and equipment for delivering electric energy from the serving utility to the wiring system of the premise served. The service includes the electrical meter, main panel and associated wiring.

Service Entrance (SE)
The location where the incoming electrical line enters the home.

Service/Supply Leads
The incoming electrical lines that supply power to the service panel.

Service Panel
The main circuit breaker panel (or fuse box) where all the circuits tie into the incoming electrical supply line.

Short Circuit
When current flows "short" of reaching a device. Caused by a hot conductor accidentally contacting a neutral or ground. A short circuit is an immediate fault to ground and should always cause the breaker to trip or the fuse to blow. (also see ground fault)

Switch:
A device for controlled interruption of current flow in a circuit. A single-pole, single-throw (SPST) light switch is the most common type found in household circuits. These have one set of contacts and can be either ON or OFF. A single-pole, double-throw (SPDT) switch has two sets of contacts and can alternate between them to divert current between two separate paths. A 3-way switch is an example of a SPDT household switch.

Split Receptacle
A receptacle in which each of the two outlets is wired on a different circuit or in which one outlet is always live and the other is switched. Also called split-wired.
Three-way Switch A pair of switches wired to control the same fixture or group of fixtures.

Travelers
Wires that carry current between three-way and/or four-way switches.

UL
Underwriters' Laboratories is a nonprofit organization that tests electrical devices to assure their compliance with the NEC.

Volt
A unit that measures the amount of electrical pressure.

Watt
A unit that measures the amount of electrical power.

Wire Nut
Connector for securing and insulating a wire splice where two or more bare wires are twisted together to complete a circuit.