



# TRM STANDARD AND CUSTOM FLOOR HEATING MATS

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INSTALLATION  
INSTRUCTIONS



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## WARNING

COMPLETELY READ ALL OF THESE INSTRUCTIONS, AS WELL AS THOSE FOR ALL OTHER PRODUCTS USED IN YOUR FLOOR SYSTEM BEFORE BEGINNING INSTALLATION. FAILURE TO OBSERVE THE PRODUCT WARNINGS COULD RESULT IN DEATH OR INJURY FROM ELECTRICAL SHOCK OR FIRE. MAT FAILURE, IMPROPER OPERATION OR FLOOR DAMAGE MAY ALSO BE A RESULT. A MAT WARRANTY IS PROVIDED (PER NOTED TERMS) BASED ON THE INSTALLATION BEING DONE IN ACCORDANCE WITH THESE INSTRUCTIONS. IMPROPER INSTALLATION MAY VOID WARRANTY.

### Inspection

Electrical inspection may be required during and or after heating mat installation. BEFORE BEGINNING INSTALLATION, contact your local electrical and building inspection authorities for more information. Local codes may require this mat and/or the thermostatic control to be installed or connected by an electrician. TRM requires all electrical connections be made by qualified personnel and in accordance with the Canadian Electrical Code (CEC) or National Electrical Code (NEC), and all applicable local codes and ordinances.

### Application

The TRM mat has been designed to warm hard surface materials, such as ceramic and porcelain tiles, marble, granite, slate, laminate and engineered wood flooring. TRM mats are designed for use inside residential and light commercial buildings.

**DO NOT** use the TRM mat for applications other than for embedded indoor floor warming.

**DO NOT** use the TRM mat directly beneath carpet, solid wood, linoleum or vinyl floors.

**DO NOT** energize the TRM mat until it is embedded in a modified thinset mortar and the mortar has cured per manufacturer's recommendations.

**DO NOT** cut or modify the TRM mat to fit the area.

**DO NOT** overlap or fold TRM mats, install edge to edge when installing multiple mats.

**DO NOT** use staples to hold or secure the mat, cold lead or thermostat sensor wire.

**DO NOT** attempt to repair a damaged heating mat, call TRM for instructions before proceeding further.

**DO NOT** unroll and install mat when it is colder than 0C (32F).

**DO NOT** cross construction or expansion joints.

TRM mats provide comfort warming. TRM mats are approved to standard C22.2 No 130-03 and carry a –X rating, suitable for indoor embedded floor surface heating, dry locations. Residential kitchens, basements and bathrooms are considered dry locations. Areas below a waterproof membrane are usually considered dry locations; as such, TRM mat systems are suitable for dry areas; as well as in wet areas, when an approved waterproofing membrane is installed above to create an area which is rated and approved as 'dry'. Consult with your local authority for confirmation.

TRM floor heating mats require ground fault protection per electrical code; all TRM thermostats and relays include integral 5 mA GFI protection. See TRM Floor Heating Thermostats section for more details.

## Important Notes:

- TRM heating systems should be connected to a dedicated 15A or 20A electrical circuit (depending on amperage load for the room), which has been clearly marked/labeled in the electrical panel.
- The Sub-floor surface must be prepared in accordance with ANSI standards before proceeding with installation.
- Do not use power tools, or sharp implements when cleaning grout lines as this may damage the heating system.
- Be sure that the floor is not penetrated by nails, screw, or similar devices that can cause damage to the heating system.
- TRM recommends insulating above concrete slab (or high heat loss) sub-floors prior to installing the heating mat(s), as this will improve system performance and efficiency.
- All electrical connections and equipment should be kept clean and dry throughout the installation/testing/repair process.
- Caution must be used to prevent the possibility of electrical shock , fire and/or personal injury. Always De-energize power circuits before installing, testing or repairing the TRM electric heating system.
- Do not install the TRM heating mat(s) closer than 3" to: Walls, permanent floor fixtures, adjacent heating devices or floor vents.
- Do not install the TRM heating mat(s) closer than 6" from drains (4" from a toilet wax ring)
- Do not install the TRM heating mat(s) closer than 1" from combustible surfaces (not including wood based substrates)
- Do not install TRM heating mat(s) in/on/underneath walls, in/on ceilings, under permanent floor fixtures or under any materials which prevent air flow and proper heat transfer away from the floor surface.
- Ensure that any object(s) placed above the heated floor area are appropriate for use with electric radiant heat, and will not insulate the floor surface (trapping heat underneath), as this may cause unsafe floor temperatures to be reached between the object and the flooring material.
- TRM recommends the maximum R-value for floor covering layer(s) installed above the heating system be limited to:
  - 2.0-R for 10W/sqft systems
  - 1.5-R for 12W/sqft systems
  - 1.0-R for 15W/sqft systems
- With a total maximum value of 2.5-R for areas with throw carpets or similar type covering where the majority of the floor is uncovered
- The cross sectional height of a TRM heating mat is  $\frac{1}{8}$ " (3.175 mm). The mat is adhered to the sub-floor with modified thinset using a  $\frac{1}{4}$ "x  $\frac{1}{4}$ " square notched trowel. The mat is then fully encased with modified thinset using the  $\frac{1}{4}$ "x  $\frac{1}{4}$ " square notched trowel prior to applying mortar and tile. If an engineered/laminate floor is being installed above the TRM heating mat, you would need to apply a  $\frac{1}{4}$ " skim coat above the mat prior to proceeding with installation of the approved engineered/laminate flooring materials.



## OPERATIONAL NOTES

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- The wire spacing and power output of each TRM mat is custom designed and also thermally balanced in multi-mat applications. The power output of each mat will be between 12-15 W/ft<sup>2</sup>.
- Each floor is unique and will heat at a different rate – site heat loss may affect the system performance.
- TRM recommends using a floor sensing thermostat with an embedded probe to regulate floor temperature. TRM offers a range of programmable thermostats which allow the mats to be monitored and adjusted automatically.
- If the overall floor surface feels unusually hot, or if the circuit breaker trips when the system is energized, de-energize the system immediately and contact TRM. **Never bypass a tripped ground fault device.**



## PLANNING AHEAD

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- To reduce the potential for tile cracking, ensure the subfloor structure is built strongly enough to accommodate the tile (slate, granite, etc.) and tiling method selected. Your local tile retailer may be able to help with such information. The TTMAC, *Tile Terrazzo Marble Association of Canada* and the *Tile Council of North America* have published ANSI standards which provide detail on recommended methods of flooring construction. If you are using metal mesh, always fully cover the mesh with a layer of thinset prior to laying the mat, as the mesh edges are sharp enough to damage the heating mat.
- When installing the mat on a floor which is over an unheated area, it is recommended that the area below the floor be insulated. If left uninsulated, the finished floor may not be able to achieve comfort temperatures due to heat loss.
- When installing the mat on top of a concrete slab, it is recommended to insulate the slab surface, between the slab and the heating mat, in order to limit heat loss (refer to the applicable building code for slab insulation requirements). If left uninsulated, the finished floor may not be able to achieve comfort temperatures due to the heat loss.
- TRM recommends that the mat(s) be installed on a dedicated 20 Amp circuit and controlled by a line voltage ground fault thermostat. There are instances where the load requirements of the mats installed may exceed the dedicated circuit rating. In these instances, divide the heating area into zones and use multiple thermostats, or use thermostat relays on multiple circuits controlled via one thermostat. Consult with the local electrical authority for approved methods. Contact TRM for system control options.

- Ensure electrical junction boxes are properly positioned such that the leads from each mat will be able to reach into and extend 6" beyond the box. A large volume single gang 2" x 4" box is usually suitable for 1 or 2 mat installation, a 4" x 4" double gang box (with a single gang plaster or mudring) is recommended for installation with 2 or more mats.
- TRM recommends roughing in (1) electrical conduit for the cold lead(s); Optional, a second conduit can be installed at this time for the floor sensor probe(s). Consult with your local authority for confirmation.



## TAKE PICTURES AND KEEP NOTES OF INSTALLATION DETAIL

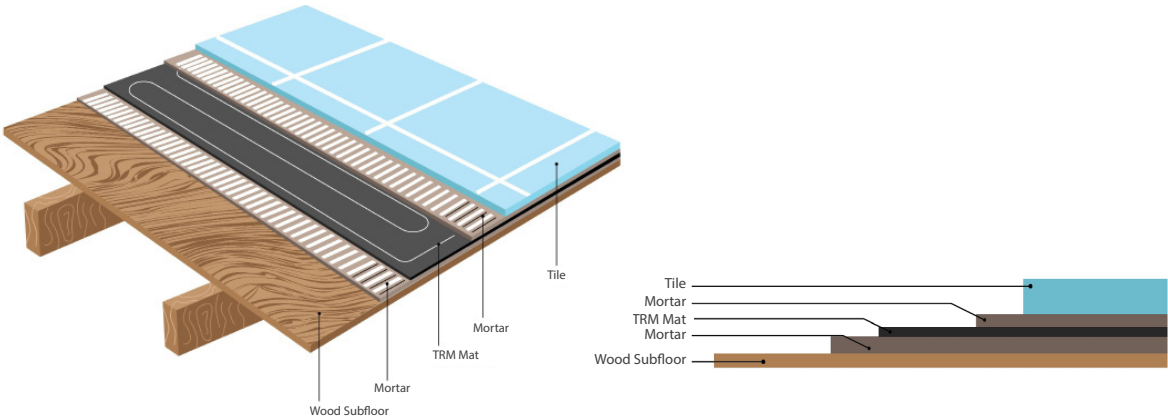
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TRM recommends you keep track of the details of your installation and save them for future reference. The tables at the back of this instruction manual are set up to help you record the installation details. We recommend taking photos of the installation as it progresses from mat installation to a finished floor.

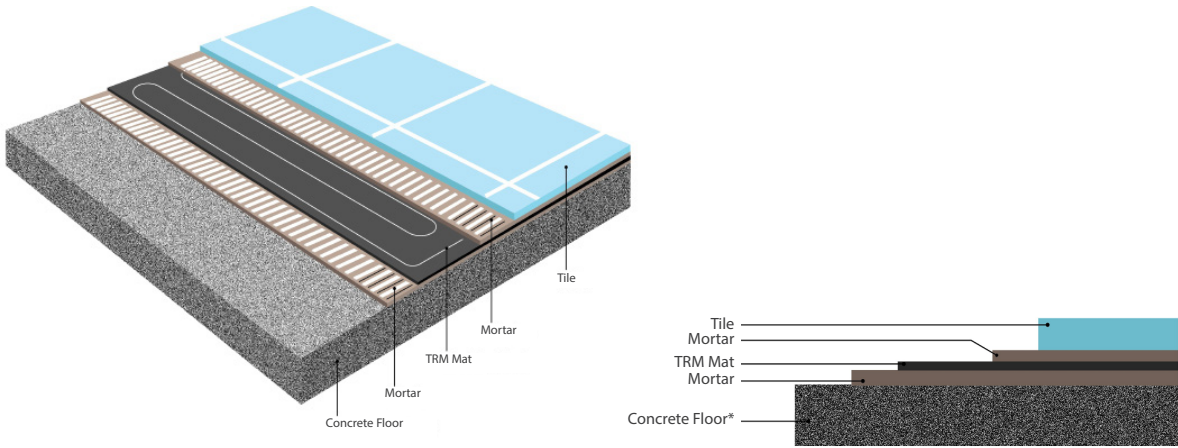
# TYPICAL FLOORING CROSS SECTIONS

The following diagrams show cross sections of the most common floor constructions. Use them as a visual reference as you read further.

## Tile over wood subfloor.

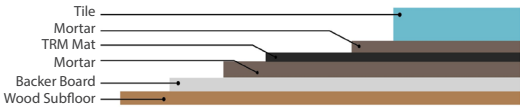
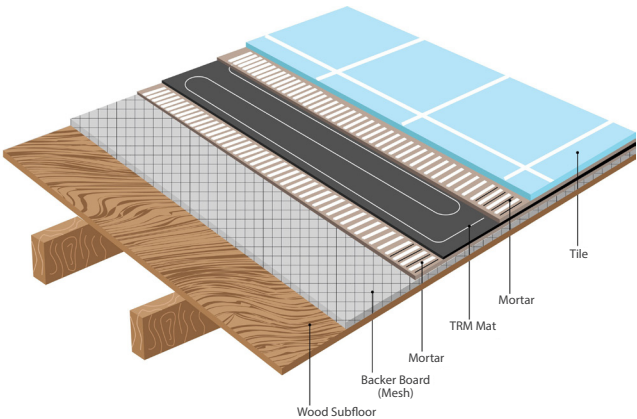


## Tile over concrete subfloor.

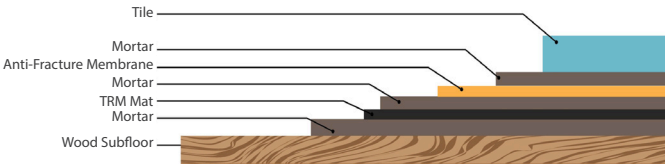
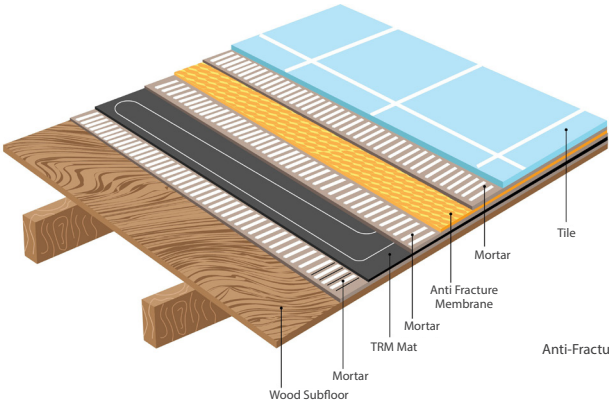


*\*Note: Sub-floor insulation (ie. thermal break) is always recommended prior to installation of an interior floor heating system. Please let us know if you have any questions.*

### Tile over backerboard (or mesh).

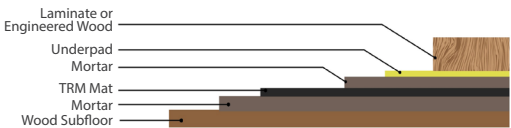
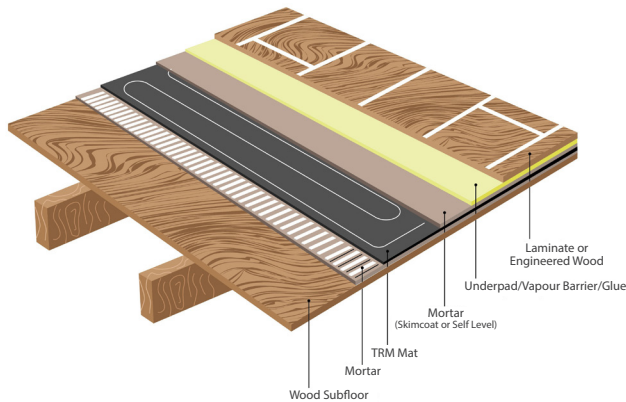


### Tile over anti-fracture.

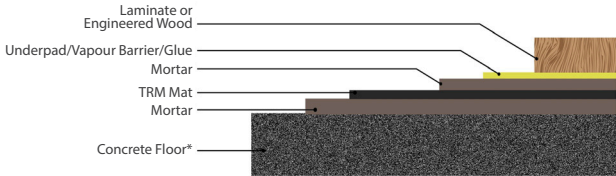
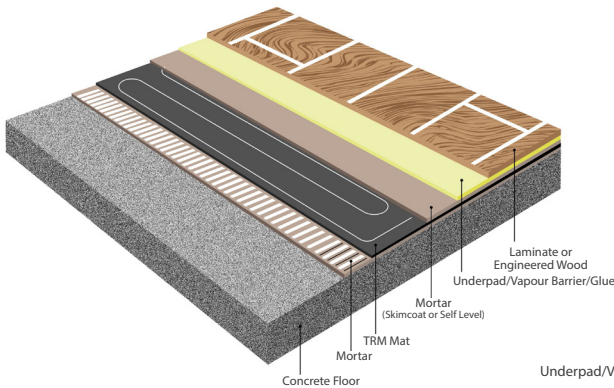




### Laminate over wood subfloor.



### Laminate over concrete subfloor.



*\*Note: Sub-floor insulation (ie. thermal break) is always recommended prior to installation of an interior floor heating system. Please let us know if you have any questions.*



## TOOLS REQUIRED

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- Square notch trowel, 1/4"x1/4" or larger (e.g. 3/8" x 3/8").
- Rubber grout float.
- Tape or hot glue.
- Electrical and construction tools: (screwdriver, wire stripper, etc.).
- Digital multimeter capable of 20 to 20,000 ohms readings.
- Megohmmeter capable of 500V testing or a multimeter capable of continuity measurements. (Recommended)



## MATERIALS

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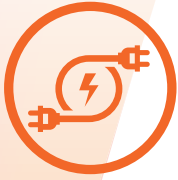
- TRM mat
- Tiling materials (latex/polymer modified thinset mortar, waterproof membranes, tile, grout, etc.).
- Floor-sensing thermostat with integral ground fault protection, and floor temperature probe(s).
- Thermostatic relay with integral ground fault protection. (only as required for multiple mat installations).
- Electrical junction box for thermostat. A 2"x4" box is suitable for a single mat installation, a 4"x4" box is recommended for two or more mats. Conduit (if required by local code). \* Verify specifics with your local electrical code authority relating to: conduit, boxes, sizes, etc. to ensure compliance.
- TRM recommends roughing in (1) electrical conduit for the cold lead(s); Optional, a second conduit can be installed at this time for the floor sensor probe(s). Consult with your local authority for confirmation.



## SUBFLOOR PREPARATION

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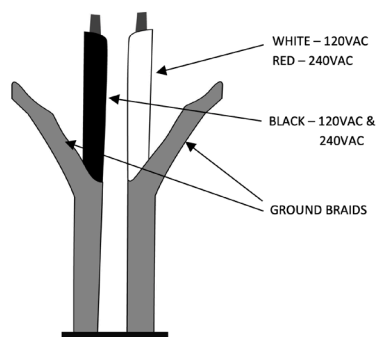
Before beginning installation ensure the subfloor is level, clean and prepared to the required installation standards outlined by the embedding/flooring material manufacturers. Protrusions such as nails or screw heads sticking above the floor level must be removed and ridges levelled smooth. Review and follow your thinset manufacturer's recommended floor preparation requirements.



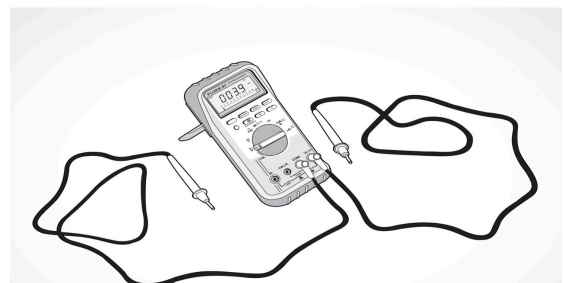
## ELECTRICAL TESTS

- Conduct electrical tests: 1) after the dry test fit, 2) after the mat is installed in its mortar layer and 3) after tiling/finishing the flooring.
- If there are problems with any of these tests, TRM recommends you resolve them before proceeding further.
- Check the resistance of the mat. The resistance for 120V mats is measured between the black and white conductors; the resistance for 240V mats is measured between the red and black conductors. The resistance value measured should be +/- 10% of the resistance value noted on the product identification label.
- TRM recommends that the insulation resistance of each mat be tested by connecting a megohmmeter across the black lead and the ground braid; Test for a minimum of 20 Megohms insulation resistance at 500 VDC. Ground the black conductor after each test to discharge any energy build-up. If a megohmmeter is unavailable, measure the continuity (using a digital multimeter set to a 200 Ohm scale) across the black lead and the ground braid. The continuity reading should be infinite or "OL"...REPEAT TEST MEASURING FROM WHITE TO GROUND.
- Measure the resistance across the two conductors of the temperature sensor, the resistance value will change with temperature, as such it may read anywhere from 8,000-14,000 ohms at a 20,000 ohm setting on your multimeter.
- As the tests are completed, record the measurements in the tables on page 17.
- **IMPORTANT** – TRM requires that all electrical connections be made by qualified personnel and in accordance with the Canadian Electrical Code (CEC), or National Electrical Code (NEC) and all applicable local codes and ordinances.
- Only connect the mat to the rated voltage noted on the product identification tag. **DO NOT** use higher voltages as this will increase current draw and cause the mat to overheat; possibly resulting in death or injury from electrical shock or fire, mat failure, improper operation, or floor damage.
- Consult the thermostat manufacturer's instructions for proper wiring detail.
- Electric floor heating systems require ground fault protection, which is why all TRM Thermostats and relay(s) are equipped with integral ground fault protection.

### Mat Leads

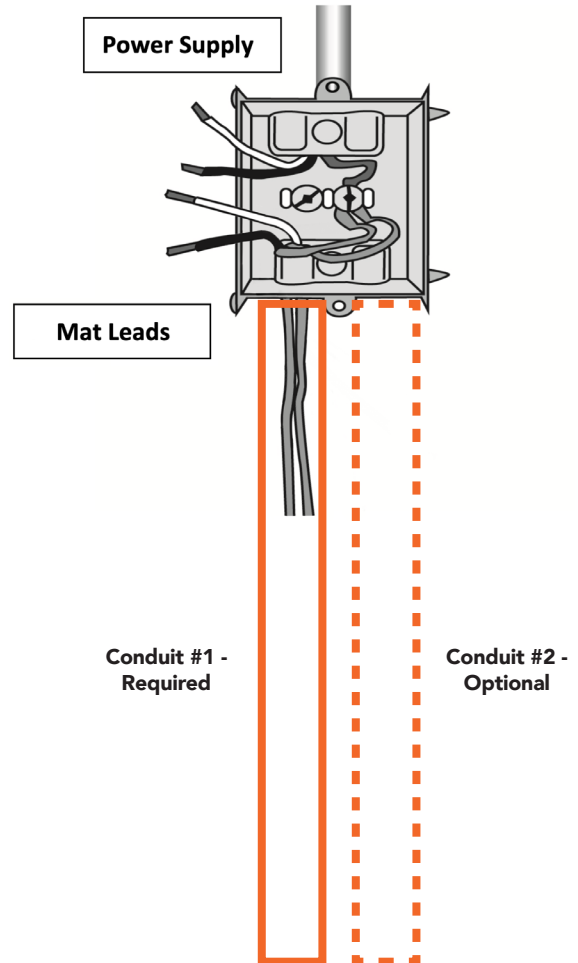


### Multimeter



## Wiring Reference

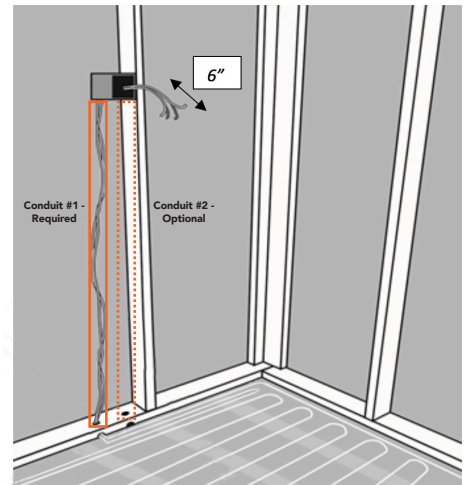
- Each TRM mat has two (2) leads.
- Each lead has its own grounding braid.
- Ensure that the cold lead grounding braids are directly connected to the electrical ground. If the ground braids are not connected to the electrical ground, there will be a risk of electrical short circuit, overheating or electrical shock.
- TRM recommends roughing in (1) electrical conduit for the cold lead(s); Optional, a second conduit can be installed at this time for the floor sensor probe(s). Consult with your local authority for confirmation.





## TEST FIT – DRY

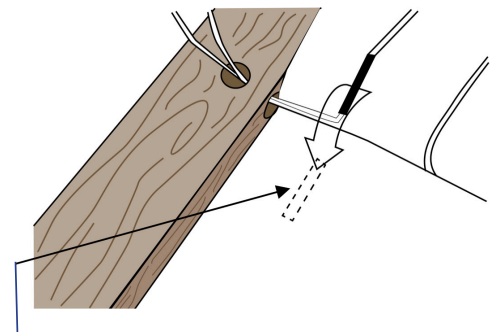
1. Verify the mat voltage is correct; 120V mats have black and white leads, 240V mats have red and black leads.
2. Completely roll out the mat(s) on the floor to ensure it fits the floor space, and run the leads into the junction box. Multiple mats should be installed edge to edge. Do not overlap.
3. Confirm the leads are long enough to reach the electrical junction box and will extend a minimum of 6" beyond the box. Leads can be terminated into a junction box, and extended using an appropriate gauge of wiring.
4. Conduct Electrical Tests as previously described.
5. Use a marker to trace the cold leads and mark the splice locations on the subfloor.
  - The cold lead and splices are slightly thicker than the mat. Some removal of sub-floor material may be required where the splices will set or where the cold leads will run to eliminate any possible interference with the tile. See side note.
6. Carefully roll the mat back up and have ready for the next step.
7. Drill or cut 2 holes at the wall stud bottom plate for routing the i) cold lead and ii) thermostat sensor wire to the electrical junction box. Conduits for each may be required; consult with local codes
  - DO NOT cut or modify the TRM mat to fit the area, if there is a problem with fit contact TRM.
  - Ensure that you have the sensor for the thermostat. It is usually packed in the same box as the thermostat and will be needed prior to tiling or installation of laminate or engineered wood floors.



### Cold Lead and Conduit Note

The braided cold leads may be installed with, or without, electrical conduit. Confirm conduit requirements with your local electrical and building inspection authorities.

Each mat has 2 leads.



### Splice Notch

### Splice Thickness Note

The splice is thicker than the majority of the mat. This thickness difference is typically balanced out by the mortar coverings and thus will not affect the final floor height level. If you are concerned it may present a height issue, then it is suggested to cut, or chip, a recessed notch in the floor.

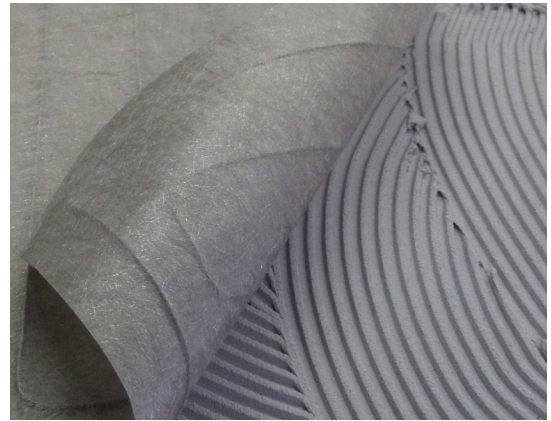


## INSTALL THE MAT

**IMPORTANT** – Take care not to damage the mat during installation. Avoid the placement of heavy equipment or pails of mortar on the mat. Limit trade traffic across floor.



1. Using square notch trowel, 1/4" x 1/4" or larger (e.g. 3/8" x 3/8") apply a layer of thinset to the subfloor area which will be covered by the TRM mat. If the subfloor area is particularly large it may be necessary to apply the thinset in sections.



2. Carefully roll out the mat into the mortar bed.



3. The entire mat must be in contact (embedded) with the thinset layer. To ensure complete contact use a rubber grout float to press the mat into the thinset.

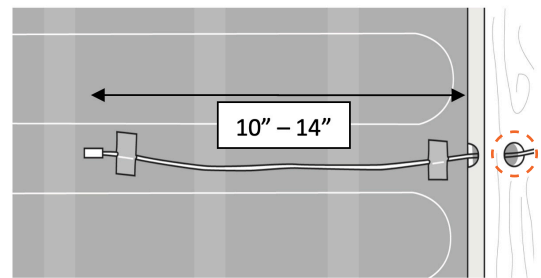


4. Check the bond between the mat and thinset by peeling up an edge of the mat. The mat should look at least 90% covered with thinset material. Check that the splices and cold leads are in the proper positions.

5. Run the cold leads into the electrical junction box and protect at the bottom wall stud with a guard plate.
6. If there is more than one mat being installed, ensure the edges of the mats are aligned edge to edge. This ensures even heating across the floor.
7. Conduct Electrical Tests as previously described. Your installation may require inspection at this point. Consult with your local building and electrical inspection authorities.

## SECURE THE THERMOSTAT FLOOR SENSING PROBE

**IMPORTANT** – The thermostat floor sensing probe must be installed prior to setting the tile (or other covering) in place. Secure the probe wire on top of the mat with tape or hot glue. The sensor should be positioned in the middle of two heating cable runs, and 10" – 14" from the edge of the mat. Avoid placing it in an area where the floor sees direct sunlight. Run the free end of the sensor wire back to the junction box. Conduit may be required, refer to local codes.



## INSTALLATION WARNINGS



Do not hammer high spots to level floor. Hammering high spots can damage the heating mat, resulting in risk of electrical shock and/or mat failure.



Clean grout lines carefully. Scrapers can penetrate and cut into the heating mat below, possibly resulting in death or injury from electrical shock or fire, mat failure, improper operation or floor damage.



Do not drill into floors with TRM mats. Drills can cut into the heating mat below, possibly resulting in death or injury from electrical shock or fire, mat failure, improper operation or floor damage.

*Thinset and grout materials have cure times, review the recommended cure time from each manufacturer and do not energize the mat until the materials have fully cured. This cure time may be as long as 28 days.*



# INSTALL THE FLOOR COVERING

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## Tile

- **Before installing.** Read the tile flooring manufacturer's installation instructions. Review any specific instructions they may have with regard to the use of their product with electric radiant heating.
- Install the tile on top of the mat and grout in the normal manner. The thickness of the thinset layer must be in accordance with the tile and thinset manufacturer's recommendations.
- Conduct Electrical Tests as previously described. Your installation may require inspection at this point. Consult with your local building and electrical inspection authorities.

## Laminate or Engineered Wood Floors

- **PRIOR TO PURCHASE, and before installing, ensure flooring material is approved for use over an electric radiant heat source.** Read the laminate or engineered flooring manufacturer's installation instructions. Review any specific instructions they may have with regard to the use of their product with electric radiant heating, and note any temperature limits to ensure product stability and longevity.
- Cover the mat with at least ¼" of thinset or self leveling compound (if leveller is used, ensure the mat has adhered to the first layer of thinset, and is level). Ensure the thinset or self leveling compound is smooth and level as an uneven finish may result in a poor floor fit. Allow the compound to cure as per the manufacturer's instructions.
- Install a vapour barrier (if necessary) and any under padding as per manufacturer's instructions.
- Install the laminate or engineered wood flooring as per the manufacturer's instruction. Allow the floor time to acclimatize to the room's temperature and humidity levels before using the floor heating (1-3 days).
- Conduct electrical tests as previously described, if there are any problems contact TRM before proceeding further.
- Many laminate and engineered wood flooring manufacturers recommend that the floor temperature be limited to a maximum of 28C (82F). TRM thermostats, employing a floor sensing probe, can be programmed to provide this level of control.



## Special Note on Waterproofing (not anti-fracture) Membrane Installations in Wet Areas

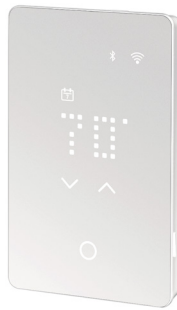
Use TRM mats in conjunction with waterproofing membranes that, as a minimum, meet American National Standard for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations (ANSI A118.10) and are suitable for the intended application.

**IMPORTANT** – Electric floor heating systems require ground fault protection, which is why all TRM Thermostats and relay(s) are equipped with integral ground fault protection.

- Before installing, read the waterproofing membrane manufacturer's installation instruction and tile flooring manufacturer's installation instruction. Review any specific instructions either may have with regard to the use of their products with electric radiant floor heating.
- Apply a layer of mortar (minimum 1/4" x 3/16" V-notched trowel or a 1/8" x 1/8" square-notched trowel) on top of the mat to secure the waterproofing membrane.  
*The **Mat**, consisting of **Heating Wire**, **Splice Connections** and **Cold Leads**, as well as any **Thermostat Sensor(s)**, must be **Fully Covered** by a waterproofing membrane when in wet locations.*
- Install the tile on top of the membrane. The thickness of the thinset layer must be in accordance with the tile and thinset manufacturer's recommendations.
- Conduct Electrical Tests as previously described. Your installation may require inspection at this point. Consult with your local building and electrical inspection authorities.

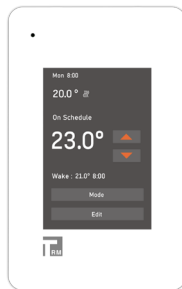
TRM mat systems are suitable for dry areas; as well as in wet areas, when an approved waterproofing membrane is installed above to create an area which is rated and approved as 'dry'. Consult with your local authority for confirmation.

# TRM FLOOR HEATING THERMOSTATS



## TRM-FH-GOLD

- Bluetooth®, Wifi, Cloud connected
- 3.5" Color touchscreen with interactive control
- Full programmability
- Tracks power consumption
- 120 Volt, 208 Volt, and 240 Volt voltages
- 15 Amp capacity
- 15' Floor sensor (included)
- Complete with GFCI protection



## TRM-FH-SILVER

- 3.5" Color touchscreen with interactive control
- Full programmability
- Tracks power consumption
- 120 Volt and 240 Volt dual voltage
- 15 Amp capacity
- 15' Floor sensor (included)
- Complete with GFCI protection



## TRM-FH-BRONZE

- Non-programmable
- Tracks power consumption
- 120 Volt and 240 Volt dual voltage
- 15 Amp capacity
- 15' Floor sensor (included)
- Complete with GFCI protection



## Optional - TRM-FH-Relay (USG-4000)

The TRM-FH-Relay power expansion module can be used in concert with any TRH-FH thermostat in projects with large heated floor areas that exceed a single thermostat's 15 amp capacity. Low voltage master/slave wiring between the thermostat and relay(s) is required.



## FLOOR INSTALLER INFORMATION

<b>Business Name</b>		<b>Installer's Name</b>	
<b>Installation Address</b> (Street/Town/Code)		<b>Business Email</b>	
<b>Business Phone</b>		<b>Business Fax</b>	
		<b>Date Completed</b>	

## ELECTRICIAN INFORMATION

<b>Business Name</b>		<b>Installer's Name</b>	
<b>Business Address</b> (Street/Town/Code)		<b>Business Email</b>	
<b>Business Phone</b>		<b>Business Fax</b>	
		<b>Date Completed</b>	

## MULTIMETER RESISTANCE MEASUREMENTS

Room									
Mat 1:	Model:_____	QN#_____	JN#_____	Ohms at dry fit.		Ohms after installing mat.		Ohms after tiling/finishing.	
Mat 2:	Model:_____	QN#_____	JN#_____	Ohms at dry fit.		Ohms after installing mat.		Ohms after tiling/finishing.	
Mat 3:	Model:_____	QN#_____	JN#_____	Ohms at dry fit.		Ohms after installing mat.		Ohms after tiling/finishing.	
Mat 4:	Model:_____	QN#_____	JN#_____	Ohms at dry fit.		Ohms after installing mat.		Ohms after tiling/finishing.	
Mat 5:	Model:_____	QN#_____	JN#_____	Ohms at dry fit.		Ohms after installing mat.		Ohms after tiling/finishing.	
Thermostat Sensor: Ohms at dry fit.					Ohms after installing mat.		Ohms after tiling/finishing.		

## INSULATION RESISTANCE MEASUREMENTS (MEGOHMMETER OR DIGITAL MULTIMETER)

Room				
Mat 1: IR at dry fit.		IR after installing mat.		IR after tiling/finishing.
Mat 2: IR at dry fit.		IR after installing mat.		IR after tiling/finishing.
Mat 3: IR at dry fit.		IR after installing mat.		IR after tiling/finishing.
Mat 4: IR at dry fit.		IR after installing mat.		IR after tiling/finishing.
Mat 5: IR at dry fit.		IR after installing mat.		IR after tiling/finishing.

## PHOTO DETAILS



### NOTES

Photo 1:	
Photo 2:	
Photo 3:	
Photo 4:	



## LIMITED WARRANTY AND LIABILITY

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TRM Heating Cables (the company) warrants its electric floor warming mats to be free from defects in materials and workmanship for twenty five (25) years from the date of purchase by the original purchaser. The maximum liability of the company is limited to the purchase price of the original mat and does not include: labour, removal, installation, incidental, consequential or other costs. This warranty is not transferrable; it is exclusively for the sole benefit of the original purchaser.

If a malfunction of the mat is determined to be a result of defective materials or workmanship by TRM, then a refund of all or part of the original purchase price of the mat will be paid in accordance with the following: 100% for the first five (5) years, then on a declining scale calculated by multiplying the original purchase price by the percentage of remaining warranty (e.g.; a valid claim in year 6 will be able to receive 19/25 of the original mat purchase price).

A refund of the purchase price described above is conditional upon all of the following being provided to TRM:

- a) Confirmation of proof of purchase.
- b) Confirmation the mat was installed in accordance with the installation instructions.
- c) Confirmation the mat was installed in accordance with the Canadian Electrical Code (CEC) or National Electrical Code (NEC) and all applicable local codes and ordinances.
- d) Confirmation the mat was installed by qualified personnel.
- e) Confirmation the mat was not damaged or in any way by activities unrelated to the operation of the mat.
- f) Full details of the installation, operation, and any repairs or modifications that may have been made.
- g) The installation made available for examination by the company's representatives.

A refund of your purchase price as described above shall be your singular and exclusive remedy for a breach of this warranty.

The following are not covered by this Limited Warranty:

- a) Any incidental or consequential damage, loss of time, loss of use or loss of income.
- b) Any labour, materials or freight costs associated with removing, repairing or replacing flooring materials.
- c) Any investigative costs related to the claim.

TRM makes no claim as to the amount of floor temperature rise, the time to reach a given floor temperature or final floor temperature due to the innumerable variations in building construction and environmental conditions.

TRM disclaims any warranty not provided herein, including any implied warranty of merchantability or implied warranty of fitness for a particular purpose. TRM further disclaims any responsibility for extraordinary, incidental, or consequential damages arising from ownership or use of this mat including loss of use, loss of time or loss of income. TRM makes no other express warranty regarding any mat beyond this document. Any samples shown are merely for demonstration purposes and do not represent the final product. No employee, agent, or representative of TRM has any authority to extend or revise this warranty unless such extension or revision is made in writing by the president of TRM.

Any implied warranties that may not be disclaimed, including implied warranties of merchantability or fitness for a particular purpose are limited in duration to twenty five (25) years from the date of purchase, unless prohibited by law, in which case all such implied warranties shall expire at the earliest time permitted by applicable law.

Some states do not allow limitations on how long an implied warranty may last, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

To begin the warranty refund process, please send a description of the defect and proof of purchase, postage paid, to TRM at the address noted herein.



**TRM Heating Cables**

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