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>
> **KOK YEE HIN,** ACCREDITED ENGINEER OF ARCHITECT CENTRE SDN BHD

KUALA LUMPUR

How to prepare your home for a safe Christmas

Building inspector highlights the potential hazards and preventive measures

POSSIBLE FIRE HAZARD: Though evergreens are thought to represent the ever-burning fire of life, a Christmas tree ablaze should be avoided at all costs

DANGEROUS MOVE: Plugging many appliances into a socket outlet can overload it and cause fires

By GERALDINE LIM
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December is a busy month, especially for families celebrating Christmas. While it's a time of joy and excitements, it can also be dangerous.

The fact that it's a merry holiday season, untoward incidents such as a Christmas tree on fire or children injured while unwrapping presents near defective decorative lightings is something we would want to avoid.

Architect Centre Sdn Bhd (ACSB), the architectural service centre of Pertubuhan Akitek Malaysia which provides property inspection and building advisory services, advises homeowners to take preventions steps to keep themselves and their family safe from possible hazards.

ACSB's accredited engineer Kok Yee Hin said, "There is a substantial amount of ageing housing stock and the fact that many homes have outdated wiring, it is essential to heed the condition of the building installation systems.

"The existing wiring system could be deteriorating or has been inappropriately repaired or is insufficient for the existing domestic load requirements. Although many of the existing houses had undergone renovations, many people are ignorant about the fact that electricity usage has been steadily increasing over the years."

He advised homeowners to comply with the appropriate safety standards when installing new electrical systems and to properly maintain the existing installations to ensure the electrical installation is safe.

"Having enough socket outlets in the house is vital as overloading them by using adaptors can cause potential hazards that can result in injuries or even deaths," he explained.

Other measures to take include use of equipment that is safe and suitable for its working environment. For example, electrical risks in harsh conditions can be avoided by using air- or hand-powered tools.

Owners should also check that the devices they are buying are safe and in good working condition and thereafter maintain them properly.

When using portable equipment, Kok said an isolating switch should be provided, clearly identified and placed close to the point of use to enable easy cut-off of electricity during an emergency.

He also noted, "Any flexible cable end should be firmly and properly secured to prevent wires from being pulled out of the terminals. A complete replacement of the cable or any damaged sections of the cable should be made immediately.

"All light bulbs for handheld lamps should have proper protection to prevent possible electric shock which can result from broken bulbs. In addition, only suitable explosion-proof type of equipment should be used in flammable or explosive conditions. Seek expert advice if necessary."

He said electricity and fire are two major hazards that occupiers or owners could encounter when handling electrical appliances.

"Electricity is potentially dangerous as it cannot be seen, heard, smelt or tasted. Injury or death can occur when a person is in contact with live parts which cause shock and burns. Take note that the normal mains supply voltage, at 230V Alternating Current (AC), can kill.

"Live parts can either be the actual current-carrying conductors or non-current carrying conductors (such as the metal casing of an appliance), which in a healthy condition, are at zero potential but have become live due to accidental contact with current-carrying conductors.

"Fire, on the other hand, can lead to personal injuries or loss of properties. A fire or an explosion where electricity could be the source of ignition in a potentially flammable or explosive atmosphere, for example, in a kitchen where there is gas leakage, may be fatal as well."

Among the ways to reduce risks of occurrence of electrical hazards at home are:

- Limit the supply voltage level and use the lowest voltage. For instance, the safest is to use battery-operated power tools or temporary lighting systems which can be operated at 50 volts or 110 volts. Another example is to use circulating pumps in aquariums and decorative lights which can be operated at reduced voltages;
- It is mandatory in Malaysia to use a safety device such as residual current device (RCD) for domestic final subcircuiting wiring. RCD can detect some but not all faults in an electrical system. A permanently installed RCD in an electrical distribution board is a valuable safety device and it should be tested regularly for correct operation;
- Conduct preventive maintenance for all electrical appliances and installations. It is recommended to have visual inspection by a competent person. A simple and inexpensive visual inspection can mitigate electrical risks by detecting any visible sign of damage in the devices;
- Ensure safe installations and electrical works. A qualified person and companies employed to do such works must be registered with the relevant authorities. It is also important that the installer has a proven record, knowledge, skills and experience to carry out the task and all these should be documented for future reference; and
- Keep records such as built drawings, inspection schedules, test results and replacement parts historical data.

Safety tips

Safer Christmas trees and decorations

- When buying an artificial tree, look for the "Fire Resistant" label. Such trees will resist burning and the fire can be extinguished quickly;
- When purchasing a live tree, check for freshness. Cut a few inches off the trunk of your tree to expose the fresh wood. This allows for better water absorption and will keep your tree from drying out and becoming a fire hazard;
- Place the tree away from the traffic and do not block doorways;
- Do not use lighted candles on a tree or near other evergreens.
- Always use non-flammable holders and place them out of children's reach;
- Make sure your Christmas lights have been tested for safety. Don't use indoor ones outside as they may not be up to the task; and
- Buy flame-retardant decorations.

Bright ideas for lights

- Always use lights which have been tested for safety and certified by SIRIM as that indicate conformance to safety standards;
- Check each set of lights, new or old, for broken or cracked sockets, frayed or bare wires, or loose connections. Do not use or keep the damaged sets;
- Never use electric lights on a metallic tree as it can be charged with electricity from faulty lights and cause electrocution;
- Ensure the lights for outdoors are certified for outdoor use;
- Fasten outdoor lights securely to trees, house walls or other firm supports to protect the lights from wind damage. Use insulated staples to hold strings in place, not nails or tacks. Opt to run them through hooks;
- Plug all outdoor electric decorations into circuits with ground fault interrupters to avoid potential shocks;
- Switch off all the lights when you go to bed or leave the house. The lights could short out and start a fire;
- Do not overload circuits and ensure all cords and outlets are in good condition; and
- Always unplug the light string before trying to replace bulb.