Safety

10 Do you know how to prevent electric shock?

It is said that the three major causes of electrical accidents are electric shock, electric leakage, and overheating. The problem of electric shock is the amount of electrical current that runs though a human body more than the voltage itself. Although the effect that an electric current that runs through a person's body has on the person varies greatly depending on the conduit site and the amount of time that one is electrified, rough estimates are provided in the chart below.

1mA	Just barely feel it
5mA	A considerable amount of pain
10mA	Intolerable pain
20mA	Muscular rigidity and difficulty in breathing occurs
Over 20mA	The Life is in danger

In addition, it is said that if the amount of mA multiplied by the number of seconds of exposure exceeds more than 30, the person will sustain a fatal injury. There is also the danger that an alternating electric current for household use of 100V can kill you in some case.

Touching a bare electric cord (live-wire) or electric leakage of non-grounded appliances causes electric shock. Therefore, it is necessary to prevent electric leakage and insulate electric in order to avoid electric shock.

Electric leakage is most often caused when electrical equipment has become old and the equipment has insulation that has become defective, moisture has stuck to parts inside the equipment, or dust has accumulated on high voltage parts. As well as being one cause of major disasters because they are directly linked with fires, electrical leakage can also often cause electrical shock.

It is necessary to make a ground connection correctly in order to prevent electric leakage.
Make sure to ground especially electric appliances (such as laundry machines) which are used near water. In case of the 2P plugs (Known as 3P plugs) with attached grounding electrode, do not use 3P-2P conversion apparatus or extension cable for 2P plug equipment without careful consideration.

How to make a ground connection correctly
①Never let a ground connection touch a gas pipe. (In the case that there is a gas leakage, there is the danger of immediate explosion.) ②Do not make a ground connection with a water pipe. (Non-conductive pipes that are connected halfway happen frequently and there are cases where the grounding wire ends up not being useful.) ③Do not make a ground connection with conduits or window frames. (Regulations do not require grounding wires for conduits and there are some window frames that are non-conductive, so in either case grounding wire is often not useful.) ④Protective grounding wires and grounding wires used for lightning rods should always be separated by a distance of more than two meters. (This is because there is a danger that equipment connected to the grounding wires will be damaged in the case when lightning is discharged.) ⑤When you touch directly to a live part and a current-carrying part, use guards such as rubber gloves and rubber boots. ⑥Earth leakage breakers should be installed for electric equipment and drills as well as their power sources which are used in damp or humid places.

Normally when electric leakage occurs, all power will be disconnected by an earth leakage breaker.

When the earth leakage breaker is thrown again soon after resetting it, leakage might be occurring somewhere.

In that case, consult a specialist.

If you live in an apartment, consult a manager.

In order to prevent electric shock, ensure to ground electrical equipment for prevention of electrical leakage, do not touch a bare electric cords, or insulate electric.