



# FeelsWarm® Installation Instructions



**Package Contents:** Heater, Thermal Control Unit and screws (if included), Transformer (with power cord), Velcro/Strap Packet, Hole Plug, Surface Prep Kit (optional), and instruction manual.

## **Recommended Tools:**

- Hand held electric drill with 3/4" spade bit (an extended length bit may be needed if running the cabling into a double-wall cabinet)
- Several dry cotton rags
- Isopropyl Alcohol
- Phillips Screwdriver
- 1/16" drill bit

For large heaters or heaters with unusual cut outs, it is advised to have two people assemble the heater.

**Read these complete instructions before starting to understand the full sequence of the assembly.**

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## **EVALUATE AND PREPARE THE SURFACE OF THE COUNTERTOP**

- A. Evaluate the lower surface of the countertop to determine if the Surface Prep Kit must be used to enable the heater to bond properly. Use the peel test strip included in this packet to evaluate whether the surface of the stone needs the Surface Prep Coating. As a general rule, a Surface Prep Kit will be needed if the heating mat is being applied to quartz, "rough" feeling granite underneath the counter, or supporting wood. Smooth granite and any stone with a mesh backing will most likely not need the kit.
- B. To determine whether or not the stone surface will be acceptable as is (without the Surface Prep Coating), attach the peel test strip to the underside of the counter and press with fairly hard pressure. Let the strip remain on the stone for an hour, then peel the strip off by hand. If the strip bonds extremely well, then applying the Surface Prep Coating is not necessary.
  - If there is support wood on the under-surface of the stone (common for thinner stones), the heater can be attached to the wood instead of directly to the stone. HOWEVER, the wood must be prepared with the Surface Prep Coating to ensure the heater bonds sufficiently.
- C. If it is determined that the coating is needed, you will need to apply the Surface Prep Coating on to the area where the heater is to be attached. Please contact Heated Stone Products to attain the Surface Prep Coating if it is not already included. Follow the instructions on page 3, labeled "Surface Prep Instructions". The coating must cure completely.
- D. Clean the surface where the heater will attach. Perform this step whether the surface has been coated or not. Clean with a rag and isopropyl alcohol. This will remove dirt, dust, and other foreign items. Let dry completely (approximately 10 minutes).

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## SURFACE PREP INSTRUCTIONS (if needed and included)

**Kit Contents:** 2 containers of epoxy (Part A and Part B), small brush, tin pan, tongue depressor

**Recommended Tools and Supplies:** Protective eyewear required, gloves and appropriate clothing, pencil, drip cloth or other material to protect carpet or flooring under the countertop.

### PREPARATION:

- A. Read all of instructions before opening the epoxy containers.
- B. The tin pan with mixed epoxy may get warm so set it onto cardboard or another layer.
- C. Cover surface of the work area and the carpet or flooring under the countertop to protect these areas from drips or spills of the Surface Prep Coating.
- D. On the underside of the counter, use a pencil to mark the general outline of where the heater will be attached. Surface Prep Coating should be applied to this area, ensuring that the perimeter of the heater will be attached to the coated stone.
- E. Do not mix the epoxy directly on the stone. Use the tin pan provided.

**IMPORTANT: Once the two containers of epoxy are mixed together, the coating has a limited work life. DO NOT mix the ingredients until just prior to brushing on the coating. The mixed epoxy will begin to harden in about 3-5 minutes.**

**IMPORTANT: If you have two kits included with your FeelsWarm mat, mix and apply one kit at a time.**

### APPLYING THE COATING:

- A. Mix the coating by combining all of Part A and all of Part B. Pour both Part A and Part B into the tin pan. Stir together using the tongue depressor. It is important to thoroughly combine Part A and Part B.
- B. Use the enclosed brush and apply a thin layer of coating onto the undersurface of the countertop. The essential area to brush the coating is where the perimeter/edges of the heater will attach. It is not critical to coat the entire surface where the heater body attaches unless there is extra coating. Start by applying an inch wide path all the way around the area where the heater attaches. Work fast and do not worry about precision. Brussels from the brush may come off but the mat will cover it up.
- C. The coating consistency is similar to thick honey and brushes on in thick strokes— the coating will not drip down/vertically if applying a thin coating.
- D. The coating will begin to lose its ability to be brushed in 5 minutes therefore, complete the job **quickly** after mixing.

### AFTER COATING

- A. The coating will harden completely in about 30 minutes (at 70 degrees F). The surface will no longer be tacky when it has dried fully.
- B. Wipe the surface with isopropyl alcohol prior to installing the heater.
- C. Attach the heating mat to the counter following the instructions in this manual.

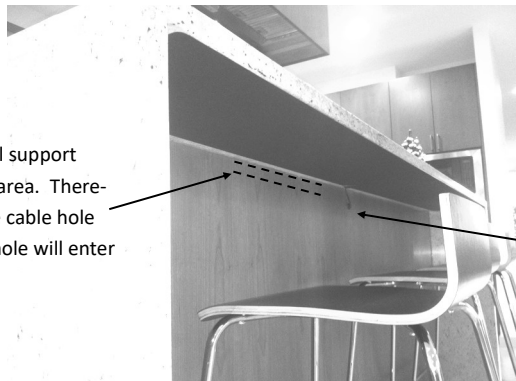
## 2 PERFORM A 'DRY' TEST INSTALLATION OF THE HEATER BEFORE STARTING

- A. After the surface is prepared, conduct a preliminary fit by leaving the white release liner on the heater and holding the heater under the counter to ensure the fit is what is expected and that there are no conflicts with supports, cabinets, or other items.
- The front edge of the heater should be mounted back from the countertop edge between 1/4 and 1/2 inch. Precision is not critical.
  - If the connection wire/power supply will be connected to an outlet inside a cabinet, mark with a pencil where the connection wire will enter the cabinet.
- B. After preliminary test fitting, lie the heater on top of the counter WITH THE WHITE RELEASE LINER FACING UP. NOTE: Once the release liner is removed, the adhesive is very sticky and can be difficult to remove if bonded to the stone.

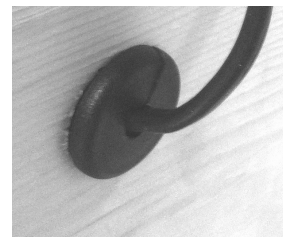
## 3 DRILL CABLE HOLE IN CABINET

- A. Evaluate how the cable from the heater will reach the outlet inside the cabinet. Consider how the wire will feed and where access hole needs be located in order for the heater cable to route within the framework of the cabinet.
- B. Predict where the cable hole can be located to successfully penetrate the cabinet without hitting supports, wires, or other barriers. Use a stud finder and other methods to anticipate a good location for the hole.
- C. To ensure that the cable hole will go through into the cabinet, drill a 1/16th" hole and verify that the hole doesn't hit a stud or other obstacle. The reason for the 1/16th" hole is so that if a second hole has to be drilled, the 1/16th hole is small and can easily be filled with putty to hide it.

Note: Often there is a horizontal support board in the cabinet wall in this area. Therefore, it would be wise to drill the cable hole below this board to ensure the hole will enter the cabinet cupboard.



Cable hole after finishing plug is installed.



- D. Use a 3/4" spade drill bit to drill a hole in the cabinet wall(s) which will enable the heater cable to route to the power outlet after the heater is mounted.
- E. The cable will feed from the heater into the cabinet where it plugs to the Thermal Control Unit, Transformer and outlet. The plastic cable plug will be placed around the cable and inserted into the 3/4" hole for a professional look (as shown).

## 4 ATTACH THE HEATER

- A. With the heater lying on the top of the counter with the white release paper facing up, peel the white release liner off the heater— Do not discard.
- B. Reduce the size of the release liner into manageable pieces by ripping the white release paper into smaller sections approximately 6" X 24" sizes (the size/shape of these sheets is not critical).
- C. Immediately, place the release liner sub-sheets back down onto the sticky heater but place them onto the heater so approximately 6" of the front-edge of the heater is exposed . This process leaves a sticky portion of the heater to start attaching to the countertop while it is being manually held and positioned under the counter.
- D. Move the heater from the top of the countertop and begin attaching it to the underside of the stone counter—keeping the white release liner on the heater. This is generally accomplished by sitting on the floor facing out.
  - Align the heater under the counter, keeping the heater close to the front edge (1/4" to 1/2" from the edge). Lightly press the heater down so that you know it is flat and wrinkle free. The partial white release liner sheets prevent the entire heater from sticking to the counter inadvertently while the heater is being aligned.
- E. Once the front edge of the heater is positioned and is wrinkle-free, gently curl the back edge of the heater down and remove the release paper, then lightly tack the entire heater in-place.
- F. Once the entire heater is tacked in-place throughout the countertop, ensure it is wrinkle free. If so, then proceed to press firmly throughout the entire heater.
- G. Using a dry rag to help provide uniform and wider pressure, compress the heater firmly over 100% of the heater area. It is important that the entire heater is in-contact with the stone.



- ## 5 FINAL PRESSURE TO ACTIVATE PERIMETER ADHESIVE
- Once the heater is attached, the high-bonding adhesive must be activated fully. **IMPORTANT:** The heater has a perimeter bonding adhesive that provides the premiere adhesion of the edges of the heater to the stone. Ensure the perimeter 1" is pressed extra hard to get the high bond edges.

NOTE: Avoid pressing hard on the wire connection pad area to not damage connection points.

NOTE: The bonding adhesive of the heater takes 72 hours to reach the full bond strength. Do not attempt to peel the heater off the stone to "test" the adhesion.

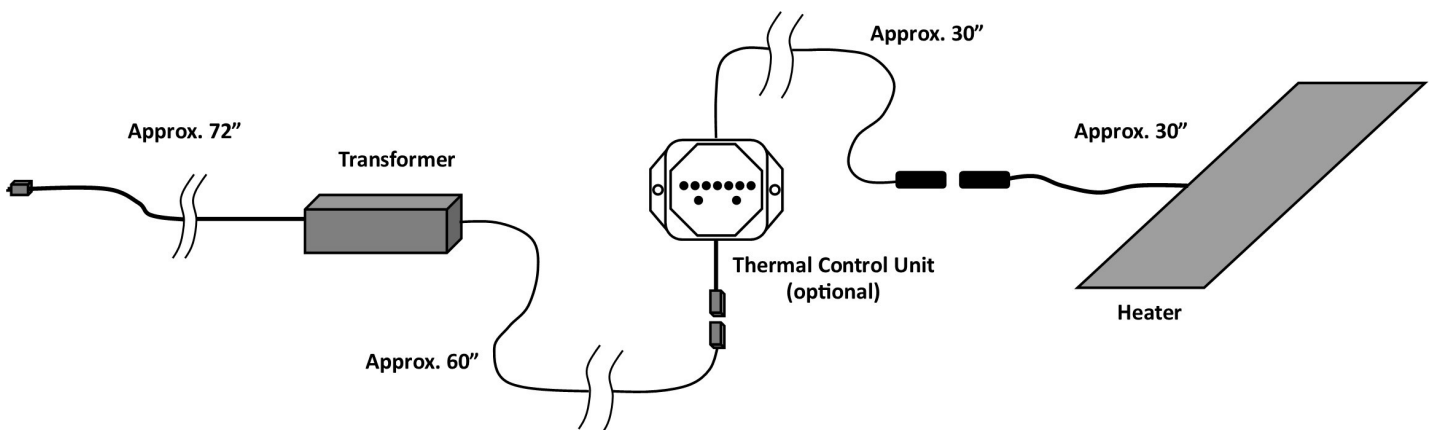
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## 6 INSTALL CABLE PLUG

After the heater has been installed, feed the heater cord through the drilled hole. Included with your heater is a black cable plug. Put the plug over cable wire (there is a slit in the side of the plug to allow this to happen) then insert the plug into the hole in the cabinet. See the photograph on Page 4.

## 7 INSTALL POWER SUPPLY

Connect the heater, Thermal Control Unit (optional), transformer, and power cord together using the diagram below.



It is common to put the Thermal Control Unit within a cabinet or out of normal visibility but still accessible for periodic use. The Thermal Control Unit can be mounted onto the inside wall of a cabinet with the screws provided. The transformer typically lies in a cupboard or in the bottom of the cabinet. The transformer may feel warm to the touch (or a bit hot in some cases)—this is normal.

The heater will draw up to between 1/2 and 2 amps at 120V depending upon the size of the heater. For reference, a toaster typically will draw up to 12.5 amps. Traditional home circuit lines will be wired for 15 amps. If the outlet that the heater plugs into also has significant current-drawing devices that will exceed the circuit breaker limit, consult a licensed electrician for a permanent solution.

**IMPORTANT:** If the FeelsWarm system that has been purchased involves multiple transformers and/or multiple heaters, each transformer plug and each heater cable will have a numerical tag with matching code numbers. It is extremely important that the correct transformer is plugged into its correlating mating heater.

## 8 SECURE WIRES

Your FeelsWarm heater is supplied with a packet of velcro patches, a strap, and screws to use to secure the various wires inside the cabinet and to mount the transformer on a side wall if you do not wish to have it on the floor of the cupboard. Often, there is an excess supply of wire provided so keeping the wires out of the way of normal activity is suggested. Peel the clear release liner off one half of the velcro patches and stick it onto the cabinet wall. Secure the wires using the mating velcro piece. If the velcro patches do not stick to your cabinet wall, use the strap included. Cut the strap to the desired length and drill the screws into the cabinet wall to secure your transformer and access cords.



## 9 TURNING HEATER ON

You can turn on your FeelsWarm heater immediately. If your heater does not include a Thermal Control Unit, turn the heater on by plugging in the transformer to your outlet. To turn the heater off, unplug the transformer.

If your heater does include a Thermal Control Unit (TCU), it permits the temperature to be adjusted down from the automatic maximum temperature of the heater and it also provides a quick on/off method. Once the transformer is plugged into your outlet, the TCU will light up. Use the small button on the TCU to change the settings. The red light indicates the heater is OFF. The single green light indicates the heater is receiving power. The yellow lights indicate what level of temperature the heater is set at.



It is recommended to put your TCU at HIGH for the first 24 hours. This is the most common setting and is likely the desired temperature. The heater automatically raises the temperature of the countertop approximately 20 degrees Fahrenheit above the room temperature when set at HIGH. If the room temperature is elevated, then either turn the TCU to OFF or adjust it towards LOW in various increments. Typically, once the desired temperature of the countertop has been established over a day or two period, the need to make changes to the temperature is infrequent.