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## **The Office of the Fire Marshal and Emergency Management and the Electrical Safety Authority warn of safety issues associated with electric saunas**

The Ontario Office of Fire Marshal and Emergency Management (OFMEM) and the Electrical Safety Authority (ESA) are warning the public about potential fire hazards associated with electric saunas and sauna heaters.

There were three fatalities due to sauna fires in the past 10 years. Analysis of past sauna fires reveals that the tampering with or disconnection of critical fail-safe components, such as heat sensors, high limit switches, timing switches, and thermostats are frequent factors in the ignition of such fires.

It has been found that when repairs are made, sometimes incorrect components are used, regardless of whether they are intended for the application or not. There might be an added risk in the case of using unapproved electrical products in the process of repairs and maintenance of these saunas.

### **Background**

The OFMEM has been undertaking research into fire safety of saunas. Incidents involved saunas that were built and used in commercial facilities such as SPAs, fitness clubs, hotels, apartment complexes, etc.

For the past 10 years, the OFMEM statistics indicated the following most common ignition sources with electric saunas and associated heaters:

- Ignition of combustible material left in sauna
- Incorrect wiring or missing high limit switch to sauna heater
- Incorrect wiring or disconnection of thermostat
- Replacement control devices that are incorrectly installed
- Replacement devices that are unapproved or not approved for the intended use
- Heaters installed too close to combustible materials

When sauna rooms are built or repaired on site, using electrical devices such as heaters, timers, sensors, contactors, etc., they shall be approved and contractors shall follow the Rules in the Ontario Electrical Safety Code (OESC).

### **Requirements of the OESC**

- Rule 62-112 requires that heating devices are to be installed so that any adjacent combustible materials are not subjected to temperatures in excess of 90° C.
- Rule 62-202 requires each enclosed area within which a heater is located to have a temperature control device.
- Rule 62-222 requires that heaters for sauna rooms are to be:
  - Marked as being suitable for the purpose;
  - Installed in accordance with the nameplate size specifications;
  - Fastened securely in place to ensure that the minimum safe clearances indicated on the nameplate are not reduced;
  - Not installed below shower heads or water spray devices.
  - Controlled by a timed cut-off switch having a maximum time setting of 1 hour, with no override feature that, if not forming part of the sauna heater or cabinet, will be mounted on the outside wall of the room containing the sauna heater and able to disconnect all ungrounded conductors in the circuit supplying the heater.

Ontario Regulation 438/07 Product Safety requires that all electrical products that are used, advertised, displayed or offered for sale or other disposal are approved. Approved electrical equipment is labelled with one of the recognized certifications or filed evaluation marks. For the list of recognized marks go to: <http://www.esasafe.com/electricalproducts/marks>

Sauna rooms shall not be used as storage rooms and no combustible materials, such as towels, should be left in the sauna. Unintentional activation of the sauna heater switch may lead to fire, property damage, serious injury or death of occupants.

For both new building installations and retrofit installations in commercial facilities, in addition to needed a building permit which has to be taken by facility owner, the sauna builder/contractor would be responsible for filing a notification of work from ESA for the electrical connections associated with a sauna. ESA strongly encourages Ontarians to contact a Licensed Electrical Contractor when planning electrical work, and ensure that ESA has inspected all work. Go to [www.pluginsafely.ca](http://www.pluginsafely.ca) for a list of Licensed Electrical Contractors.