

INSTALLING CERAMIC TILE OVER SUNTOUCH TAPEMAT

Radiant heat systems are popular additions to ceramic tile installations in colder climates. One example is SunTouch® TapeMat®, an electrical floor warming system that adds comfortable, even warmth to any ceramic tile floor. TapeMat is a customizable mat that can be installed under the tile with standard polymer-modified dry-set mortars. Using a tile installation system from Custom Building Products can deliver the additional benefits of waterproofing, crack prevention and stain resistance to the heated tile.

Installation of the heating mat and ceramic tile should follow the Tile Council of North America (TCNA) guidelines. Installation over a concrete slab is detailed in RH115 and RH116 of the TCNA Handbook for the installation of ceramic tile and RH130, RH135 and RH140 detail the installation of ceramic tile over plywood floors supported by wood joists.

Ensuring A Flat Surface for Tiling

The substrate must be clean, sound and flat for the installation of ceramic tile. TCNA recommends that floor flatness does not deviate more than 1/4" in 10 feet. For large format tile (those with one edge greater than 15"), flatness cannot deviate more than 1/8" in 10 feet. There are many ways to achieve flatness, depending on the subfloor and the various methods are detailed in the TCNA Handbook. One efficient method is through the use of a self-leveling underlayment.

Custom Building Products' LevelLite® and LevelQuik® Self-Leveling Underlayments meet the requirements of TCNA for preparing the floor to receive ceramic tile. CUSTOM's latest installation procedures must be followed, including the use of metal or plastic lath in the underlayment over wood subfloors. A 3/16" (5 mm) wide gap shall be left at all perimeter edges, walls and around fixed objects to allow for expansion of the underlayment. These gaps shall remain empty when the installation is complete. The self-leveling underlayment should be cured before the installation of the heating system and ceramic tile.

Protecting the Tile with an Uncoupling Mat

Adding CUSTOM's SpiderWeb® II Uncoupling Mat and seam tape to the tile installation will waterproof the assembly and prevent crack migration from the subfloor into the ceramic tile. Floor assemblies that follow these TCNA details and incorporate SunTouch

TapeMat and SpiderWeb II Uncoupling Mat are suitable for residential or light commercial applications. SpiderWeb II should be installed to the underlayment following the manufacturer's installation directions using a polymer-modified dry-set mortar per ANSI A118.5. The SunTouch TapeMat and selected ceramic tile are then installed to the surface of the SpiderWeb II with the same dry-set mortar.

Choosing an Appropriate Mortar

Manufacturer's directions must be followed for the installation of the SunTouch TapeMat and the CUSTOM tile installation products. As recommended by TCNA, an ANSI A118.15 Improved Modified Dry-Set Cement Mortar should be used for the installation of ceramic tile. CUSTOM offers several modified dry-set mortars that meet these requirements. For the installation of ceramic tile over SpiderWeb II and the SunTouch TapeMat, we recommend the use of MegaLite® Crack Prevention Mortar or ProLite® Large Format Tile and Stone Mortar. Both products meet the requirements of ANSI A118.15 and are ideal for the installation of most floor tiles, including large format tile.

Installing SunTouch TapeMat With Mortar

The proper notched trowel must be selected to assure the cavities of the SpiderWeb II Uncoupling Mat are completely filled. A 1/4" x 3/8" x 1/4" square notch trowel is generally acceptable if the cavities of the uncoupling mat are first filled with the dry-set mortar using the straight side of the notched trowel. Back buttering the ceramic tile will help in achieving 90% contact of the mortar to the tile and substrate. The wires of the SunTouch TapeMat must be completely embedded in the mortar and care should be exercised to make sure the trowel does not damage the heating wires. Once the tiles are installed over the heating mat, the assembly should cure 24 hours before grouting. CUSTOM's Fusion Pro® Single Component® Grout, Prism® SureColor® Grout and CEG-Lite™ 100% Solids Epoxy Grout are suitable for filling the joints in these installations. Allow the completed tile installation system to cure a minimum of 14 days before use of the heating system.

Alternative: Embedding SunTouch TapeMat

An alternate method of installation is to encapsulate the SunTouch TapeMat right in the self-leveling underlayment. In this case, the TapeMat is fastened to the primed substrate per manufacturer's directions.



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CUSTOM's LevelLite, LevelQuik Rapid Setting or LevelQuik Extended Set Self-Leveling Underlayment is then poured over the SunTouch TapeMat to a minimum depth of ½". If the assembly is over a wood subfloor, plastic lath and primer must be installed before the self-leveler is poured. A 3/16" (5 mm) wide gap shall be left at all perimeter edges, walls and around fixed objects to allow for expansion. These gaps shall remain empty when the installation is complete.

The self-leveling underlayment should be cured before the installation of SpiderWeb II and ceramic tile according to the manufacturers' directions. The tile assembly should cure 24 hours prior to installing CUSTOM's Fusion Pro Single Component Grout, Prism SureColor Grout or CEG-Lite 100% Solids Epoxy Grout. Allow the completed tile installation system to cure a minimum of 14 days before use of the heating system.

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