
August 18, 2010

Electric In-Floor Heating System Installations

Ontario's Electrical Safety Authority (ESA) warns the public that improperly installed electric floor heating systems may pose a fire or electric shock hazard. Several residential fires have been reported by the office of the Ontario Fire Marshal are associated with floor heating cables/pads that are not installed as per the manufacturer, or that have been damaged during installation.

The Electrical Safety Authority (ESA) is responsible for public electrical safety in Ontario as designated by Ontario Regulation 89/99. Ontario Electrical Safety Code is a law in Ontario and requires electrical inspections for all new electrical work/installations as well as for the maintenance of existing electrical installations and alterations to existing systems.

Who can install the heating portion of electric floor heating systems?

Basically any person can install the heating portion of electric floor heating system components, as long as there is no branch circuit wiring installation involved. So, the flooring contractor, for example, can install the electrical heating equipment (i.e. in-floor heat cables or radiant heating panels) *up to the first termination junction box for the cold lead connections*. **No branch circuit wiring installation.**



All equipment must bear a recognized Canadian Electrical approval mark (CSA or equivalent). See www.esasafe.com for a complete list of acceptable approval marks for equipments.

Does the installation of the in-floor heating cables or radiant heating pads require a wiring notification and inspection?

YES, an application for inspection must be submitted to ESA to inspect the “electrical heating system” components installed by the flooring installers or any other person. Inspection must be completed prior to the covering of the heating cables/pads.

To apply for, or arrange an electrical inspection, please contact ESA's customer service center at 1-877-ESA-Safe (1-877-372-7233). Failure to follow inspection requirements may result in charges under the Electricity Act for each offence identified.

Who will install the branch circuit wiring and do other electrical connections?

Branch circuit wiring from the electrical panel to the in-floor heating must be done by an electrical contractor licensed by ECRA of the ESA. The homeowner can also do the wiring, however, it is NOT recommended. Visit <https://www.esaecra.net/> for licensed electrical contractor list.



Electrical wiring is complicated and can present safety hazards if not properly installed and maintained. Homeowners are encouraged to ensure their electrical installations meet the safety standards defined in the Ontario Electrical Safety Code by engaging a licensed electrical contractor for all new electrical work/installations as well as alterations to existing systems.

The Ontario Electrical Safety Code requires that:

- An "Application for Inspection" is filed with the Electrical Safety Authority before or within 48 hours after the commencement of work;
- Electrical inspection is required for all portions of the installation, including branch wiring as well as other electrical equipments/components that are installed to complete the work; and
- Electrical wiring and equipment must not be covered prior to inspection.

Homeowners should ask for a copy of the Certificate of Inspection for any electrical work done on their premises – This is their record that the installation meets Ontario's safety standards.

When planning to do electrical work, think about the risks associated with unsafe electrical installations. Contact a licensed electrical contractor, and make sure they arrange for an electrical permit. Visit www.pluginsafely.ca for a list of licensed electrical contractors in Ontario.