

INSTALLATION GUIDE Novitherm™ Heat Reflectors

1. Introduction

Installing Heat Reflectors is fast and simple. To ensure maximum benefit from your Heat Reflectors, it is important that you read and follow these instructions carefully.

1.1 Material required

Before you begin, you will need the following:

Provided by Matrix Energy Inc :

- Correct amount of Novitherm™ heat reflector panels
- Double sided tape

Not provided by Matrix Energy Inc.

- Glue (in case where double sided tape can't be used, see section "1.2 tape or glue?")
- Measuring tape
- Soft lead pencil
- Notepad
- Level about a meter long or a ruler
- Large scissors or a utility knife
- Duster with a handle (i.e. a feather duster)
- Hard stick to apply pressure on the double sided tape when glued on the wall (see section 3.5 Installation)

Minimum Space required:

- A minimum of 0.5" is required between the wall surface and the reflector.

1.2 Tape or glue ?

The tape supplied is the only tape that should be used to affix the Novitherm™ heat reflector panels. It is suitable for most smooth surfaces found behind heating units. However, the tape is not recommended for application on uneven surfaces as it does not have gap-filling qualities and cannot make good surface contact on a rough surface. If the wall surface is rough we recommend 'No Nails' adhesive distributed by Macco Adhesives. It is available at most hardware/building supply stores and application requires a caulking gun. Always follow the glue manufacturer instructions. The following recommendations will guide you in choosing the appropriate adhesive type:

Novitherm™ Double sided tape: For flat surfaces such as : flat paint, lack, flat wallpaper, vinyl wallpaper, ceramic

Glue (in tube): For rough surfaces such as textured wallpaper, textured paint, brick, textured wood, concrete, stucco or plaster

2. Cleaning the surfaces

For the Heat Reflector to be installed properly, it MUST have good adhesion to the wall. Therefore, the surface behind the heating unit needs to be clean and dust free. Although it is difficult to remove all traces of surface dirt and dust, it is important to remove as much as possible. Wiping a household duster between the wall and the heating unit will provide enough pressure to remove most dirt and dust.

When the Novitherm™ heat reflector panels are installed in enclosed radiators, after removing the cover it is important to do the cleaning on the surface where the reflector panel will be installed. **It is also highly important to clean the fins to remove the accumulated dust or particles.**

3. Installation Novitherm™ heat reflector panels

Using your notepad, pencil, and tape measure, follows this procedure:

Width of heating unit

- From the top of the heating unit, measure the distance from the last ridge on the left to the last ridge on the right
- If your radiator has a cover with heating fins inside, measure the full width of the cover.



Height of heating unit

- Measure from the top of the base board to the top of the heating unit. (Many people prefer to install the Heat Reflector about 1 inch below the top of the heating unit. (It depends on how much of the Heat Reflector you want visible). *On your notepad, identify the heating unit and write these measurements down.*
- If your radiator has a cover with heating fins inside, measure the full height of the cover.



Repeat these measurement procedures for each heating unit. Now you are ready to size your Heat Reflectors.



Example of radiator with cover

3.2 Sizing the reflector panels



The Heat Reflectors are 8, 12 or 20 inches high by 34 inches wide. Heat Reflectors can be easily reduced or enlarged to fit any size heating unit. It is important to note that the correct way to install Heat Reflectors is with the flat top of the ridged profile up.

Heat Reflectors are divided across its width into four sections: A-11" / B-6" / B-6" / A-11". This design will allow you to size the Heat Reflectors to fit any size heating unit with little waste.

3.3 Cutting the reflector panels

Vertical Height - depending upon the heating unit dimensions, you may need a combination of Heat Reflectors. In most cases, you will want to make the sized Heat Reflector smaller than the heating unit; about $\frac{1}{2}$ - 1" in from each edge. If you have heating unit covers, this may not be an issue.

To combine two Heat Reflectors, you will simply adhere the Heat Reflectors together. If you need partial sizes (i.e. to get 26", use a 20" and part of an 8"), cut as follows:

Lay the 8" Heat Reflector with its lower ridges lying over the top of the 20" Heat Reflector. Measure the height you need. Next, measure down an additional two ridges and cut horizontally along the bottom of the second additional ridge. Save the pieces that you have cut off.

Overlap the top part of the 8" Heat Reflector over the 20" Heat Reflector to give you the measured height. Always put the top Heat Reflector over the bottom one. Overlap and adhere the Heat Reflectors together. When overlapping 2 Heat Reflectors, have the uppermost Heat Reflector overlap the lower one.

Horizontal Width/Length – use the vertical flat lines to cut the appropriate width. Cut up the middle of the flat area leaving some flat edge on both Heat Reflector pieces for tape. You may need to add Heat Reflectors together or place side by side. To add width, proceed as follows:

Measure the width you need. Add an additional two inches and cut vertically through a section of the ridge.

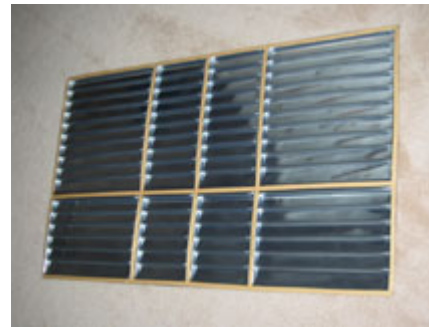


Once cut, overlap to give you the measured width. Save the section you have cut off for use with another heating unit. Overlap and adhere the Heat Reflectors together.

IMPORTANT INSTALLATION NOTE: there must be a flat surface all around the outer edge of the sized Heat Reflectors. This traps the air behind the Heat Reflector to give you a thermal barrier between the heating unit and the exterior wall.

3.4 Applying the tape

The back of the Heat Reflector has vertical and horizontal flat surfaces designed for adhesive. These are the surfaces that affix to the wall.



Now that you have determined the size of the Heat Reflector, you need to decide whether to use tape (on a smooth wall surface) and/or adhesive (on a rough wall surface).

For a smooth wall surface – Double Sided Tape

Apply the tape onto the flat surfaces (back, top, sides and bottom as well as on the vertical and middle flat tracks). Note: DO NOT PEEL THE PAPER BACKING OFF OF TAPE YET.

For a rough wall surface – ‘No Nails’ Adhesive

First, place 2" pieces of the double sided tape in strategic points to help hold the Heat Reflector in place while the adhesive sets. Using a caulking gun, follow the manufacturer’s instructions and apply a thin bead of the adhesive to the flat surfaces (back, top, sides and bottom as well as on the vertical and middle flat tracks).

3.5 Installing the reflector panels



Peel the cover from the tape. Take one Heat Reflector and gently slide it behind the heating unit, being careful not to touch the wall. Once you have the Heat Reflector lined up and level, take the installation cane and gently press down on the vertical tracks (starting at the top) until the Heat Reflector is firmly fixed to the wall. It is best to work from the middle outward. Do not press too hard or you may puncture or flatten the ridges.

It is necessary to provide pressure on the tape (10 to 20 pounds per linear inch recommended) to allow to adhesive the come into direct contact with the substrate. Using a hard edged, plastic or wooden tool, which is the full width of the laminated part, helps provide the necessary pressure at the point of lamination.

Using the same procedure, take the next sized section and fit it to the wall making sure that the edges line up to the Novitherm™ heat reflector panels already installed.

4. Adjusting the boiler temperature

To get the maximum energy savings out of your Novitherm™ heat reflector panels you will need to turn down your boiler/furnace thermostat (not your room thermostat) by about 5°C after installing the reflector panels. Contact your technician if you need help in this operation.

Your Novitherm™ heat reflector panels are now installed. Enjoy your energy savings!

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