

ELECTRICAL MATERIALS

Electrical Supplies and Materials

Electrical materials are developed and constructed for a special purpose such as to:

1. Control the flow of current in an electrical circuit;
2. Carry electrical current from the source to the load or current consuming apparatus;
3. Hold and secure wires to its fixtures inside and outside houses and buildings; and
4. Protect the houses, buildings, appliances' and instruments from any destruction and damage.

The following are the most commonly used *electrical materials*.

MATERIALS AND DESCRIPTION

PICTURES

Convenience outlet

A device that acts as a convenient source of electrical energy for current consuming appliances. It is where the male plug of an appliance is inserted and usually fastened on the wall or connected in an extension cord. It maybe single, duplex, triplex or multiplex and could be surface type or flush type.



Surface type (duplex)



Flush type (duplex)

Male plug

A device inserted to a convenience outlet to conduct electric current. A flat cord is attached to it on one end and the other end is connected to a current consuming instrument or appliance.



Male plugs

Lamp holders

Devices that hold and protect the lamp and are also called as —Lamp Sockets/Receptaclesll.

These come in many designs and sizes. They are classified as flush, hanging (weather proof/chain) and surface types.



Flush type



Hanging (chain)



Surface type



Hanging (weather)

Switch

A device that connects and disconnects the flow of electric current in a circuit. There are many shapes, designs, and types and they are classified as hanging, flush, and surface types.



Surface type



Flush type



Hanging type

Fuse

A circuit protective device that automatically blows and cut the current when and over load or short circuit happens.



Knife blade



Cartridge



Plug type

Circuit Breaker

A protective device used to automatically blow and cuts the current when trouble in the circuit such as short circuit or overload occurs.



Circuit breaker

Junction Box

An octagonal shaped electrical material where the connections or joints of wires are being done. It is also where the flush type lamp holder is attached. This could be made of metal or plastic (PVC) *Polyvinylchloride*.



Plastic



Metal

Utility Box

A rectangular shaped metallic or plastic (PVC) material in which flush type convenience outlet and switch are attached.



METAL



PLASTIC

Flat Cord

Is a duplex stranded wire used for temporary wiring installation and commonly used in extension cord assembly. It comes in a roll of 150 meters and with sizes of gauge # 18 and gauge # 16 awg (American wire gauge).



Flat cord

Electrical Wire/Conductor

Electrical material that
could be:

- a. **Stranded** wire
which is made of multiple
strands joined together
to make a single wire.
- b. **Solid** wire is made
of a single strand of
copper or aluminum
wire. These are used in
wiring installation inside
and outside the
buildings.



a. Stranded wire



b. Solid wire

Conduits/Pipes

Electrical materials used as the passage of wires for protection and insulation. These could be rigid metallic, flexible metallic conduit (FMC), rigid nonmetallic (PVC), and flexible non-metallic or corrugated plastic conduit (CPC)



Metallic conduit



Flexible Non-metallic conduit or corrugated plastic conduit (CPC)



Rigid Non-metallic conduit (PVC)

Clamps

Electrical materials used to hold and anchor electrical conduits in its proper position.



Metal clamp



Plastic clamp

Connectors

Used to attach metallic or non-metallic conduit to the junction or utility boxes.



Metal connector



Flexible non-metallic connector