# Frequently Asked Questions

*Updated 1/1/08*

## Question #1: How do electric floor-warming/radiant heating systems work?

**Answer:** Electric floor-warming systems are buried directly below the flooring surface and are then connected electrically to a GFCI protected power source. 110 Volt lines are most commonly used, but 220 Volt lines can be utilized for some larger applications.

## Question #2: What makes radiant heat more effective than other conventional heating systems?

**Answer:** Conventional forced air heating systems require more heat in order to warm the zones close to the floor because most of the hot air is naturally concentrated at the ceiling level.

Resistance wiring is more effective than conventional forced air systems because it creates a radiator effect in the floor. This radiant heat provides a more comfortable environment by:

a) Heating from the floor level up
b) Radiating heat to objects and people in the room
c) Not circulating pollutants
d) Not drying the air

## Question #3: Can ELECTRIC Radiant Heating Systems be used as the only heat source in a room?

**Electric Radiant Heat is most commonly used as a SUPPLEMENTAL heat source.** Electric Radiant Heat is not intended to act as the sole heating source in many applications, but rather to provide a warm walking surface and a more comfortable environment. However, under CERTAIN CONDITIONS, it is possible to use Electric Radiant Heat as a sole heating source.

*Updated 1/1/08*

**Question #4:** **Is Electric Floor-warming safe?**

**Answer:** All floor-warming mats are manufactured to International Standards including UL and CSA.

The heating cables are sheathed (ground protected) and MUST BE CONNECTED to a GFCI (Ground Fault Circuit Interrupt) to protect against fire hazards, electric shock, etc. In addition, it is strongly recommended that ALL materials be connected through a DEDICATED CIRCUIT.

All electrical connections and controls should be made by a qualified electrician in accordance with the LATICRETE INTERNATIONAL Installation Manual, the National Electrical Codes, and the Local Electrical Codes.

**Question #5:** **How should the sub floor be prepared?**

**Answer:** The sub floor should be prepared as for any conventional tile installation in accordance with all applicable standards. It should be clean of all debris and sharp edges/objects that might damage the element. Loose boards should be repaired and all gaps should be filled to assure that the mat is installed over a smooth and even surface.

**Question #6:** **What types of areas can LATICRETE Floor HEAT be placed in? Are there any limitations?**

**Answer:** LATICRETE Floor HEAT systems can be placed in any room where supplemental heat or floor warming is needed. It can be used over plywood subfloors, concrete backer boards, and concrete slabs. However, LATICRETE Floor HEAT will be most efficient over well-insulated subfloors.

**(Example):** When a floor-warming system is installed, the heat is conducted up through the flooring materials as well as downward into the subfloor. If the subfloor is conductive, like a concrete slab, it will absorb a considerable amount of the heat energy and it will take longer for the floor to reach an equilibrium temperature. If the subfloor is wood, which has insulating qualities, more of the heat will be conducted up through to thinset and the tiles. Therefore, by installing a heat barrier (insulation) over the concrete, you will help to increase the efficiency of the electric floor-warming system. The insulation should provide a suitable substrate for a quality tile installation and should meet TCA Guidelines. (Some commonly used insulating materials are plywood, cork, etc.)

*Updated 1/1/08*

## Question #7: Can a Electric Floor-Warming System ever become too hot?

**Answer:** Electric Floor-warming systems are made with a Resistance wiring that is manufactured to produce a fixed number of Watts per Square Foot. Therefore, as long as the installation has been completed as instructed, the system could run consistently at full power without over-heating.

**IMPORTANT!**
Floor-warming systems for ceramic tile and stone should only be installed in OPEN areas. It should never be placed under items that will be fixed to or sit flush with the floor surface. The heat MUST BE ALLOWED TO DISSIPATE INTO THE AIR. SECTIONS IN WHICH HEAT IS TRAPPED MAY BECOME EXCESSIVLY HOT.

## Question #8: How do I figure out what areas to heat?

**Answer:** The heat produced by the Resistance Wiring **must be placed in OPEN areas where the heat will be allowed to dissipate into the air**. It is extremely important not to trap the heat (as discussed in the answer to Question #7).

**In most installations approximately 85-90% of the actual open floor space will be covered** in order to heat all of the walkways and key areas in the room. **Small margins of unheated space are usually left along the walls.** Therefore, it is usually most accurate to calculate the Total Open Floor Space and then multiply that number by .90. This will be an approximation of the Total number of Square Feet that will be covered by materials.

## Question #9: Do the mats come in standard sizes or are they custom made for each job?

**Answer:** All LATICRETE Floor HEAT mats come in a variety of standard sizes. The installer can easily customize the mats on the job site to fit specific areas.

*Updated 1/1/08*

## Question #10: Do I just place an order over the phone for the material to cover 85-90% of the OPEN floor space?

**Answer:** It is highly recommended that an Installation Layout be provided PRIOR to placing an order. This process will determine the optimal element layout/coverage as well as the size(s) needed.

*__NOTE TO PROFESSIONALS-__ If you are initially looking to receive a BALLPARK FIGURE rather than a detailed Installation Layout and a Price Quotation, YOUR COST can be calculated by multiplying the Estimated number of Square Feet TO BE COVERED (as described in Question #8) by YOUR cost per square foot and then adding in the cost of the Controls, the Handling, and the Freight Charges.

## Question #11: What electrical setup does a typical installation of LATICRETE Floor HEAT require?

**Answer:** **LATICRETE Floor HEAT installations** that require **less than 100 square feet of coverage** will require the following:

- Dedicated 20 Amp circuit
- GFCI Breaker
- **1,2, or 3 junction boxes:** This will depend on the heating system and the number of controls being installed to regulate it. Each control will require 1 junction box. (Size may vary.) Multiple mat installations will require an additional junction box near floor level as well. Further details should be provided on the installation layout.

**LATICRETE Floor HEAT installations** that require **more than 100 sqft of coverage and that EXCEED a Total of 16 Amps** will require the following:

- Dedicated Circuit (to accommodate the Total Load)
- GFCI Breaker
- **Contactor OR Multiple Controls** (Multiple Controls installations will require the room to be split into more than one zone.)
- **Number of junction boxes will vary.** This will depend on the heating system and the number of controls being installed to regulate it. Each control will require 1 junction box. (Size may vary.) Multiple mat installations will require an additional junction box near floor level as well. Further details should be provided on the installation layout.