



**MORE THAN JUST A
PRETTY FLOOR**

PHOTOGRAPHY BY SCOTT JACOBSON



WARM UP A KITCHEN WITH A COOL NEW LOOK

BY MIKE CONNER

Adding new flooring can dramatically upgrade the look and feel of your home. Modern flooring products allow you to add not just the perception of warmth (with handsome wood tones) but actual heat as well — and the process is simpler than you might imagine. Here's how you can combine an under-floor heating system with click-together laminate planks to create a surface that's as inviting for bare feet as it is easy to install.

WARMTH FROM WITHIN

Under-floor heat has gained popularity among DIYers because it is clean and allergen-free and makes a home more comfortable. Technological advances in under-floor heating have resulted in creative and inexpensive products that can be used by builders and homeowners alike. One such product is ThermoSoft's ThermoFloor, a heating mat that can be installed directly under floating laminate floors. Relatively inexpensive and easy-to-install, ThermoFloor mats replace the underlayment typically used with laminate flooring, and because the heat coils are integrated into the mats, there's no thinset mortar or concrete to mix.

The mats are water-resistant and can be laid directly over concrete or tile, which means they can be installed virtually anywhere. However, if you plan to install the system over concrete, you should first test for moisture in the subfloor. Cut a 6 x 6-in. piece of plastic and secure it to the concrete subfloor with duct tape. Be sure to tape all four sides of the plastic, creating a sealed airspace between it and the floor. Allow the plastic to remain taped to the floor for at least 24 hours; then carefully remove it. If the floor under the plastic is dry, you can proceed with the installation. If it is damp, that means moisture is pushing up through the concrete, and I would not advise laying laminate flooring over the subfloor. Even though the heating mats and underlayment are moisture-resistant, the laminate flooring will trap the moisture and enable mold to grow.

Once you've ruled out moisture problems, follow these steps to install the system:

1. Create a design plan. ThermoFloor heat pads are available in several sizes. When designing your layout, remember that you need to allow for the entire manufactured dimensions of the heat mat; never cut the mat or its wires to adjust the size.

Take measurements and then draw a quick sketch of the area where you will install the system. The heat mats do not need to cover the entire floor, just the areas where you will be walking, standing or sitting most often. The manufacturer does not recommend installing the mats under large, heavy objects such as cabinets, hutches or armoires, as excess heat can build up and cause damage.

You will need to decide where to put the thermostat. It's best to place it on an interior wall away from doors and windows and other heat sources so it will turn on and off appropriately.

2. Install the thermostat wiring. Once you have decided on a thermostat location, install a metal single-gang box 5 ft. from the floor with



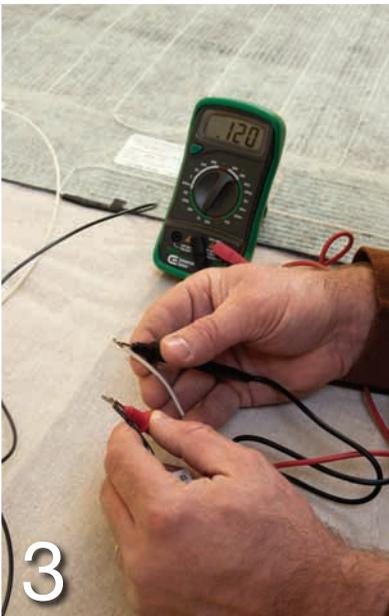
IN-FLOOR ELECTRIC HEAT MAT INSTALLATION



1 Repair or fill in low areas such as this spot where a built-in cabinet was removed.



2 Lay out the heat mats so the lead wires are close to the thermostat.



3 Check each heat mat for breaks in electrical continuity.



4 Place underlayment in the gaps between heating mats.

conduit running to the base of the wall. You will also need to run AC electrical wire to the box. (ThermoFloor offers complete diagrams and instructions on how to install the thermostat.) If you're not comfortable performing AC electrical installations, hire an electrician to make the connections. Be sure to install at least two separate 1/2-in. conduit raceways from the floor to the gang box. I made the mistake of installing only 3/8-in. conduit raceways; pulling the lead wires and the thermostat wire through smaller piping was difficult.

3. Even out the subfloor. Minor imperfections are acceptable, but extreme changes along the surface must be fixed with a floor-leveling compound. If you are installing over vinyl tile, you

can fill in areas with scrap pieces to make the floor level (photo 1).

4. Lay out the mats according to your design sketch. Each heat mat has its own lead wires that will connect to the thermostat. Orient the mats so that the lead ends are closest to the thermostat (photo 2). Areas covered by the mats will not need any underlayment; the mats can be installed directly on top of the subfloor.

5. Check the electrical continuity of each heat mat. Use an ohmmeter and the manufacturer's instructions for this step. Attach the two lead wires from each heat mat to the probes on the ohmmeter (photo 3). The manufacturer's instructions will provide high and low parameters for each mat.

6. Fill in gaps between the

heating mats. Cut underlayment into long strips and place the strips in the spaces between the heating mats to maintain a flush surface (photo 4). I recommend using ThermoFloor brand underlayment because it is the same thickness as the mats. Secure the lead wires with duct tape so that they rest on the subfloor in a groove between the underlayment and the heating mats.

7. Tape the heat-mat joints to the subfloor. Run duct tape over the heat-mat ends, the underlayment strips and the wires to create a flat surface (photo 5, opposite). Be careful not to tape over the heating elements in the mat. Tape the remaining lead wires directly to the subfloor.

8. Pull the heat-mat leads and the heat-sensor wire through separate conduits (photo 6). You may want to use fish tape for this step. Allow for at least 6 in. of wire in the gang box; coil the excess wire with the sensor end at the base of the wall.

9. Tape the heat sensor and heat-sensor wire to the heat mat closest to the thermostat. Place the sensor end about 8 in. from the end of the heat mat, in between heat-producing elements (photo 7). Tape the remainder of the wire to the subfloor.

10. Cut and install underlayment over the rest of the subfloor. Butt the underlayment adjacent to the heat mats; do not overlap. Tape the seams, making sure not to place tape over the heat-producing elements (photo 8).

After following these 10 easy steps, you'll have warmth underfoot in about one-fourth the time (and for half the price) of traditional heated-floor installations.

FASHIONABLE FLOATING FLOOR

Laminate flooring has been in use for about 20 years, and it has come a long way in that time. Though some early laminate products earned a reputation for looking cheap and for being unreliable and difficult to install (if you've



5 Secure the heat-mat ends, underlayment and wires to the subfloor with duct tape.



6 Pull the heat-mat leads and the heat-sensor wire through separate conduits.

ever worked with a glue-and-clamp flooring system, you know what I mean), today's offerings look like real wood and boast easy, glue-free installation. By heeding the manufacturer's instructions and the following guidelines, you can install laminate flooring at a fraction of the cost of hiring a professional and achieve beautiful results.

1. Install the underlayment.

Choose an underlayment that is compatible with your subfloor. Some are designed for use over wood; others are meant to cover concrete or tile. You can also find insulated types for soundproofing or additional heat, such as the one we used for this project (see photos, opposite and above), and even some with antimicrobial properties that prevent mold growth.

2. Determine the direction

of the planks. There is no rule about how to run your flooring, but a typical installation would be to lay the planks parallel to the longest wall of the room, as shown in photo 2 on p. 24.

3. Lay out the planks.

First determine whether you will need to rip the first and/or last row of planks. Measure the wall perpendicular to the direction in which you are installing the planks. Divide that measurement by the width of a plank to determine the number of rows you will have. For



7 Install the heat sensor 8 in. from the end of the heat mat closest to the thermostat.

example, 114 in. (the length of the perpendicular wall) divided by 5 in. (the width of a plank) equals 22.8 rows. Now take 0.8 (the left-over fraction of a row) and multiply it by 5 in. (the width of a plank); then divide the answer by 2 to determine how wide the rows of ripped planks will be. (This will ensure that the two rows of ripped planks will be about the same width.) Subtract 1/4 in. to allow for expansion and you get 1-3/4 in. According to these calculations, the first and last rows of planks should be ripped to 1-3/4 in., which includes a 1/4-in. expansion gap along the walls.

4. Mark your starting point.



8 Using duct tape, secure underlayment adjacent to the heat mats.

Measure and snap a chalk line to mark where the first row of planks will be installed. (Remember to include the 1/4-in. expansion gap along the wall.)

5. Install the flooring.

Use 1/4-in. spacers to hold the planks away from the wall (photo 1, p. 24). If the wall is uneven, measure between the chalk line and the wall for each plank and rip each piece separately. That way, you'll be able to keep your first row of planks aligned.

6. Lay out several rows

of planks. After you've installed the first row, loosely lay out a few more rows, taking planks from different packages so color variations will be

CLICK-TOGETHER LAMINATE FLOOR INSTALLATION



1 Use spacers to keep the flooring 1/4 in. away from walls, cabinetry, etc.



2 When laying out planks, mix pieces from different packages — there will be some variation in color and pattern.



3 Hold the plank at a 45-degree angle and lower it into the adjacent row until it clicks into place.



4 Always allow a 1/4-in. gap around walls and obstacles to allow for expansion.



5 Scribe and then use a flooring saw to cut the end plank of each row.



6 The last row can be difficult to install, but a tool such as the one shown here can make the process much easier.

mixed throughout the floor.

7. Install subsequent rows. Follow the manufacturer's instructions for clicking the planks together. Most flooring is best installed from left to right. For this project, I held each plank at a 45-degree angle and then snapped it into place along the previous row

(photo 3). If you find a gap between rows, simply reinstall the planks.

8. Measure and cut around obstacles. You must work around permanent fixtures such as cabinets and doorways (photo 4), making sure to incorporate a 1/4-in. gap for expansion.

9. Scribe and cut the end of

each row. Laminate flooring planks are designed to lock into each adjacent piece along all sides. Never cut a plank on a side that will lock into an adjacent piece; all cuts are to be made on end pieces only (photos 5 and inset). When you are installing the last piece in a row of planks, simply flip the plank onto its face and scribe the length. This saves time compared with measuring the piece and then cutting.

10. Install the final row. Rip the last row to fit along the wall with a 1/4-in. gap for expansion. If your calculations were correct in step 3, your last row should be about the same width as the first row.

Measure each plank as you work along the wall; a flooring tool such as the one shown in photo 6 can help you snap that last row into place. After that, you're done — no nails, no glue, no mess! All that's left is to add trim for a finished look. (Note: Be sure to nail the trim into the wall, not the floor.)

Installing a laminate floor in an average-size room can usually be completed in one day, sometimes two if the subfloor requires a lot of prep. The result is a beautiful surface that requires much less work and expense than a traditional hardwood floor. ♦

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SOURCES ONLINE

For online information, go to www.HandymanClub.com and click on WEB EXTRAS. ThermoSoft, 800-308-8057, www.thermosoft.com