



Before You Start

DO NOT connect Nuheat Mat to power when folded.

DO NOT cut Nuheat Mat.

DO NOT use sharp tools or power tools to clean grout lines; this may damage Nuheat Mat. Using these tools will void the product warranty.

DO NOT install Nuheat Mat in direct contact with any combustible surfaces or materials.

Avoid the following activities that may damage Nuheat Mat:

- Unnecessary folding
- Walking on the mat (protect with a cover such as plywood)
- Stapling
- Nailing
- Dropping heavy objects on the mat
- It is mandatory to install a Class "A" GFCI or GFCI circuit breaker with each Nuheat Mat installation. This can be accomplished by using one of Nuheat's thermostats or regulators. Only Nuheat thermostats should be used with Nuheat Mat.
- THIS HEATING PRODUCT SHOULD ONLY BE INSTALLED BY QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE APPARATUS AND RISKS INVOLVED.
- THE INSTALLATION OF THIS HEATING PRODUCT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE REGULATIONS OF THE AUTHORITY HAVING JURISDICTION.
- Nuheat Mat must be installed above 10°C or 50°F or per thinset manufacturer's minimum specified cure temperature for specific applications.
- Nuheat Mat should not be modified, including cutting or trimming of any portions of the mat.
- It is suggested that first time installers contact Nuheat's First Time Installer Line at 1 (800) 778-9276 for valuable installation tips.
- Subfloor must be prepared in accordance to ANSI specifications.

How To Test Nuheat Mat

Insulation Test

To ensure that the conductors are fully insulated:

1. Acquire a digital ohm/multimeter with alligator clips or equivalent testing device.
2. Place one probe clip on the metallic braid (ground wire) and the other probe clip on the conductor inside the white lead.
3. Confirm that the reading is OL or infinity (open circuit).



Resistance Test

To ensure continuity in your heating mat:

1. Acquire a digital ohm/multimeter with alligator clips or equivalent testing device. Set the ohmmeter to the appropriate setting. Place one clip probe on the conductor in the white lead and the other probe clip on the conductor in the black lead.
2. Confirm that your ohm reading is within +10% / -5% of the factory reading listed on the mat tag. Record the ohm reading in the Mat Resistance Log (page 4).

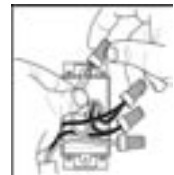


Note: Nuheat Mat must be tested before, during and after the installation to validate the warranty.

Electrical Installation

All wiring must follow specifications set out in Part 1 of the Canadian Electrical Code or with Article 424 of the National Electrical Code ANSI/NFPA 70, or whichever is applicable to local electrical inspection regulations and authorities. All Nuheat Mats must be connected to the electrical service through a Class "A" Ground Fault Circuit Interrupter (GFCI). A GFCI is built into all Nuheat controls.

1. Connect the braided ground wire to the electrical box grounded copper conductor using approved wire connectors.
2. Attach the corresponding lead wires to the junction box using CSA Certified/UL Listed cable fittings. Make the electrical connection only after the flooring is complete. Nuheat Mat must be connected to minimum 14AWG supply conductors. Supply conductors shall be suitable for residential wiring according to local and national electrical code. In all cases, do not exceed box fill for conductors. Typically, only 3 Nuheat Mats may be connected to a supply conductor in a standard device box.



WARNING: Risk of electric shock and fire. Damage to supply conductor insulation may occur if conductors are routed less than 2 inches (51mm) from this heating product. Refer to installation instructions for recommended means of routing supply conductors.

3. Affix the supplied orange label to the panel board beside the appropriate circuit indicating which branch circuit supplies power to Nuheat Mat.
4. Affix the supplied "Concealed Area Warning" label to adjacent points of access to concealed areas in which installed heating products are accessible.
5. Affix the supplied "Radiant Floor Heating" sticker to the room control for the Nuheat floor warming system.

Nuheat Mat Installation Tips

- When using multiple Nuheat Mats, ensure that the outside wires of adjacent mats are within 1-1/2" of one another to keep the wire spacing and heat distribution consistent across the floor.
- There is no up or down side to Nuheat Standard Mats. Mats may be flipped in any direction to place the lead wire as close as possible to the junction box.
- To test the bond between Nuheat Mat and the subfloor, peel a portion of the mat back from the thinset you have adhered to the subfloor. At least 80% of the underside of the mat should be covered with thinset.

After You Have Installed Your Nuheat Mat

Before activating Nuheat Mat, allow at least 72 hours to 1 week for the thinset or adhesive to cure, or according to manufacturer specifications.

Having Problems With Your Nuheat Mat?

Should you have any questions or difficulties installing or controlling your Nuheat Mat, please contact Nuheat directly at 1 (800) 778-9276.

How to Contact Nuheat

NUHEAT INDUSTRIES LIMITED

1689 Cliveden Avenue
Delta, BC, V3M 6V5, Canada

Toll Free: 1 (800) 778-9276
Phone: (604) 529-4400
Fax: (604) 529-4404

Technical Support Line:
1 (800) 778-9276

Website: www.nuheat.com **Email:** info@nuheat.com



PART 1: SECURE NUHEAT MAT TO SUBFLOOR

WARNING! RISK OF ELECTRIC SHOCK AND FIRE. DAMAGE TO SUPPLY LEAD INSULATION MAY OCCUR IF LEADS ARE NOT ROUTED ACCORDING TO NUHEAT MAT INSTRUCTIONS BELOW.

1. Ensure the subfloor is clean and free of debris. Mark the location of the supply leads on the subfloor. Lay out the path of the leads to the junction box around the perimeter of Nuheat Mat. If leads do not reach the designated junction box, contact Nuheat at 1 (800) 778-9276. Where possible, the connecting leads should be laid in low traffic areas.

FOR INSTALLATIONS REQUIRING A COLD LEAD TRIM OR SPLICE, THE ELECTRICAL RATINGS LABEL SHALL BE FIXED TO THE COLD LEAD AND VISIBLE AT THE TERMINAL JUNCTION BOX.

Conduct insulation & resistance tests and record reading in the Mat Resistance Log (page 4).

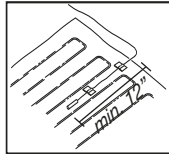
2. Dry fit the Nuheat Mat to ensure it fits the contours of the room and provides proper coverage. If Nuheat Mat does not fit, contact your place of purchase. The mat should be installed a minimum of 2" away from walls. 
3. Prepare the acrylic/latex modified thinset to adhere Nuheat Mat to the subfloor. Dampen any folds in the mat with water to assist adhesion.
4. Using at least 1/4" x 1/4" square notch trowel, spread a coat of fresh acrylic/latex modified thinset over the area to be covered by Nuheat Mat. Make your thinset grooves parallel to the mat wires. If laying Nuheat Mat in a large area, make sure to work on one manageable section at a time.
5. Place Nuheat Mat onto the fresh thinset pressing firmly with grout float or lightweight roller. Create 100% contact between the heating mat, the thinset and the subfloor. Press out any air bubbles or wrinkles and ensure that the surface is flat. 
6. Route supply leads to junction box according to the path laid out in Step 1. Ensure leads are flat; temporarily tape down as necessary.

Conduct insulation & resistance tests and record reading in the Mat Resistance Log (page 4).

PART 2: INSTALL FLOORING

Tile and Stone

1. Install Nuheat Mat as per PART 1: SECURE NUHEAT MAT TO SUBFLOOR. Ensure insulation & resistance tests have been performed and readings recorded in the Mat Resistance Log (page 4).
2. If installing a floor-sensing thermostat with GFCI, ensure that the floor-sensing probe is installed at this point. Please see floor-sensing thermostat instructions for proper connection procedures.
3. Apply a coat of thinset on top of Nuheat Mat according to the tile or stone manufacturer's recommended thickness. Install tile or stone on top. Tile must be installed according to requirements of ANSI A108.5.
4. Clean excess thinset from grout lines with a sponge or small brush and water as tile is being laid. The use of sharp objects or power tools to clean grout lines may damage Nuheat Mat and will void the warranty.



Conduct insulation & resistance tests and record reading in the Mat Resistance Log (page 4).

5. After thinset has cured, apply grout.

Note: Before activating Nuheat Mat, allow the thinset and grout to cure 72 hours to 1 week or according to manufacturer's guidelines.

Control Installation

If using a Nuheat programmable floor-sensing thermostat with GFCI, or Regulator with GFCI, please see floor-sensing thermostat instructions for proper installation procedures.

Floating Laminate & Engineered Wood

For all Laminate & Engineered Wood applications, the total combined R-values of all floor coverings over Nuheat Mat must not exceed R 2.5.

1. Install Nuheat Mat as per PART 1: SECURE NUHEAT MAT TO SUBFLOOR. Ensure insulation & resistance tests have been performed and readings recorded in the Mat Resistance Log (page 4).
2. Using the flat side of the trowel, apply a minimum 1/4" thick coat of thinset over Nuheat Mat and supply leads. Ensure the thinset is level and smooth.
3. Allow thinset to cure as per manufacturer's guidelines.

Conduct insulation & resistance tests and record reading in the Mat Resistance Log (page 4).

4. Install vapor barrier, if applicable, and underlay as per manufacturer's instructions.
5. If installing a MatComfort 82F or Harmony floor-sensing thermostat, ensure floor-sensing probe is installed at this point. Please see floor-sensing thermostat instructions for proper connection procedures.



Note: In all cases, the MatComfort 82F or Harmony sensor probe MUST be placed above the underlay to avoid compromising performance of Nuheat Mat.

6. Install laminate/engineered wood floor as per manufacturer's instructions.

Note: After installation, gradually turn Nuheat Mat up to the maximum temperature (82°F or 28°C) over a 72 hour period or according to flooring manufacturer's guidelines.

Control Installation

If using the MatComfort 82F or Harmony programmable floor-sensing thermostat for laminate and engineered wood surfaces, please see floor-sensing thermostat instructions for proper installation procedures.

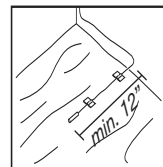
Glue Down Laminate & Engineered Wood

For all Laminate & Engineered Wood applications, the total combined R-values of all floor coverings over Nuheat Mat must not exceed R 2.5.

1. Install Nuheat Mat as per PART 1: SECURE NUHEAT MAT TO SUBFLOOR. Ensure insulation & resistance tests have been performed and readings recorded in the Mat Resistance Log (page 4).
2. Using the flat side of the trowel, apply a minimum 1/4" thick coat of thinset over Nuheat Mat and supply leads. Ensure the thinset is level and smooth.
3. Allow thinset to cure as per manufacturer's guidelines.

Conduct insulation & resistance tests and record reading in the Mat Resistance Log (page 4).

4. If installing a floor-sensing thermostat with GFCI, ensure that the floor-sensing probe is installed at this point. Please see floor-sensing thermostat instructions for proper connection procedures.
5. Apply adhesive and install flooring as per floor manufacturer's installation guidelines.



Note: Before activating Nuheat Mat, allow adhesive to cure according to manufacturer's guidelines.

Control Installation

If using the MatComfort 82F or the Harmony programmable floor-sensing thermostat for laminate and engineered wood surfaces, please refer to control instructions for proper installation procedures.

NUHEAT WARRANTY INFORMATION

To submit your warranty, go to www.nuheat.com and fill out our online warranty card.

Mat Resistance Log (LEAVE WITH END USER)	
Mat Model Number	
Factory Measured Resistance	
Resistance Test Ohms Reading (before installation)	
Resistance Test Ohms Reading (during installation)	
Resistance Test Ohms Reading (after installation)	