

A close-up, low-angle shot of a person's legs from the knees down. They are wearing blue denim jeans with the cuffs rolled up. They are standing barefoot on a polished wooden floor. The background is softly blurred, showing a white door or window frame and some green foliage.

RADIANT UNDERFLOOR HEATING

Overview



- Asthma + allergy friendly
- Economical to run
- No heat lamps means exhaust fans can be placed over showers
- Temperature control
- A dry floor means less mould
- On demand



DANISH MANUFACTURED
CABLE MEANS
QUALITY AND RELIABILITY

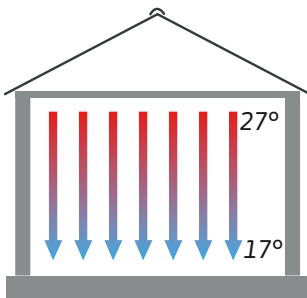
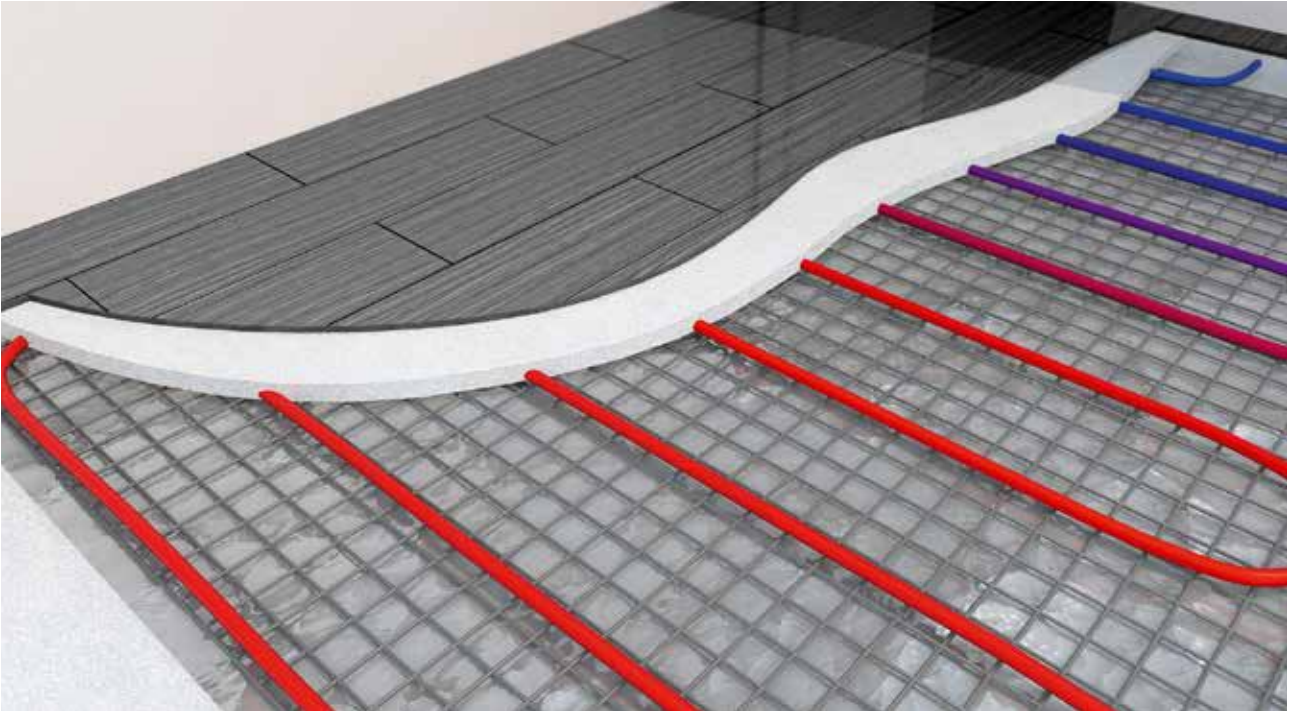


CABLE GUARANTEED
FOR 10 YEARS

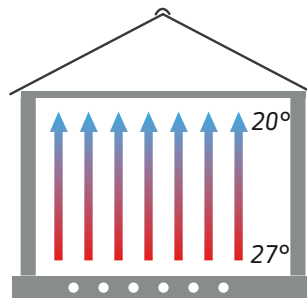
Underfloor heating has proved extremely popular in Europe for many years and the number of installations in Australia is growing every year as people discover the many benefits of this type of heating, which in many cases can provide the primary heat source for the room. For commercial projects or larger homes, a hydronic (water based) system is often the more popular choice, however for bathrooms, living areas and smaller homes then the electric cable system can be a very good choice, especially when combined with good insulation and solar panels. With all underfloor heating systems, the floor is gently heated to a comfortable temperature (usually between 21 – 28 deg C depending on the room) and the heat generated slowly radiates into the room, in turn heating the air from the ground up. This gives a very even heat distribution throughout the room and offers a level of comfort which is far superior to other forms of heating.

For bathrooms alone, electric is the stand out choice as it is quick and easy to install, easy to control, requires minimal, if any, changes to building process or its design.

For the rest of the home the popular choice is to heat the main living areas (family/dining/kitchen) and this can be installed in a concrete slab (fixed to the reinforcing steel), on top of a slab prior to screeding (In Screed), or directly below the tiles (under-Tile).

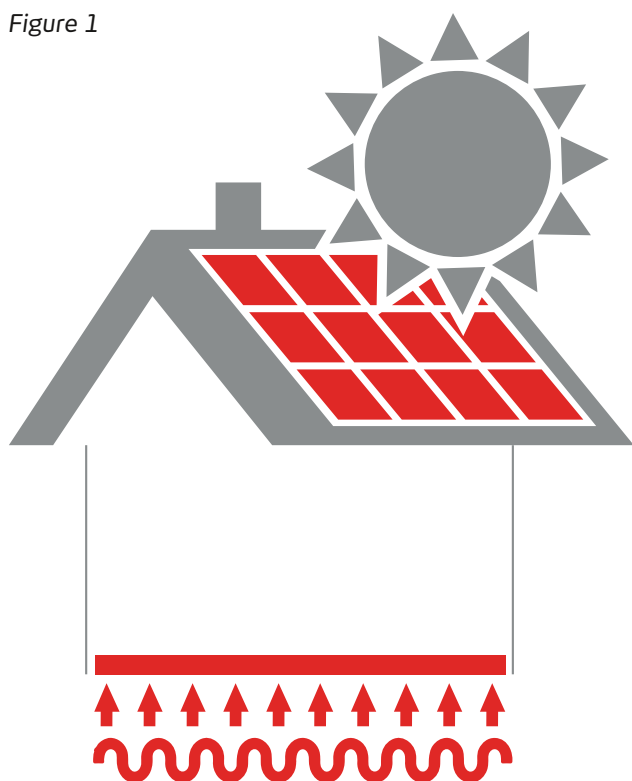


Reverse cycle heating generates warmth at the ceiling level, and as heat rises, struggles to adequately warm lower areas.



Underfloor heating gives you heating at the floor level, directly where you need it.

Figure 1



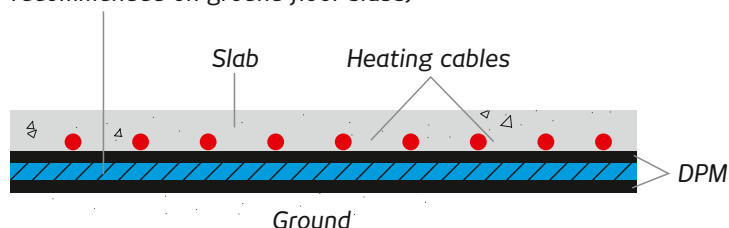
In-Slab

For living areas this remains the popular choice, especially where the floor finish is polished/ burnished concrete, solid timber or tiles installed without a screed. With this system the heating cables are fixed to the reinforcing steel prior to the concrete being poured. When installing in a ground floor slab on flat ground, installing an insulation board will improve the efficiency.

One the of the biggest advantages of in-slab heating (as long as the home has good insulation) is that it can be used in combination with a standard PV. solar panel system where you can utilise the 'free' energy generated during daylight hours. This 'free' energy slowly warms the thermal concrete mass and then allows that to slowly release during the evening when the living zones of the home are usually occupied (figure 1).

For larger areas or if you don't have solar, we also strongly recommend you consider the **Midday Saver Tariff from Synergy** which has a new **SUPER OFF-PEAK** rate of just 8c per kwh (price correct at December 2022) between the hours of 9am-3pm.

XPS insulation (Optional but recommended on ground floor slabs)



This 8-cent **SUPER OFF-PEAK** represents a **70% saving** when compared to the standard A1 tariff so is seriously worth considering as it gives you 6 hours to heat and store the thermal energy in your slab at an exceptionally low price per kwh.

Switching plan is easy - just call Synergy or do it on line if you receive your bills electronically.

Please see the Synergy website for further information: <https://www.synergy.net.au/Your-home/Energy-plans/Midday-Saver>

In-Screed

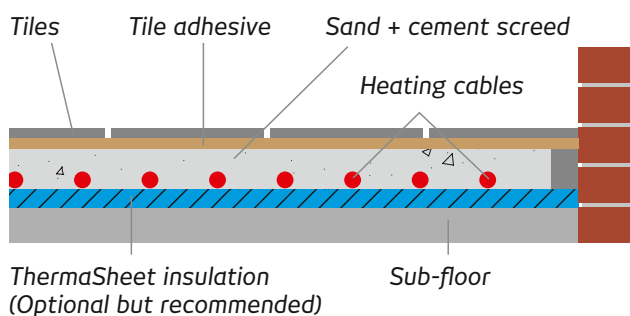
In-screed heating is the popular choice for living areas that are having a sand and cement screed to level up the floor, prior to laying large format, rectified or stone tiles. With this system the heating cables are fixed to the slab prior to screeding and then are fully protected during the tiling process. Because the cables are fixed to the concrete, with its thermal mass, this also acts in a similar way to in-slab heating, but with the cables slightly closer to the surface.

In Screed heating is also the popular choice in bathrooms in states where the floors are screeded (WA, SA, NSW, QLD) in Victoria and Tasmania where bathrooms are generally not screeded, under-tile is the system of choice.

For bathrooms the system can be supplied pre-spaced on mats, or as loose cable on a drum to suit the space and preferred installation method by the installer.

Where possible installing a thin Thermasheet insulating board below the screed will reduce the downward heat loss and improve warm-up times – this is ideal in a bathroom where the heating is generally only needed for shorter periods of time.

In-Screed systems are typically installed at between 100-150 watts per sqm in living areas and between 180-200 watts per sqm in bathrooms where there is usually limited free floor area a quicker warm-up is required.





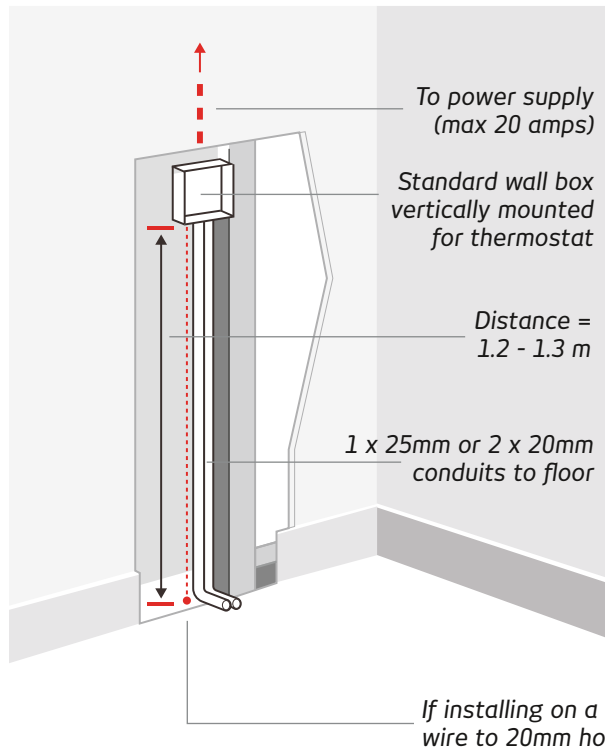
Under-Tile

Under-Tile systems, as with in-screed system in bathrooms, can be supplied as cable pre-spaced on a mat or loose on a drum. With the mat system the mesh is self-adhesive so will stick directly to a sealed or waterproofed floor while it is tiled over. Where large format, rectified or heavy stone tiles are being installed, we recommend first covering the cables or mats with a thin self-level to protect the heating cable during the tiling process. Again, Thermasheet insulation boards can be used to create a thermal break between the heating and sub-floor which will maximise efficiency. Under-tile system are typically installed at a similar output per sqm as in-screed as above.

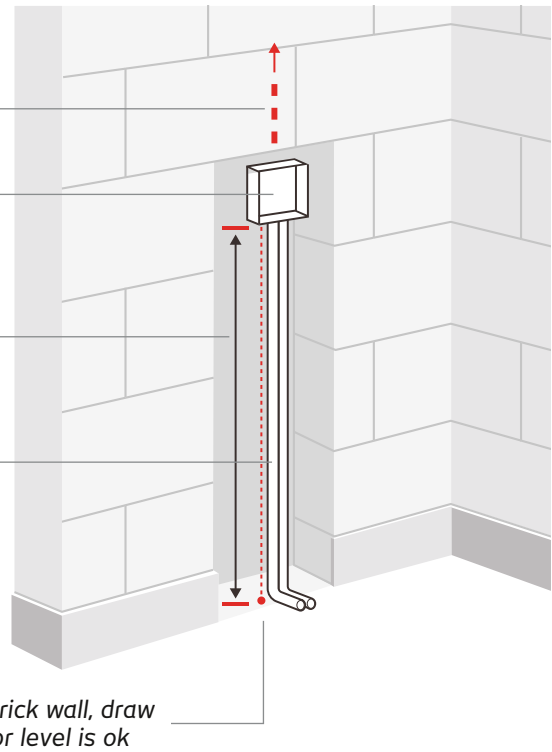
Electrical Provisions

Electric Floor Heating is usually zoned on a room-by-room basis allowing you to heat different rooms at different times/temperatures. For example you may have an ensuite on at 6am heating to 28 deg floor temp, living room during the day at 24 deg and guest bathrooms only heated when occupied. Each zone would have its own 'set and forget' touch screen 7-day thermostat/timer, these can also be upgraded to WIFI versions controllable from an app on a phone or iPad.

For bathrooms/under-tile living areas

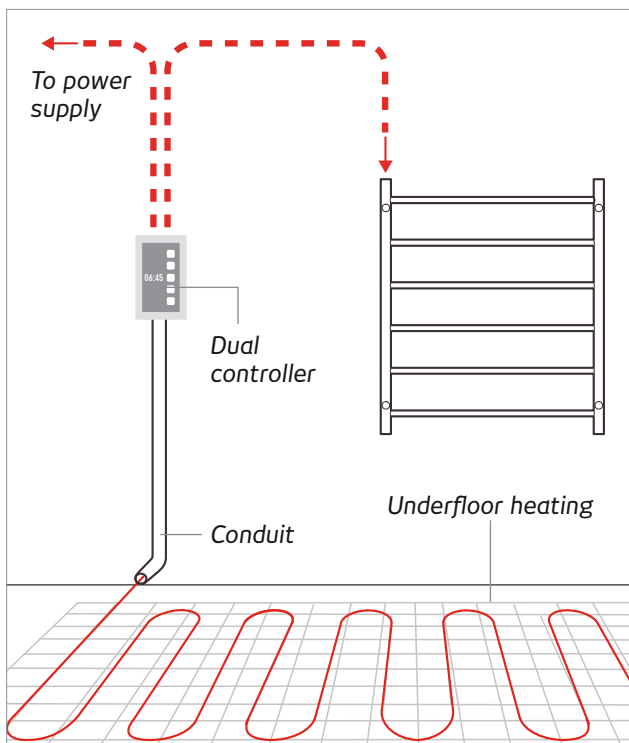


For bathrooms/under-tile living areas (brickwork)

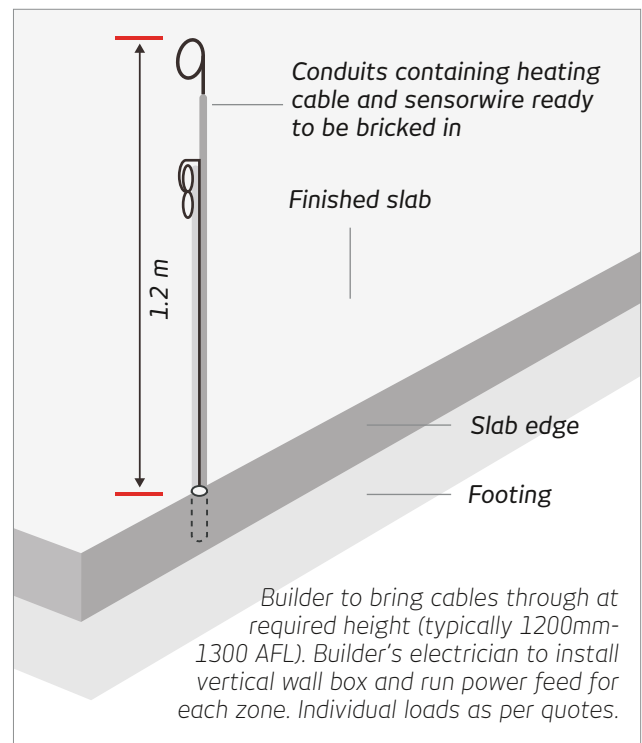


NOTE: Power must have RCD protection. For bathrooms the load will be no more than 0.8 amps per sqm 'free floor area'. For example: 9 sqm bathroom - bath, shower vanity = 5sqm x 0.8 = 4 amps. For larger areas the load will typically be 0.6 amps per sqm.

Combination floor heating thermostat and heated towel rail timer (dual)



Heating cable and sensor installed and slab poured



FAQs

DO YOU HAVE DIFFERENT UNDER FLOOR HEATING SYSTEMS?

Yes, we have several different systems to suit most applications including:

In-Slab for new builds and extensions: essential for polished / burnished concrete floors or for carpet and solid timber. In-slab heating is ideal for use with solar panels and 'off-peak' power tariffs (**Midday Saver Tariff from Synergy**).

In-Screed systems: recommended for most bathrooms where a screed is being installed. Also suitable for living areas that are being screeded prior to laying stone and porcelain tiles.

Under-Tile System: this is our thinnest cable or mat system, ideal where no screed is being done. Can be covered with a thin levelling compound and in some cases tiled over directly, but this often depends on the area, the type of tiles and your tiler.

WHAT IS THE WARRANTY ON THE FLOOR HEATING?

We offer a 10 year warranty on the heating cables and 2 year warranty on the thermostats.

DOES FLOOR HEATING CAUSE ANY PROBLEMS TO THE TILES OR FLOOR COVERING?

NO - Floor heating is designed to run at relatively low temperatures of 22-28 degrees Celcius and this temperature will not cause any issues for tiles or stone flooring. If you have a timber floor you should seek guidance from the floor supplier to ensure that their maximum recommended temperature (often 25-26 degrees) is not exceeded.

DOES FLOOR HEATING ALSO HEAT THE ROOM?

Yes, floor heating will add heat to the room and the radiant heat from the floor gently heats the space around it. In many cases, especially if most of the floor is heated, this will be the only source of heating required, however please check with us or your installer regarding your installation. If you choose to only heat small sections of a room, then this is unlikely to provide 'full heating'.

HOW LONG SHOULD I LEAVE THE UNDER FLOOR HEATING ON FOR?

This depends on your lifestyle and desired temperatures. Generally heating between 3 to 4 hours a day is sufficient to give you adequate comfort levels. Our thermostats have timers built in so you can set the times to suit your requirements. Times of operation will also be influenced by the type of system and if you have an 'off-peak' tariff. For bathrooms, most people will set the times for 2-3 hours between 4am-9am depending on what time they get up. For living areas, we recommend heating during the day if you have solar panels and/or the **Midday Saver Tariff from Synergy** (please see information on running costs for more details).

WHAT WATTAGE IS THE HEATING?

For living areas we usually install at 100-150 watts/sqm. For bathrooms we can go up to 200w/sqm (free floor area).

Thermostat options

The TS8100W-TH-V thermostat (vertical mounted, white surround) is included with all our floor heating systems. A premium glass fronted version is also available (as an upgrade) in white, black and silver.

If you are considering installing a heated towel rail with your underfloor heating, you will need our dual touch screen thermostat/timer. In order to upgrade to one of the options below, add the upgrade code to your order.



TS8100-TH-V



GTSW-TH-V

RADIANT DIGITAL TOUCH SCREEN THERMOSTATS/TIMERS

CODE	MOUNTING
TS8100-TH-TIM-DUAL-V	Standard Touch Screen Vertical Dual Purpose Thermostat + Timer Switch – White

RADIANT DIGITAL GLASS FRONTED TOUCH SCREEN THERMOSTATS/TIMERS

CODE	MOUNTING
GTSW-TH-V	Vertical Mounted – White
GTSB-TH-V	Vertical Mounted – Black
GTSS-TH-V	Vertical Mounted – Silver
GTSW-TH-H	Horizontal Mounted – White
GTSB-TH-H	Horizontal Mounted – Black
GTSS-TH-H	Horizontal Mounted – Silver
GTSW-DUAL-V	Vertical Dual Purpose Thermostat + Timer Switch – White
GTSB-DUAL-V	Vertical Dual Purpose Thermostat + Timer Switch – Black
GTSS-DUAL-V	Vertical Dual Purpose Thermostat + Timer Switch – Silver
GTSW-DUAL-H	Horizontal Dual Purpose Thermostat + Timer Switch – White
GTSB-DUAL-H	Horizontal Dual Purpose Thermostat + Timer Switch – Black
GTSS-DUAL-H	Horizontal Dual Purpose Thermostat + Timer Switch – Silver

STANDARD



WHITE
TS8100-TH-V

PREMIUM



WHITE
GTSW-TH-V



BLACK
GTSB-TH-V



SILVER
GTSS-TH-V



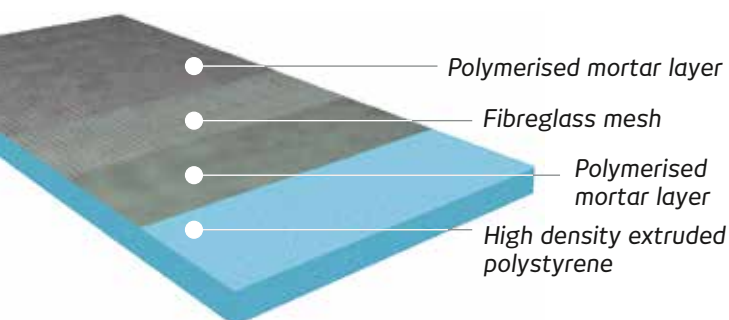
ThermaSheet underfloor heating insulation board

Extruded polystyrene is one of the most efficient insulation materials available, meaning minimal heat transfer to adjacent materials.

Installing ThermaSheet beneath an underfloor heating system dramatically reduces both heat loss and the cost of running domestic heating systems. Offering excellent thermal properties, using ThermaSheet in conjunction with underfloor heating improves the efficiency of the heating

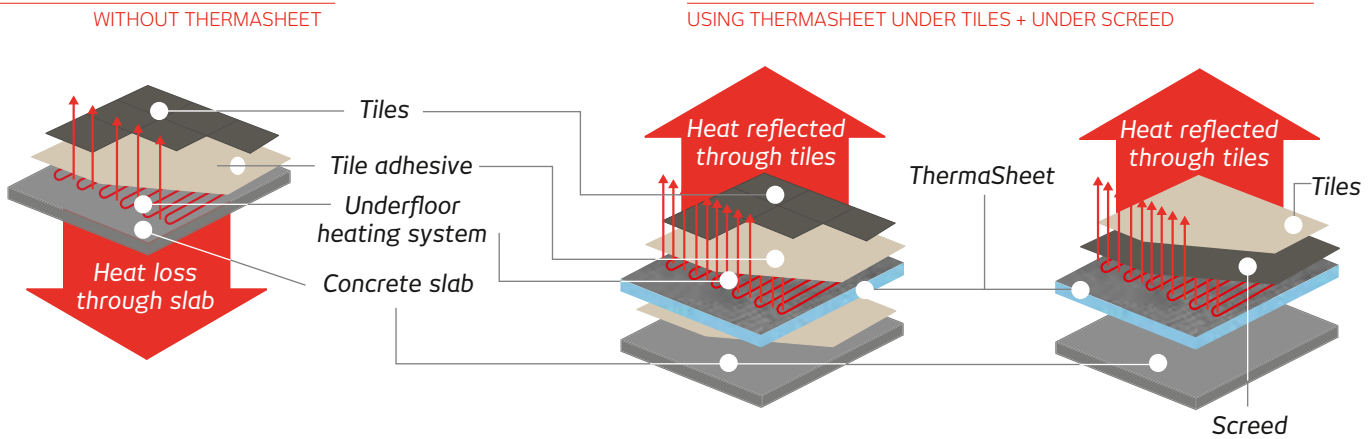


THERMASHEET CONSTRUCTION



system, enabling a warm floor to be achieved in as little as 30 minutes, as opposed to hours, if ThermaSheets are not used. The cost savings of using ThermaSheet can be significant.

ThermaSheet also offers high thermal insulation that can benefit every room in the house by significantly reducing your heating loss – for high thermal insulation use a minimum of 20mm boards butted closely together.



Without insulation, up to **40% of heat** generated by an underfloor heating system could be lost through the sub-floor.

ThermaSheet specifications

CODE	PRODUCT (SOLD IN BOXES OF 6)	DIMENSIONS
RTTB-06-1200	ThermaSheet Tile Backer Board – 6mm	1200mm x 600mm
RTTB-10-1200	ThermaSheet Tile Backer Board – 10mm	1200mm x 600mm
RTTB-10-2400-900	ThermaSheet Tile Backer Board – 10mm	2400mm x 900mm
RTTB-20-1200	ThermaSheet Tile Backer Board – 20mm	1200mm x 600mm
RTTB-50-1200*	ThermaSheet Tile Backer Board – 50mm	1200mm x 600mm

* Special Order subject to M.O.Q.



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