

Hazard of Electric Wiring

& Loss Prevention Measures

1. INTRODUCTION

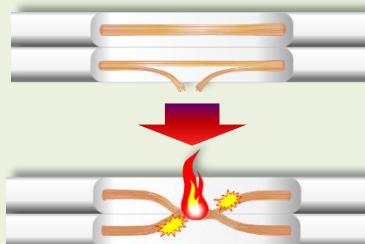
An electric fire is caused by electrical equipment or wiring, and is one of the main causes of fire accidents in all industries and locations. Therefore, proper usage and maintenance of electric wiring are essential to enhance loss prevention management. This article describes the potential risks and preventive measures of electric wiring.

2. POTENTIAL RISK

Major potential fire risks by electric wiring are described below.

Short circuit

Short circuit occurs due to insulation degradation or wiring damage. Electric arc and spark by short circuit can reach over 2,000°C, and might ignite the insulation coating, combustible materials, flammable gas, dust, etc.



Contact failure

Contact failure causes overheating and ignition in wiring terminal. It occurs due to abnormal resistance increase by loose and also overly tightened terminal connection, deterioration and corrosion of terminal parts.

Overload

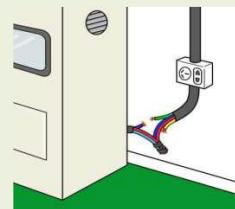
Overheating of wiring due to overload causes melting of the insulation/coating and ignition.



<https://www.infraredimagingservices.com/electrical->

Current leakage

Aging deterioration of the coating and damage to the insulation might expose the energized parts, resulting in electrical shock or fire due to electric discharge.



3. PREVENTIVE MEASURES

Preventive measures to mitigate the fire risks from the wiring are described below.

- Use appropriate wiring depending on the operating environment such as humidity and temperature. Also, installation and inspection of the wiring should be performed by qualified personnel.
- Wiring with long duration of operation might have low capacitance and be used under overload condition. It is recommended to inspect or replace periodically to prevent the deterioration of the wiring.
- Inspect regularly for deformed or damaged wiring and loose connection at the terminal. Clean the wiring and electrical panel to prevent dust accumulation.
- Ensure that the wiring route has a sufficient distance from combustibles and hazardous materials.
- Wiring should be installed through conduit pipe in case where the wiring route penetrate walls or building materials.
- Regularly measure the temperature of wiring and surrounding areas by infrared thermography camera.
- It is recommended to install alarm system such as a current leakage detector in the electrical panel.

To assist our valuable clients to manage electrical fire risk at their electrical room, United Insurance Company of Vietnam is providing a loss prevention service known as “Electrical component failure analysis survey”. Interested parties can approach UIC survey team for more information on this service.

