# Technical Bulletin #22 Key Epoxy Terrazzo

## Radiant Heating Systems

Radiant floor heating systems can be used in conjunction with your finished Key Epoxy Terrazzo flooring. Radiant floor heating systems may consist of tubing or electric mats. In order to accommodate these heating systems, Key Resin provides the following general recommendations. All final details regarding the proper design and installation of the radiant heat system should be confirmed with the radiant heat manufacturer.

The elevation of the heating medium must be within a certain specified dimension from the finished surface to achieve the greatest efficiency. Structural base slabs of less than 3"- 4" may require the use of cementitous overlays other than structural concrete. Consult Key Resin for recommended compatible cement overlay systems. The heating units must be embedded in the slab or underbed, not in the terrazzo topping.

TUBING & ELECTRIC MATS

- Effective thermostatic control is absolutely necessary to avoid temperatures rising above 100□F during initial testing and at end use.
- All joints in the concrete slab should be honored with double L angle strips filled with the appropriate joint filler to allow for differential movement.
- The perimeter of the heated area should be isolated from the non-heated area or wall with an expansion joint.

DESIGN & CONSTRUCTION CONSIDERATIONS

- The heating system must be turned on and off for several complete cycles prior to the terrazzo installation to induce potential cracking in the cement topping prior to installation of the thin-set epoxy terrazzo. Achieving the highest operational temperature as measured on the surface of the cement topping followed with complete cooling is considered one complete cycle.
- The thin-set epoxy terrazzo topping shall have isolation (expansion) joints where radiant heat slabs terminate and in a maximum grid of 10' X 10' panels. Use double L strips placed back to back with minimum ¼" width and fill with flexible joint filler resin.
- The thin-set epoxy terrazzo should be bonded directly to the slab as much as possible. If crack treatment is necessary, fill cracks with rigid epoxy and apply 32-40 mils thickness of flexible epoxy membrane at a minimum 24" width, optionally reinforce with fiberglass scrim cloth.
- It is always recommended and essential to provide a gradual change in temperature to minimize thermal shock to the finished floor assembly. After the terrazzo floor is installed and the building is in operation, when making temperature changes to the radiant system change the temperature settings a maximum of 10$^{o}$F either heating/cooling per 24 hours. Thin-set epoxy terrazzo has a higher coefficient of expansion than the cement topping substrate. The slower the temperature change the slower the differential movement in the slab and less resulting stress at the bond line interface.

The placement of the epoxy terrazzo topping along with the grinding, grouting and polishing is performed as usual.



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