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excellence in underfloor radiant heating

Installation Manual

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IMPORTANT

Please read the entire installation manual before attempting to install. Please view our training video at **www.warmfloornz.com**

Incorrect installation could damage the cable and invalidate your warranty.

For Warmfloor Technical Support, visit **www.warmfloornz.com**

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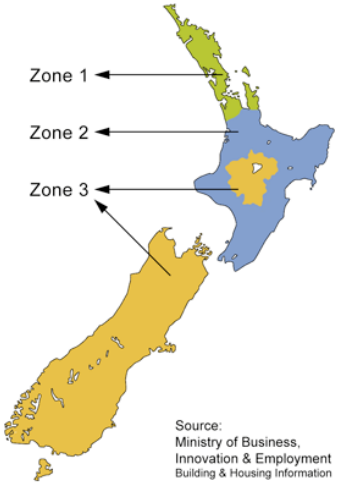
Quick Sizing Method



First, select the climate zone you live in.

For Concrete Substrates

Multiply the required heating area (sq metres) by the recommended watts.

Zone 01 = 170 watts
Zone 02 = 190 watts
Zone 03 = 210 watts

For Wooden Substrates

Multiply the required heating area (sq metres) by the recommended watts.

Zone 01 = 170 watts
Zone 02 = 170 watts
Zone 03 = 190 watts

Then select the closest cable available from the cable list.

For a more accurate sizing method, use the online calculator on our website, www.warmfloornz.com.

Heating kit sizes:

Kit Code	Wattage	Length
☐ WFK150	150w	11.1
☐ WFK200	200w	15.4
☐ WFK250	250w	18.1
☐ WFK300	300w	22.6
☐ WFK350	350w	25.4
☐ WFK400	400w	30.2
☐ WFK500	500w	36.8
☐ WFK600	600w	43.1
☐ WFK650	650w	48.1
☐ WFK700	700w	51.7
☐ WFK800	800w	58.5
☐ WFK900	900w	66.5
☐ WFK1000	1000w	72.0
☐ WFE1250	1250w	92.5
☐ WFK1500	1500w	111.0
☐ WFK1750	1750w	129.6
☐ WFK2000	2000w	147.0
☐ WFK2500	2500w	184.6
☐ WFK3000	3000w	219.1

Welcome

Thank you for choosing the Warmfloor System for your heating requirements.

You can rest assured that this product is the best available on today's New Zealand market.

Peace of Mind: The Warmfloor heating system has been tested and is fully compliant to the current New Zealand Compliance Standards.

Please view the relevant S.D.O.C. documents by visiting **www.warmfloornz.com**.

Intended Use

The Warmfloor Heating System has been designed for heating under the following materials:

✓ Tiles ✓ Vinyl ✓ Timber overlaid floors

Caution: *Do not use in areas subject to high mechanical load or impact.*

The minimum temperature that Warmfloor Heating System may be installed in is -5˚C. The maximum temperature is 50˚C.

Thermostat Options

TH02 Manual Thermostat

Key features of the TH02 Thermostat include:

- Simple to Operate
- Maintains Set Temperature 24 hours per day
- Air and Floor Sensing
- White only
- Two Sensor Probes (One Spare)
- Interchangeable with TH1 Thermostat
- Power On Indication
- Heating Active Indication

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Thermostat Options (continued)

TH04 Colour Touch Screen Thermostat

Key features of the TH04 Thermostat include:

- Fast responsive Colour Touch Screen
- Simple to program/easy to use
- Three x 7 day programmable time periods
- Battery Free
- Floor and Air Sensing
- Two Sensor probes (one spare)
- Available in White and Black

TH05 WiFi 5th Generation Touch Screen Thermostat

Key features of the TH05 Thermostat include:

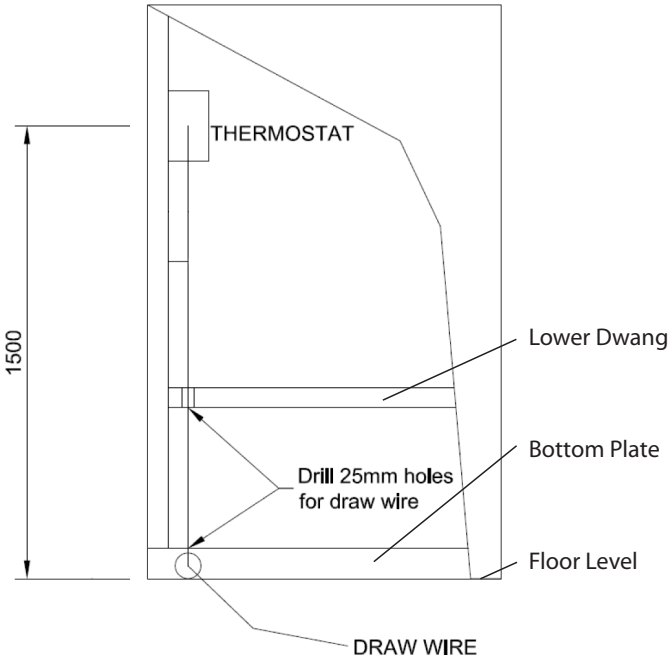
- Fast responsive Colour Touch Screen
- Simple to program/easy to use
- Three x 7 day programmable time periods
- Auxiliary output for heated towel rail/mirror demister
- Wifi Control (connects with TH05 App)
- Multiple home screen display options
- Load own home screen photos
- Battery Free
- Energy usage indications and Predictive heating
- Weather information displayed (requires wifi connection)
- Floor and Air Sensing
- Two Sensor probes (one spare)
- Replaces common NZ thermostats
- Available in White and Black

The TH05 is our exclusive top of the range heating thermostat with all our energy saving, connectivity and device control features. Suitable for home and commercial use.

Thermostat Location

As per the Electrical wiring regulations, thermostats must not be installed in 0/1 zones (wet areas). Check with your electrician if unsure of acceptable positioning (Electrical Regulation AS/NZS 3000).

Wall Preparation



Electrical Requirements

Installation of the heating cable itself is not deemed prescribed electrical work so as such may be installed by any competent person.

This instruction manual details the requirements of AS/NZS 3000, see 4.10 for installation practice.

Once the heating cable has been laid, the connecting Electrician must be contracted to view the installation prior to covering – NB: Photographic evidence may be all an Electrician requires.

Circuit Wiring

(by Registered Electrician only)

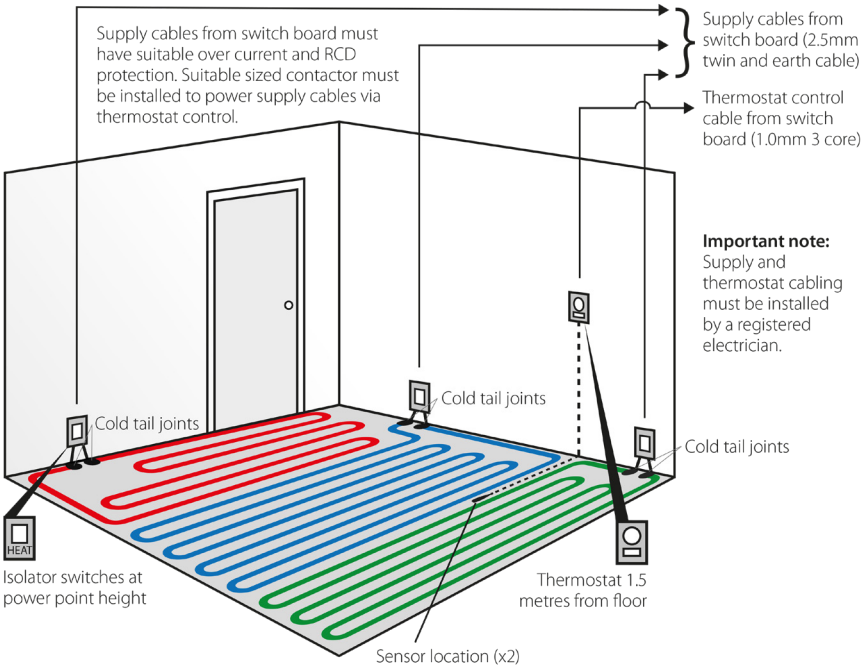
A dedicated circuit should be provided wherever possible. Alternatively an existing circuit may be used provided it has sufficient capacity. In either case each circuit must have suitable over current protection as well as a RCD residual current device connected.

The cable comprises of a heating element that also incorporates an earth braid/ screen, this must be bonded to the buildings earth system as well as any electrical conductive material covering the heating cable.

Thermostat Maximum Load: The Warmfloor Heating Thermostat provides a 16 amp switching capacity. Only loads of 3kw or less may be connected directly to a thermostat. Loads over 3kw being controlled by the one thermostat may be achieved by the electrician following the wiring method below.

See page 14 for the Thermostat wiring diagram.

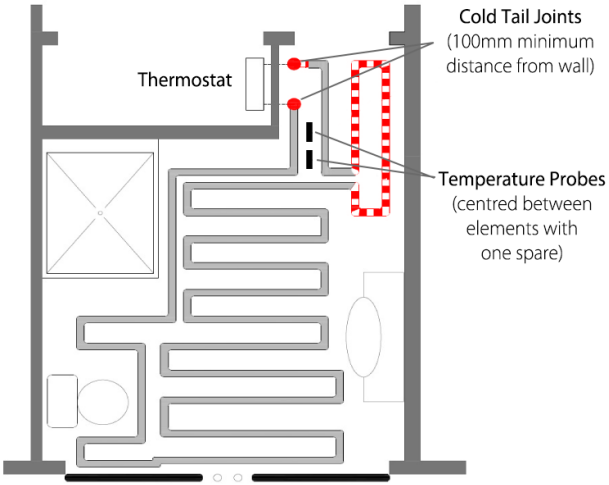
Connecting Multiple Cables to a Common Thermostat

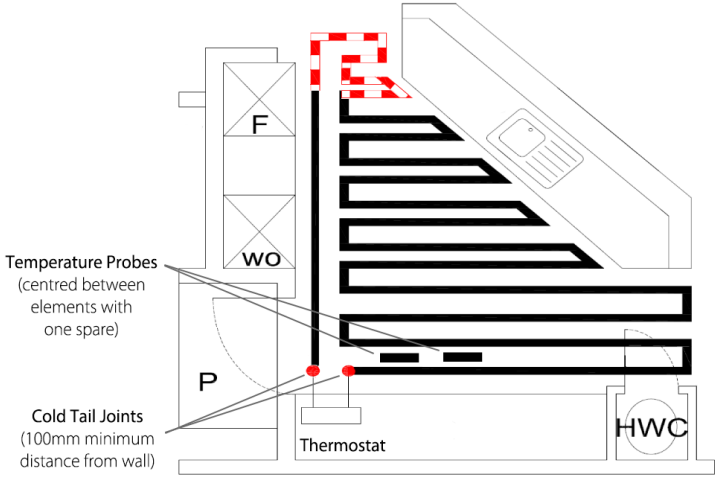


Planning Cable Route

Please view the following examples of how it is possible to either gain or lose some cable length in an area which does not require heating (area with red dotted lines).

When planning your cable route allow for the final run back to the thermostat to enter into this zone so adjustments can be made.





Floor Preparation

1. **Floor preparation**

   Concrete floors must be completely cured as per manufacturer's specifications. Timber floors would ideally be covered with a tile and slate underlay. If laying directly onto a wooden floor then this would require sanding and you should consult your supplier for primers, levelling compounds and glues suitable for the surface.

2. **Contaminant Free**

   Remove any contaminants from the floor surface. This may include dirt, plaster, glue or flaking materials. If the room has been spray painted then often there is a layer of overspray around the walls, this must be removed with the use of a grinder. Should you be working on a concrete floor that appears shiny, non-porous then the floor may require grinding. Consult your floor specialist or Tiler.

3. **Mark out Permanent fixtures**

   Locate the position of floor mounted permanent fixtures. Mark these out to ensure the cable is not installed under these units.

   A common distance for a vanity is between 280mm to 350mm from wall to toe space. A common space for a toilet placement is 600mm from wall and 300mm wide. A kitchen cabinet is typically 550mm from wall to toe space. Where possible the exact measurement should be obtained.

4. **Cable cold tail & sensor location**

   Grind or chisel some grooves in the floor to accommodate the cold tail and floor sensors. These cold tails should be located directly below the thermostat and a minimum of 100mm from the wall. Sensors should be located directly in the centre of two cables and approximately 500mm into the room. A back up sensor has been supplied which should be installed next to the function sensor, but left unconnected at the thermostat (see Fig2 – page 12)

5. **Surface Priming**

   The floor must now be thoroughly swept and vacuumed if necessary before applying the primer. Mix the floor primer to the manufacturer's specifications and apply to the surface with a paint roller. This surface must now be left to dry. Drying time depends on the ambient air temperature.

   Helpful hint – If performing this work in winter, then it is a good idea to do this first stage the day/night before cable installation. This will save time wasted waiting for the floor to dry.

Recommended Cable Spacing

If the method of sizing your cable was by our online calculator https://www.warmfloornz.com/more-info/information/underfloor-cable-calculator - the cable spacing has been indicated there.

If for your sizing method you used the method as indicated on page 3 of this manual, then the spacings will be as listed below approximately.

170 watts/sqm – 80mm spacing

190 watts/sqm – 70mm spacing

210 watts/sqm – 60mm spacing

QR code link to the Warmfloor Calculator www.warmfloornz.com.

Another common method used *(not as accurate – depending on your room shape)* is :

$$\frac{\text{FLOOR AREA TO BE HEATED}}{\text{CABLE LENGTH (FOUND ON BOX)}} \times 1000 = \text{SPACING}$$

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Preparing Cable Layout

With a starting point of 150mm from edge of the wall, mark out the calculated spacings across the room. Measure and add the total length of cable runs required up the room then add the width of the room x 2 to ascertain the length of cable you require. Confirm you have purchased the correct Cable (length is displayed on the box).

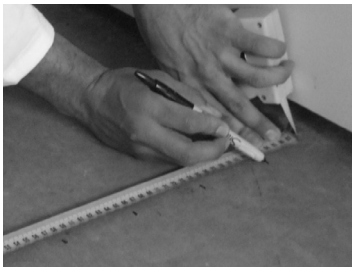


Fig. 1

If required adjust the starting point and spacings accordingly. Closer spacing down to 60mm is acceptable, however wider spacings, more than 10% of the recommended, we would suggest a new correct size cable be purchased.

Notes: The cable can not be lengthened or shortened. Ensure cable is not placed under any permanent fixtures. This important step can be viewed on our training video, see www.warmfloornz.com

Cable Installation

Under tile installation

1. Remove reel from box. Insert a rod through the reel centre hole to unroll 2.5 meters of cable until you reach the cold tail joint. Tape the joint into the groove that you have ground or chiselled. (Ref Fig 2)
2. Spray the floor with adhesive spray where the cable will loop around. Spray the floor at approximately 400mm intervals to allow for strips of tape to hold cables down. Note: The spray gives greater adhesion for the tape to stick to the floor.
3. Wait a few minutes for the spray to cure.
4. Run the cable along your planned route sticking down at regular intervals ensuring runs are straight and parallel to walls. Be sure to pull the cables taught to keep them flat on the floor.
5. Caution – heating cable must not overlap each other and a minimum distance of 50mm apart must always be maintained.

   The minimum bending radius of the cable is 30mm.
6. On the cable, there is marker when you reach the half way point of its length. Check to ensure you are near the half way stage of your cable installation.

8. When nearing the end of the cable run, fix the other cold tail into position and adjust the final cable location into the dead area.
9. Fix the probes into the floor recess checking that they are located midway between two cables. (Ref Fig 2)
10. Pull cold tails and probes cable up through wall and into flush box using draw wire previously installed.

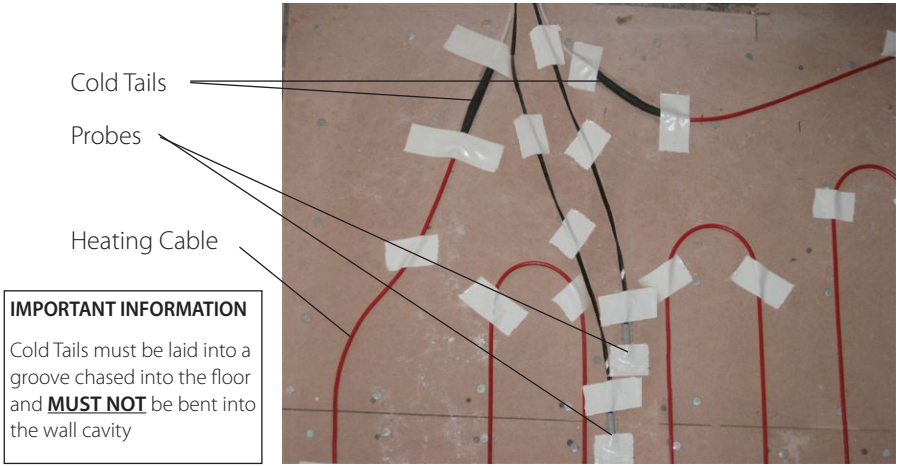
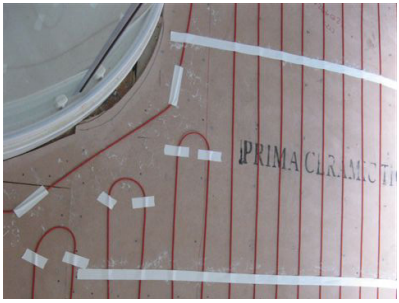
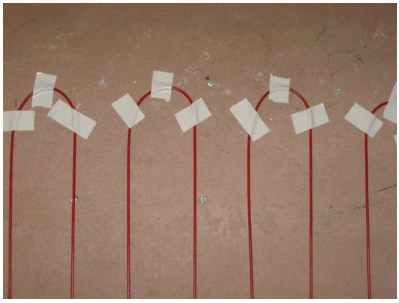


Fig. 2

Sample installation photos. Visit our website for more examples.





Cable Testing

(Where possible the following tests should be carried out)

Test and record the meg ohm value between the cables conductor and earth, and also the conductor's ohm value.

• Meg ohms value should be greater than 1.0mΩ

• Ohm value should be within -5% to 10% of the value stated on the cables label.

These tests are carried out in the factory, so if the appropriate test equipment is not available then a cable monitor will verify a cable's integrity.

Damaged Cables

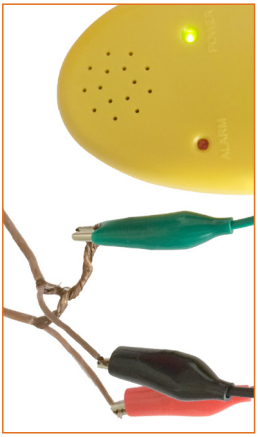
Damage usually only occurs when:

1. Heavy levelling compound buckets with sharp edges are dropped onto the cable.
2. Heavy glue buckets are dropped onto exposed cable if levelling compound does not have sufficient coverage.
3. Excessive foot traffic and use of ladders with poor feet protection being used where cabling exists.
4. Fixtures such as toilets / door stops have penetrated the cable when being fixed.

Please be aware of these causes and ensure care is taken to prevent damage to the cable.

Connecting Cable Monitor

A Cable monitor **MUST** be connected to all cables after installation. This is essential as the monitor will detect if damage occurs after the element has been laid. Monitors must have batteries inserted to work.



- Connect the red lead of the monitor to an element conductor.
- Connect the black lead of the monitor to an element conductor.
- Connect the green lead to the earth shield.

Turn the monitor on.

- A green light will be displayed with no audible warning noise.
- Disconnect the red lead to check that a noise is emitted.
- Re-connect monitor lead.

Turn the monitor on at all times when the area is being worked on.

- Foot traffic should not be permitted on to floors until finished surface has been laid.

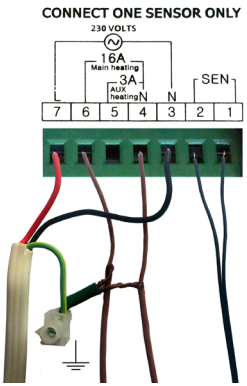
Final Electrical Connection

Final Electrical Connection

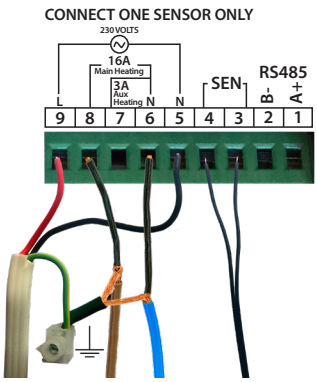
This may only be performed by a Registered Electrician.

- Check that the cable monitor does not sound an alarm prior to its disconnection
- Prepare the cold tails as follows: Strip back cold tail outer protection to expose Earth Screen.

All models, except for the TH05



TH05 Only



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Self-Levelling Compound

Tiled floors

It is strongly recommended to install Self-Levelling compound over floors that are to be tiled. This protects the cable when tiling and assists with even heat distribution.

A range of Self-Levelling Compounds are available from your cable supplier and advice on the correct type of products should be sought.

When using the Self-Levelling Compound make sure that heavy buckets are not placed directly onto cables. The same applies to the Tilers adhesive glue.

Vinyl and Timber floors

If laying vinyl or timber flooring over the heating cables. Self-Levelling compound **MUST** be used.

Monitors connected to elements

Self-Levelling compound covering elements

Do's and Don'ts

DO Carefully read this installation manual before commencing installation.

DO If after reading this manual you are not confident with completing the installation yourself, then do contact a Warmfloor Approved Installer. Approved installers can be contacted via your supplier, by visiting our website or by phoning Warmfloor on 0800 492 763.

DO Ensure a smooth, clean and dry surface before beginning installation.

DO Mark out permanent fixtures i.e. vanities, toilets, so they can be avoided. Watch out for location of door stops.

DO Plan the cable layout and stick to recommended cable spacing and perimeters.

DO Space the cable evenly over the floor.

DO Protect the cable with cardboard or hardboard between installation and tiling.

DO Consult with your supplier which tile adhesives and grouts are suitable for use with underfloor heating.

DO Check that the cable monitor is installed and turned on before commencing the tiling.

DO Take particular care when tiling so as not to dislodge or damage the heating cable.

DO If in doubt about the suitability of the sub-floor to be heated check with your local tile shop or tiler.

DO Follow the recommendation of using Self Levelling Compound but if you choose not to then extreme care must be taken when tiling not to dislodge or damage the heating cable.

DO STOP and call Warmfloor Heating if at any time the cable monitor sounds

DO Install cold tail joints under the first tile below thermostat position.

DO Install thermostat probes mid point between two cables.

DON'T Commence installation on a concrete floor that has not been fully dried and cured.

DON'T Cut or attempt to shorten the cable at any time.

DON'T Allow traffic over the installed cable before tiling.

DON'T Allow the heating cable to cross over or touch each other at any point.

DON'T Allow the heating cable to come any closer than 50mm to each other.

DON'T Install any of the heating cable in wall cavities or up walls.

DON'T Place tiles, sharp or heavy object on any of the cable whilst tiling.

DON'T Commence tiling before testing the cable using the cable monitor.

DON'T Switch on the heater until the adhesive has fully dried (7 day minimum).

Warmfloor Insulation Board

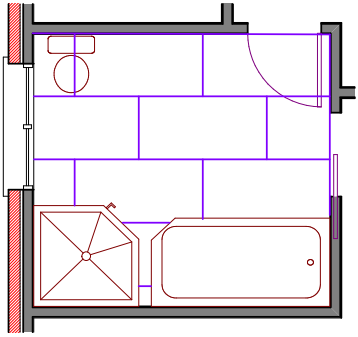
Installation Instructions
Concrete Floor

1. Concrete floors must be completely cured as per manufacturer's specifications.
2. The existing floor must be flat.
3. Prepare floors surface as per good tiling practises i.e.: Remove any contaminants as in paint overspray, dirt, plaster, glue and dust etc.
4. Prime the floor with a suitable floor primer and allow to dry.
5. Fit the boards to the shape of the room, with staggered joints (see the example to the side). The boards may be cut with the use of a jigsaw, stanley knife or similar tool.

Fixing down of the Warmfloor Insul-Board

This is performed in the same way that you would fix down tiles.

1. Mix up a suitable quantity of flexible tile adhesive as per the manufactures instructions.
2. With the use of a 6mm notch trowel, individually lift up each sheet and evenly apply the adhesive to the floor, ensuring that all of the board's area has been covered.
3. Place the board and press down firmly thus ensuring any air pockets are removed.
4. Avoid excessive pressure when fixing down boards as this will cause the adhesive to be forced out causing the edges to lose their adhesion.
5. Repeat the above steps until the entire floor is covered.



Warmfloor Insul-Board

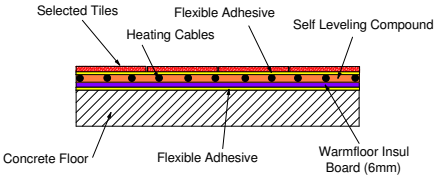
Lay in a Brick Pattern as above.
The board can be cut with a Jigsaw or Stanley Knife.
Each sheet of Insul-Board measures 1200 x 600 x 6mm.
One sheet will cover approx 0.72 sq metres. Available in packs of 4 or 6. A 4-pack of tiles covers 2.88 sq metres, while a 6-pack will cover 4.32 sq metres.

Installation of Warmfloor Heating Cable

Once the adhesive has cured, prime the surface of the Insul-board and then install cable as per Warmfloor's installation instructions (installation instructions may be viewed at warmfloornz.com)

Warmfloor strongly advises the use of Self-levelling Compound when using Insul-board, as this facilitates the easy removal and replacement of tiles, if ever required, which otherwise may be difficult.

Cross Section Detail



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PRODUCT WARRANTIES

- Warmfloor warrants that the contents of your heating kit is free from Manufacturing defects
- This warranty applies for the first consumer and is not transferable.
- This warranty applies to Warmfloor products from the date of purchase by the consumer for the period of:
  - ✔ Fifteen (15) years for heating cable
  - ✔ Twenty-FIve (25) years for heating cable when installed by a Warmfloor Approved Installer
  - ✔ Three (3) years for Thermostat (Warmfloor will supply replacement thermostat, excluding installation costs)
- The warranty means that you have all the protections given to you as a consumer in the Consumers Guarantees Act 1993 and applies in all circumstances covered by the Consumer Guarantees Act.
- Warmfloor or its approved installer reserves the right to charge for any repairs/ faults caused by installation damage which is not the fault of Warmfloor Heating Limited.
- All procedures as detailed in the Warmfloor installation manual need to be followed precisely for this warranty to be valid. Any deviation from these may result in the warranty being null and void, and repair costs may be incurred.
- Proof of purchase must be supplied with any warranty claim. We suggest you attach your proof of purchase to this warranty form and keep in a safe place.
- Warmfloor's warranty does not include costs in relation to any damage to fixtures or fittings caused by the removal, replacement, service or repair of the product. This clause may be exempt only when heating has been installed under tiles by a Warmfloor Approved Installer and the owner has four spare tiles available for the repair.
- This warranty does not cover any damage caused by irregularities in the power supply (electrical surges or lightning strikes). This product is designed for a 220-240V AC supply.
- This warranty does not include the original site visit to determine the cause of the problem.

PLEASE VIEW OUR WEBSITE FOR FULL
WARRANTY INFORMATION AND CLAIM PROCEDURES

Consumer Records

Important: At least 4 spare tiles must be available for use in the event of a repair

Record the following information to be kept by the consumer.

Affix warning sticker included within the cable box to the consumer's switchboard.

Installation Details *(to be completed by the installer)*

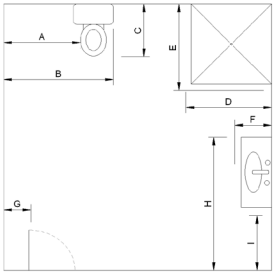
Area installed (square metres)		m^2	
Element Size (Wattage)		Watts	*(Optional)*
Cable Spacing (mm)		mm	
Meggered Ohm Test		ohm	*(Optional)*
Ohm Test		ohm	

Plan Details

Distance to element

A: mm B: mm C: mm D: mm E: mm

F: mm G: mm H: mm I: mm



Record any other distance:

_____ mm _____ mm

_____ mm _____ mm

Or plot your own room and record distances:

Installed by: ..... **Company:** .....

Date: ..... **Signature** .....

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Contact Information

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Phone:
0800 492 763 – toll free within New Zealand
0064 6 345 0037 – phone

Email:
info@warmfloornz.com

Or find one of our nationwide approved installers by checking our website
www.warmfloornz.com

Important:

Please read the entire installation manual before attempting to install your undertile heating.

Incorrect installation could damage the cable and invalidate your warranty.

For Warmfloor Technical Support, visit our website.

www.warmfloornz.com
or call 0800 492 763