



HEATCON® SERIES 99 PVC TRIM HEATFORMING KITS



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HEATCON PVC TRIM HEATFORMING KITS

Thank you for purchasing the HEATCON PVC Trim Heat Forming System. This heat forming kit contains everything you need to successfully create custom curves, arches, ellipses, etc. from most major PVC trim brands.

Along with detailed instructions on heat forming, we provide a general overview on items you may need to accompany this kit. Depending on your individual project, these items may vary. As you become more accustomed to working with your new PVC Trim Heat Forming system, you may learn your own tricks and tips that work best for your situation and for the creations you are attempting to heat form.

Disclaimer:

The information contained in this manual is intended to assist you in heat forming PVC Trim material with HEATCON® products. It is not intended to and does not create any warranties, expressed or implied, including any warranty of merchantability or fitness for a particular application.

HEATCON®, Inc. reserves the right to make changes to this material, data sheets, or other information in this manual, at any time without notice.



SAFETY WARNINGS AND GUIDELINES



WARNING: Read and understand all instructions before operating the Heat Forming Kit. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

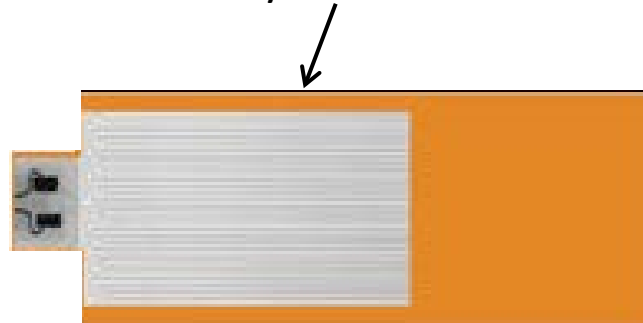
- **Do not expose the heatforming kit to rain or wet conditions.**
- **Ensure extension cord is rated to carry the current draw the Heat Forming Kit is rated for.**
- **Do not allow contact between the two blankets to avoid damaging or overheating the blankets.**
- **Blankets should be rolled for storage. Avoid any sharp turns or bends to the blanket.**
- **Do not overlap blanket heater onto itself while plugged in.**
- **Do not plug the blanket directly into a wall socket, only the controller.**
- **Ensure the temperature gun is functioning properly prior to use.**
- **Ensure the marked "X" on the heater is against the product to be heat formed.**
- **The heat blankets operate at temperatures exceeding 275+ degrees Fahrenheit. At no time should the heaters be handled without heat protectant gloves.**
- **Perform in a well ventilated area.**

BLANKET CARE INSTRUCTIONS

HEATCON®'s quality standards are among the highest in the industry. We take great care in designing, manufacturing and testing our Silicone Rubber Heaters. Our desire is to provide our customers with a strong, durable and reliable tool for application purposes. The end result of our quality process is a Silicone Rubber Heater that is economical for the customer to use.

Each silicone rubber heat blanket has a series of evenly spaced distributed wires inside the blanket material (see illustration below). The wires are encapsulated in a high temperature silicone rubber material and then a protective layer of woven fiberglass materials is applied for extra protection (Figure 1).

Cut Away View of Heat Blanket Wire



BLANKET CARE INSTRUCTIONS

In order to obtain the maximum usage of your Silicone Rubber Heater, follow these simple care instructions:

1. Store the heat blankets in the original case provided with your kit (Figure 1). When rolling the heat blankets:
 - Carefully lay both blankets on top of each other on a flat surface (ensure both blankets are at room temperature).
 - Starting at the end of the blankets roll the blankets with no less than a four inch diameter air gap. Use caution and do not bend or fold the heat blanket (Figure 2).
 - Ensure that the connector leads do not have a strain or pulling force on them.
2. If storing the heat blankets outside of the original case, store the heat blanket in a flat position or in a rolled up position. Ensure that the leads do not have a strain on them.



Fig. 1



Fig. 2

BLANKET CARE INSTRUCTIONS

HANDLING

1. Ensure blankets have completely cooled before handling. Handle using heat protectant gloves as provided in the kit.
2. Take care when handling the heat blanket. Do not roll, fold, or carry the heat blanket by its lead wires. **DO NOT BEND TABS OF HEAT BLANKET.**
3. Do not pull on, or stress, the lead ends of the blankets while handling.

USE

1. Operate the blanket within its designed operating temperatures. Most PVC materials can be heated to a temperature between 275°F - 325°F. When higher temperatures are required, keep in mind that heat blanket life decreases. Operation at temperatures over 400°F degrades the silicone surface and greatly reduces blanket life.
2. Avoid placing heat blankets on sharp objects that could cut the cured silicone surface or cut into the fine wire circuits.
3. Avoid placing the heat blankets on wet areas or liquids.
4. Do not overlap the heat blanket onto itself or another heat blanket while plugged in or in operation.
5. Place the blankets with the “X” facing the material and “Caution Hot” facing opposite side of the material being heated.
6. If a brown or black spot appears on the blanket surface, stop the heating process immediately. This maybe a sign of overheating or blanket malfunction. Contact HEATCON® for a consultation of the blanket condition.

CONTROLLER OPERATION

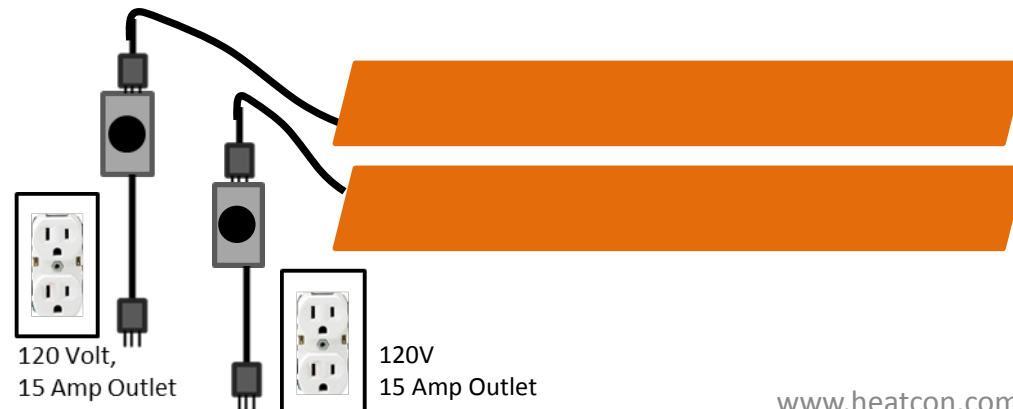
The controller(s) included with your Heatforming Kit are specifically matched with the size of heat blanket included in your kit. It is important that the controller meets the proper electrical requirements to operate the heat blanket properly.

Each control will operate each individual blanket.

- To determine the proper electrical requirements to power each individual controller refer to the example below:

***Heat Blanket is rated for 1000 Watts, Controller operates on 120 Volts
(Remember.....Watts ÷ Volts = Amps)***

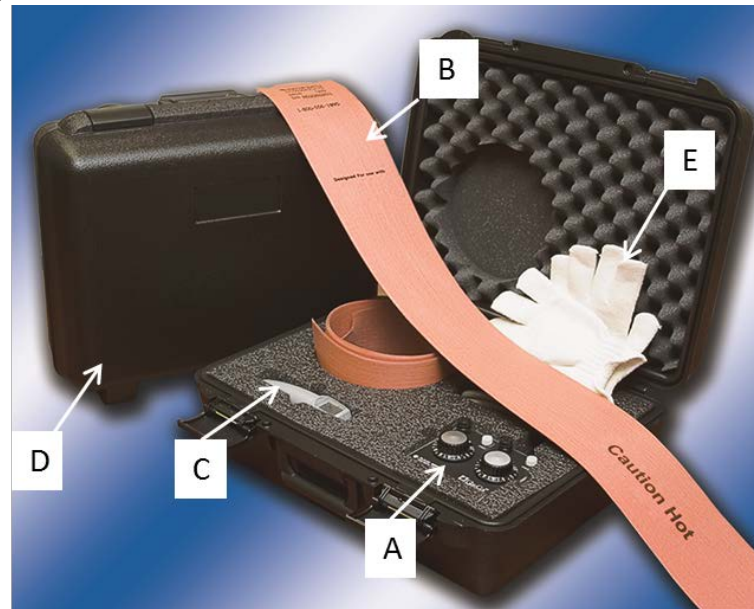
- In this case each control/heat blanket will need a 10 Amp, 120 V power source to operate properly. Most standard household circuits are 15 Amp, 120 Volts, so each controller would need it's own circuit to operate safely.



WHAT IS INCLUDED IN THE PVC TRIM KIT

Included with the Heatforming Kit:

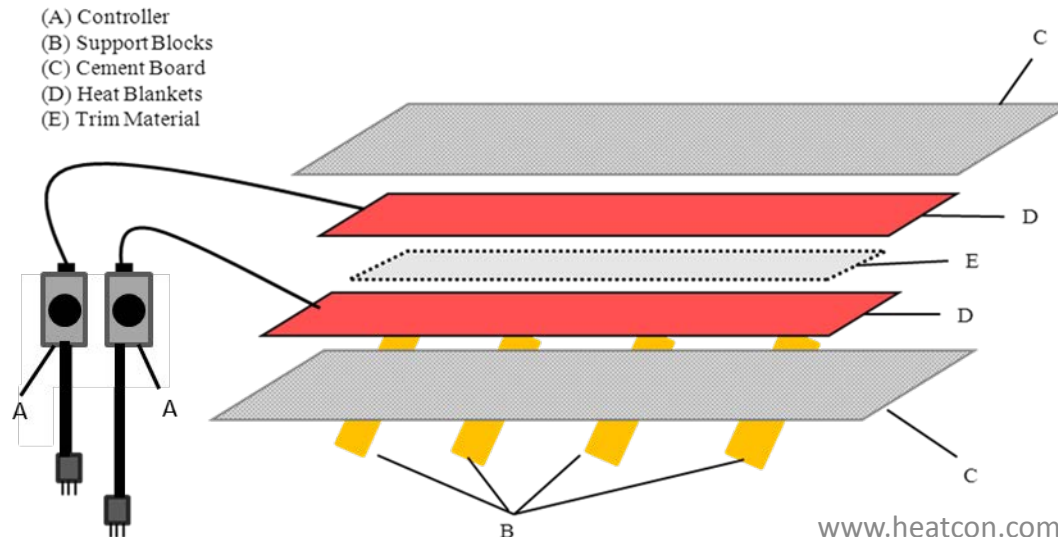
- A. Dial Style Heat Controller(s)
- B. Two Silicone Rubber Heaters
- C. Infrared Temperature Gun
- D. Carrying Case
- E. Heat Protectant Gloves
- F. Instruction Manual



WHAT IS NEEDED TO GET STARTED...

Items that you need to obtain include:

- Two pieces of concrete board or concrete based siding that are 2" wider on each side and slightly longer than the heat blankets
- 4-6 pieces of scrap 2x4 or equal height items used to elevate the heat blankets off of the work surface
- Cellular PVC material to be heat formed
- A Form around which you will create the formed item, i.e., a "jig".
- Clamps to secure the material to the form after heat forming.



HEAT FORMING PROCEDURE

- Lay out wooden blocks to support cement boards and protect work surface from heat.
- Place cement boards on wooden blocks. (Fig. 3)
- Place the heat blankets on the cement board. (Fig. 4)
- Plug heat blankets into controller making sure both dials are in the “Off” position before plugging blankets into controller (Fig. 5)
- Plug controller into standard properly rated outlet. Refer to cord length/gauge chart below as reference if using an extension cord.



Fig. 3



Fig. 4

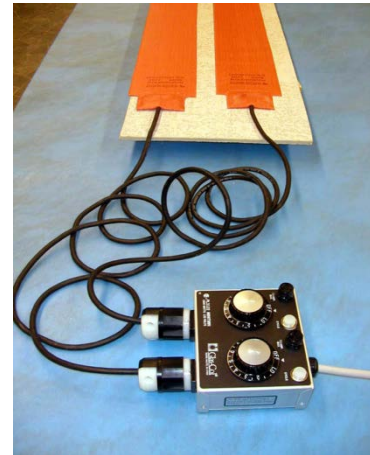


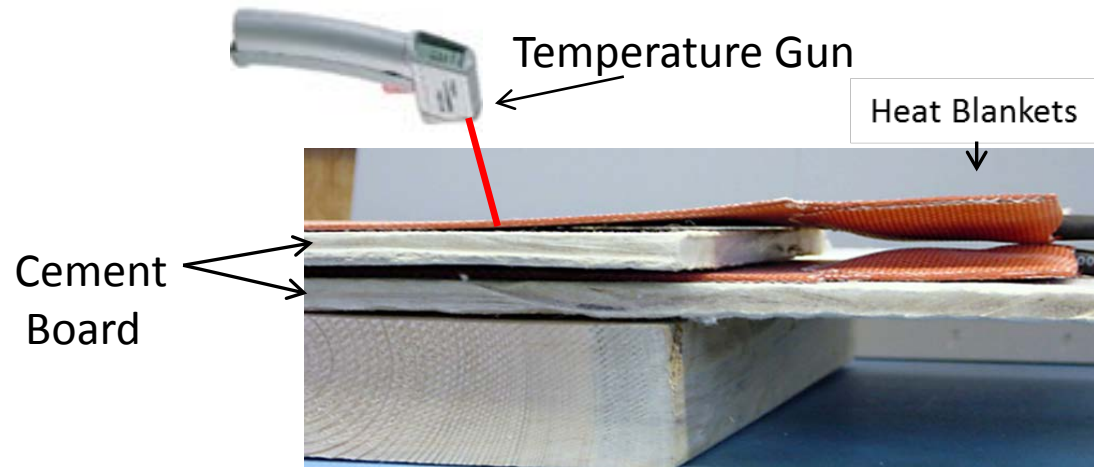
Fig. 5

*Rating Length of Cord in Feet:	25'	50'
15 amp 120V:	14 Ga.	12 Ga.

HEAT FORMING PROCEDURE

Once your area has been set up, you may begin preheating the blankets. To pre-heat follow these guidelines:

- Place top fiber cement board between heat blankets.
- Set Controller to “High”.
- Pre-heat for 15 - 20 minutes until temperature reaches 290°F - 300°F.
- Use supplied infrared temperature gun to measure blanket temperature. Point temperature gun within 1-2 inches of blanket for accurate readings.
- Do not allow heated portion of blankets to directly contact each other.
- Lower temperature if heat forming will not begin immediately.



HEAT FORMING PROCEDURE



WARNING: Always wear heat protectant gloves while handling the heat blankets or heated material, failure to do so may result in bodily damage or burning.

Follow these steps to heat form PVC trim:

- After blankets are pre-heated place the top blanket and cement board off to the side (Fig. 6).
- Place PVC material between blankets with preheated cement board on top and bottom as shown below (Fig. 7).
- Set dial for top blanket to 8 - 8.5.
- Set dial for bottom blanket to 7.5 - 8.
- Indicator light (A) will show on controller when blankets are heating.



Fig. 6



Fig. 7



HEAT FORMING PROCEDURE

- Continue heating for 7 - 10 minutes.
- Temperature should reach about 300°F.
- Check temperature periodically of the blankets and the board with the temperature gun (B).
- The bottom heat blanket may get hotter than top heat blanket.
- Increase or decrease controller settings as necessary to optimize heating.
- VERY IMPORTANT - Overheating will result in deformed surface or burn marks on the material or heat blankets.

Fig. 8 - Set Up Tip: If heating up PVC material that is shorter than the heat blankets, use a spacer board in-between the area of the heat blankets. The spacer board should be a flat piece of the same material and color being heated or use layers of concrete board. DO NOT use treated lumber or regular wood as a spacer.

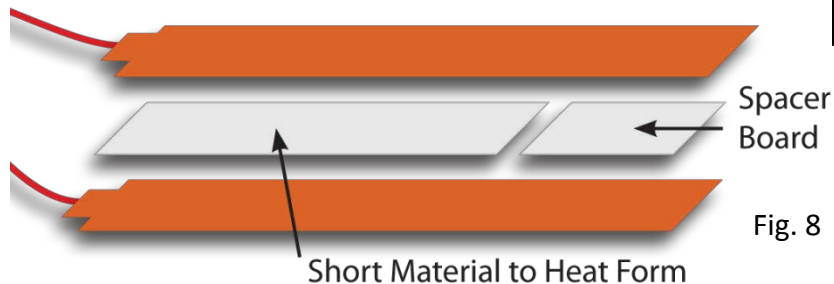
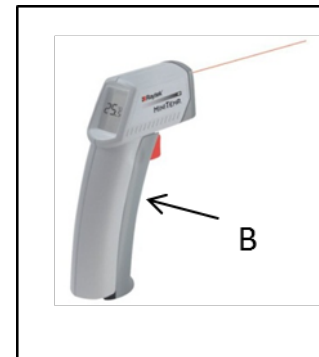


Fig. 8

HEAT FORMING PROCEDURE

- When product is approaching final temperature, check product for Consistency while wearing heat protectant gloves. (Fig. 9)
- When the heated board has the look and feel of cooked spaghetti, it is ready to be heat formed. (Fig. 10)



Fig. 9

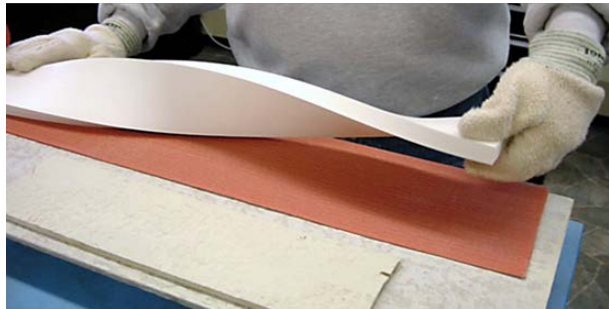
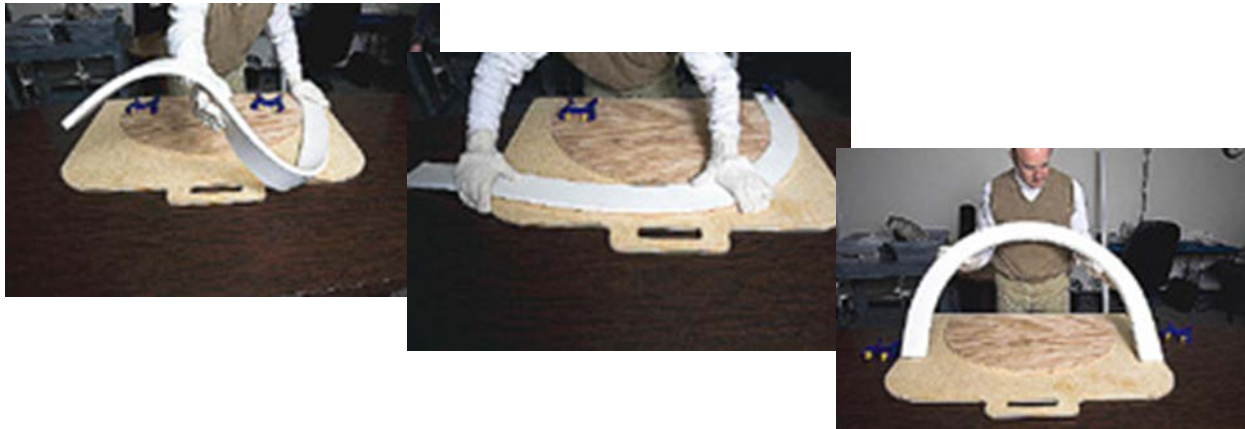


Fig. 10

HEAT FORMING PROCEDURE

- When proper temperature is reached, remove material from between blankets and place material over center of form, while wearing heat protect gloves.
- Remove the material from the heat blankets. Place one end of the heated material on the edge of the form and clamp it down to keep it from moving
- Begin pulling the material gently along the form. If the material wrinkles or feels rigid to form, straighten material out before it cools and place it back in between the heat blankets.
- After completely forming the material, clamp down the opposite end. Run hands along the material, while gently applying pressure to smooth the material as it cools.
- After the material cools, unclamp the material and remove it from the form.



HEATFORMING TIPS

- Longer pieces of PVC material can be heat formed by heating one side at a time.
 - Lay blankets end to end without overlapping blankets. -
 - Begin heating product one side at a time.
 - Flip product periodically until board reaches proper temperature.
 - A piece of preheated cement board can be used to keep top face warm during this heating process.
- A tight radius may wrinkle slightly on the inside edge of formed piece.
- Use a router to clean up any inside wrinkled edges.
- Wrinkling on larger radius pieces may indicate that the piece has not been heated enough or that it has cooled too quickly.

FREQUENTLY ASKED QUESTIONS

How long will the heat blankets last? If the heat blankets are handled and stored properly the heat blankets should last for seven (7) years. We have had PVC trim kits in the field for over a decade with all of the original equipment still in use. If the blankets are not handled as outlined in our heat blanket care instructions and users' manual, the life of the blankets may be shortened.

Why do I need a temperature controller for the heat blankets? The heat blankets require a temperature controller to regulate the heating process. The temperature controller is simple to operate and when used in unison with the infrared temperature gun enable you to control the temperature of the blankets. Without the controller, the heat blankets will simply overheat and become damaged.

There are other ways of heating up PVC trim materials, what makes the HEATCON system different? Other heat forming methods such as tube heating systems will work, but may not provide even heat across the length of the board. This may cause the board to overheat on one end and not heat up enough in the center, making it difficult to bend. HEATCON's system is lightweight and portable and provides an even heat across the entire board.

Why is concrete board used in the heating process and can I use other materials to insulate the heat? The heat forming procedure recommended by HEATCON® utilizes standard concrete board or concrete siding in the heating process. The purpose of the concrete siding is to keep the heat insulated between the heat blanket and material. It also helps to keep the heat blanket flat and in place against the PVC material. We recommend having at least 2" concrete board overlapping the heat blanket.

Can I bend all PVC trim brands and what temperatures do I need to reach? Most PVC trim materials offered today will require the material to be heated anywhere from 290°F to 300°F for 15-30 minutes to achieve a radial bend. Once the blankets are heated up the second piece of material will heat at a faster rate.

Can I use the PVC trim heat forming kit to form composite decking material as well? The PVC trim blankets are not recommended for heating composite deck boards because the blankets heat at a faster rate than our standard deck blankets. PVC trim requires a higher surface temperature and can be heated at a faster rate than decking materials due to the material composition. Decking material is thicker and contains less PVC than interior trim. Thus, deck blankets are designed to heat at a slower rate to allow the heat to radiate through the material.

FREQUENTLY ASKED QUESTIONS

Why is there an odor during the heat forming process? The PVC material will release an odor from heating the material. New heat blankets will also emit an odor after the first use. It is recommended to perform the process in a well-ventilated area.

How do I heat up a board that is shorter than the heat blankets? Heating narrow or shorter pieces of material can be accomplished by using filler boards. It is recommended to use a piece of the same material, and color, as the board you are forming to maintain consistency in the heating process. It is also recommended to rotate cool filler boards in and out of the process if heat forming multiple boards. Do not use wood boards or treated lumber as they will not transfer the heat consistently. Also remember that blankets should not touch for an extended period of time during the heating process due to extreme heat they generate.

How do I heat up a board that is longer than the heat blankets that I have? If you are heating up a board that is longer than your heat blankets it is possible to heat up a section of the board and then form that heated section. Then, heat up and form the remaining portions of the board. The results will vary depending on the radius and experience of the user. You can also use multiple heat forming kits to lengthen your

heating surface. The heat blankets can be butted up end to end to make a longer heating surface.

What outside forces can affect the heating process? Outside forces such as wind and cool ambient temperatures may affect the heating process. Performing the heating forming procedure out of the wind and in warmer ambient temperatures will improve the heating process.

Can I heat up a piece of material that is the same width as the heat blankets? It is recommended to have at least a ½" of extra heat blanket on each side of the material being heated. If heating up a board that is the same width as the blankets you will not be able to achieve a maximum radius or bend. Even though there is heat across most of the surface of the material, the outside of the material is exposed to the outside air temperatures. This does not allow the outside edges of the board to maintain the same heat level as the rest of the material under the heat blanket.

Will the size or texture of the PVC material change during the heating process? All PVC material brands will react differently. It is common for most materials to expand slightly. Some textured PVC trim boards will lose their texture look and feel after heat forming. It may be a good idea to test a piece of material before proceeding with a full project.



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