Installation Guide

For CosyFloor Cable System

Applications Including:

- Membrane Installation
- Fixing Strip Installation

What's Included:

- Heating Cable
- Circuit Fault Detector*
- Fastening Tape
- Thermostat Floor Sensor

* Not included in some jurisdictions. Contact your distributor to confirm.

Contents & Quick Guide

Installer's Tips

DO

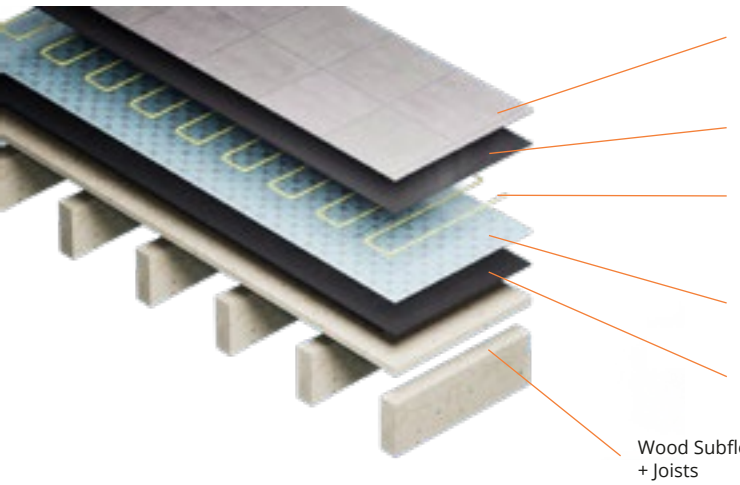
- Check resistance before, during and after installation. (use digital ohm meter) See page 13 for more information

- Use circuit fault detector throughout installation. This is provided for you so that you can leave it on until the entire installation is complete and tested.
- Ensure floor surface is dust free
- Install finished flooring as soon as possible after heating system is installed
- Install & provide power in accordance with your local electrical codes and standards.
- Register your heating system at **cosyfloor.ca/warranties/** to retain your lifetime warranty
- Ensure the cable is completely encapsulated in thinset mortar or self-leveling cement prior to installing flooring

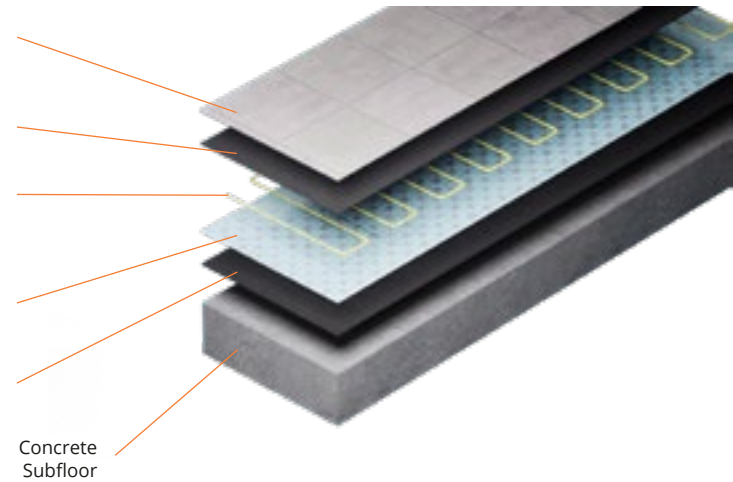
DON'T

- Forget to install thermostat floor sensor wire included with thermostat
- Install heating cables closer than 6" to toilet flange
- Scrape, sand, or sever wires in any way
- Bang trowel or other sharp object on floor
- Install cables closer than 2" to each other, cross cables, thermostat sensor, or black cold connection cable
- Use knife to clean grout lines
- Open splices, cut or modify cable in any way

Tile or Natural Stone finish over OSB or Plywood Subfloor



Tile or Natural Stone finish over Concrete Subfloor

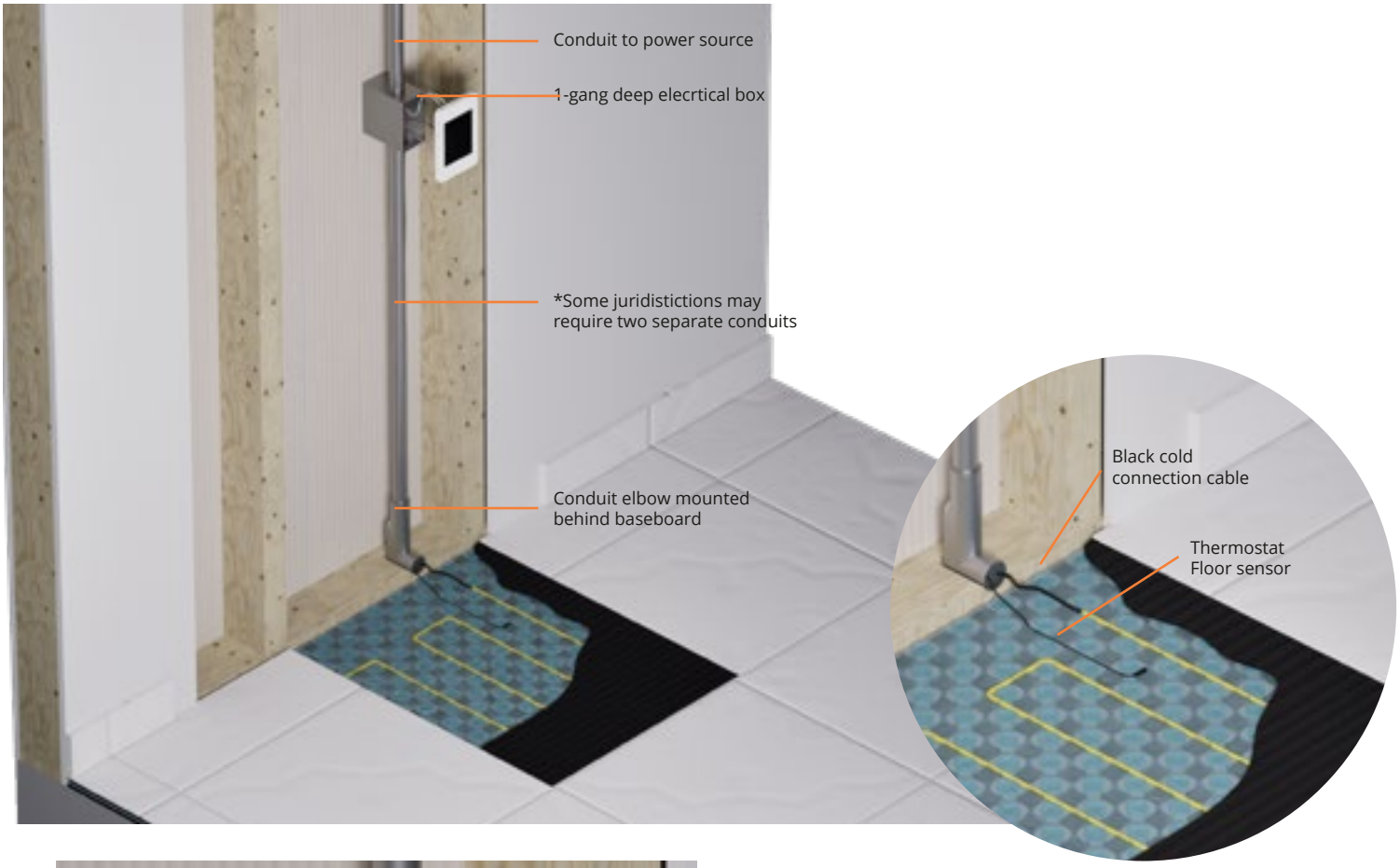


Maximum Heating Cable Spacing Recommendation:

Spacing	2"	2.5"	3"	3 .5"	4"
W/sq.ft.	18w	15w	2w	11w	9w

Spacing	2"	2.5"	3"	3.5"	4"
W/sq.ft.	18w	15w	12w	11w	9w

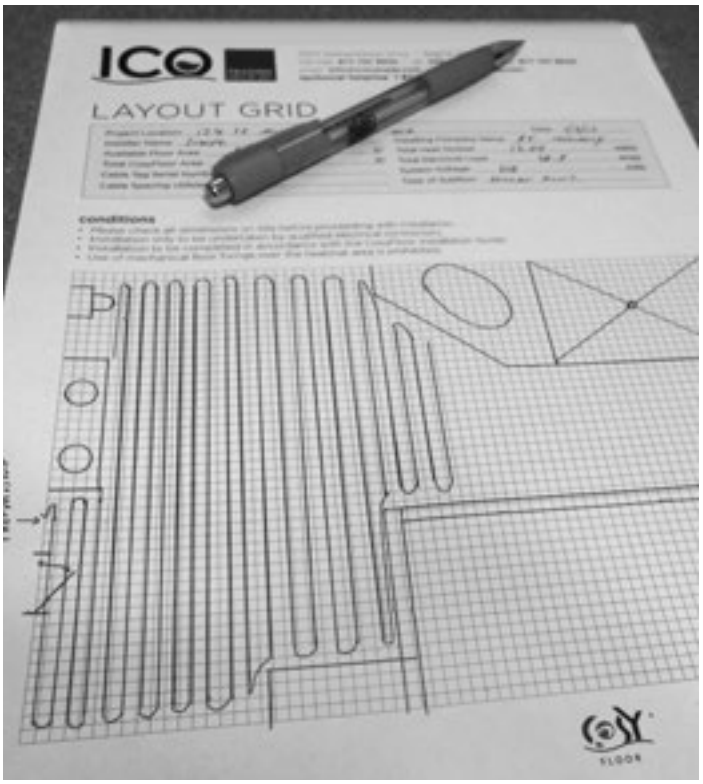
1. ELECTRICAL ROUGH-IN



1. A suitable power supply to a 1-gang deep electrical box should be installed and mounted approximately 60" from the floor. This should be in the same room that is being heated and should be situated on an interior wall.
2. Install a conduit running from the floor to the thermostat box. Some jurisdictions may require a separate conduit for the low-voltage thermostat floor sensor cable.
3. Run a pull wire or sturdy string from the 1-gang deep electrical box down through the roughed-in conduits. This is to facilitate the pulling of the black cold connection cable and floor sensor wires through the conduit during installation when the wall has already been finished.

WATCHPOINT

The installation must be performed in accordance with all National and Local Building & Electrical Codes and any local amendments. Turn off the electrical supply to avoid risk of electric shock.



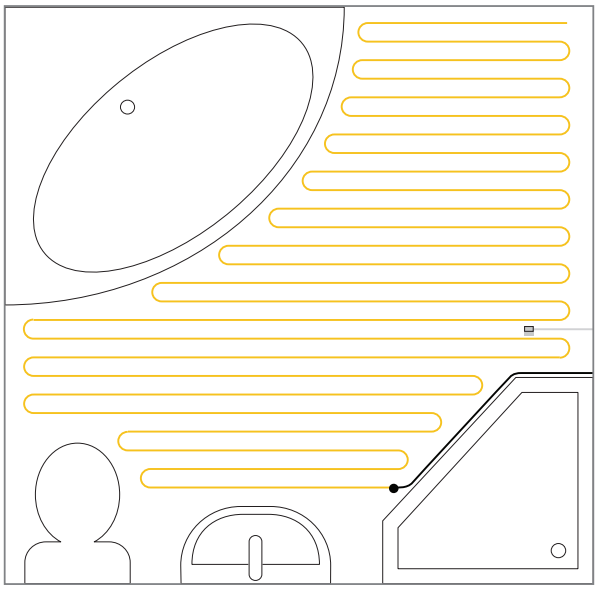
2. SIZING GUIDE

1. Measure floor area to be heated & determine square footage of heating cable and membrane needed. Order the correct size. Do not install heating cables under any fixed furniture. (eg: vanity units)
2. Be sure to leave area close to toilet flange free of heating cables (6" radius). It is recommended that heating cables are installed 4" away from all walls.
3. Standard spacing of 3" is recommended for most areas. For high heat loss areas such as floor over unheated crawl spaces or non-insulated concrete slabs use cable spacing of 2".

See Installation Application section at the end of this guide for additional details.

3. LAYOUT DRAWING

1. The yellow heating cable must **NEVER** cross at any point—this includes the thermostat sensor probe wire.
2. Make sure the thermostat floor sensor is able to be installed midway between 2 heating cables without crossing them.
3. Plan for your floor sensor to be 12" away from any heating or cooling registers and avoid areas where forced air ductwork below the floor may affect the sensor. Also ensure the floor sensor will not be in an area covered by a bathmat or area rug.



4. SUBFLOOR PREPARATION

1. Ensure that the subfloor does not have flex or movement.
2. Ensure subfloor is dust free.

SUBSTRATE	PREPARATION
CEMENT	• Cement slab must be compact and structurally sound. • Cracks and fissure in the cement slab need to present only longitudinal movement • Debris, dust, wax, grease, and oil residue must be removed or abraded/scored to create better bond to the thinset
WOOD	• Wood subfloor needs to be properly fastened and secured to the framing structure. • Wood subfloor needs to be clean of dust, residue, wax, oil, and grease. • Wood subfloor should be levelled before installation. • Remove all exposed nails, screws, fasteners, and debris.

5. RESISTANCE TEST - STAGE 1
(Before Installation)

Locate the end of the black cold connection cable and using a digital ohm meter measure the resistance as follows:

1. Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire)
   —This reading should be within 5% of the stated ohm reading from cable tag.—
2. Between heating conductor 1 (insulated wire) and ground (uninsulated wire)
3. Between heating conductor 2 (insulated wire) and ground (uninsulated wire)

These should have no reading or .OL (open load). If you have an ohm reading at this point **STOP AND DO NOT CONTINUE WITH INSTALLATION.** Measure Ohm reading for thermostat floor sensor. The thermostat floor sensor should read between 8 and 12 kohm.

4. Measure ohm reading for thermostat floor sensor.
   — This reading should be between 8 and 12 kohm. —

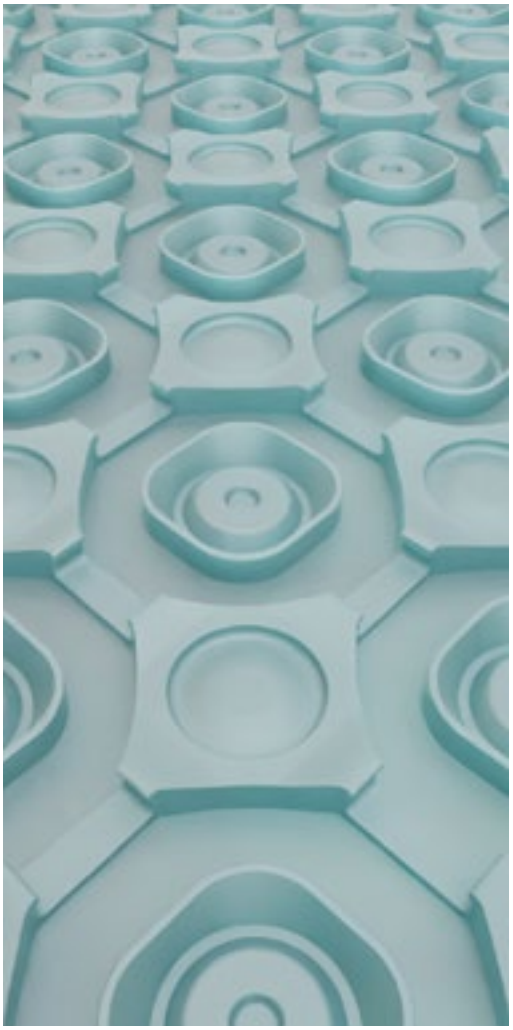
Record all four readings on page 12 of this installation guide.

Connect the circuit fault detector to the heating cable. This device is provided to ensure that you leave it connected throughout the entire installation. Do not disconnect the circuit fault detector until the entire installation is complete and tested.

For more information on testing see page 13 for more information

6A. COSYFLOOR *MEMBRANE* INSTALLATION

CosyFloor Membrane must be installed on substrates that are flat, clean, dry, structurally sound, adequately load-bearing, and free from material that may prevent mechanical bonding of the thinset to all installation layers.



1. Prepare your Subfloor

Measure, cut, and dry fit CosyFloor Membrane pieces to fit the installation area when arranged edge to edge. Flat trowel the thinset mortar and then combing it with a 1/4 in x 3/8 in (6 mm x 10 mm) square or U-notched trowel

2. Install CosyFloor Membrane

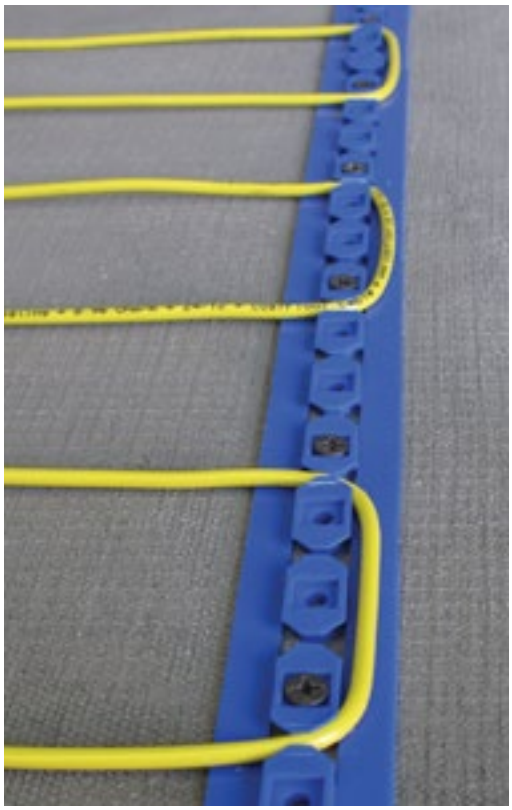
Carefully place the CosyFloor Membrane into the wet thinset mortar and firmly press its anchoring fleece into place.Using a float or flat trowel, work the CosyFloor Membrane into the thinset, moving in a single direction. The clear membrane allows you to visually confirm 100% contact without the need for ruling or lifting for visual checks.

If you need to tweak the alignment of the CosyFloor Membrane, just lift an edge, gently pull, and reposition it as needed. Continue by laying subsequent CosyFloor Membrane sections tightly edge-to-edge with the previously laid pieces.

Once installed, ensure the CosyFloor Membrane is protected from any heavy foot traffic or mechanical stress that could dislodge it from the substrate or cause damage. You can begin tiling over the CosyFloor Membrane after allowing the mortar to cure for a full 24 hours.

6B. COSYFLOOR *FIXING STRIP* INSTALLATION

Ensure that the subfloor is dust-free and does not have flex or movement.



Ensure that the subfloor is dust-free and does not have flex or movement.

Secure fixing strips to the floor at both ends of the room where the cables will be fastened.

Wood subfloor: Screw fixing strips directly to subfloor

Concrete subfloor: Use contact adhesive such as 3M 90 or similar

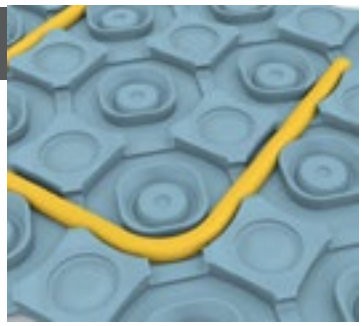
For installations with curved walls, cut the fixing strips as needed and install with additional fasteners as needed.

After securing the fixing strips to the ends of the room, install additional fixing strips in parallel rows at 5' intervals. These strips should span the entire area where you plan to lay the yellow heating cable, ensuring the yellow heating cable is securely held in its intended pattern throughout the room.

7. CABLE INSTALLATION PREPARATION

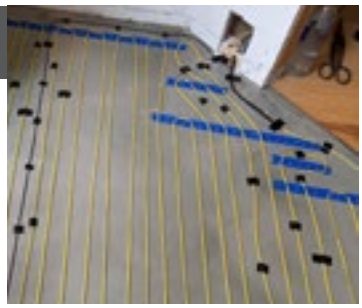
1. Securely attach the pull wire from Step 1 that extends out of the conduit near the floor to the black cold connection cable end. Pull the pull wire back up through the conduit, guiding the black cable up to the 1-gang deep electrical box.
2. Leave all cable tags on cable and ensure they remain in electrical junction box.
3. It is recommended to lay the spliced connection of the black cold connection cable and yellow heating cable in the expansion gap *(the gap between the floor and the wall)* to be covered by baseboard or trim.
4. **DO NOT BEND THE CONNECTION BETWEEN BLACK COLD LEAD AND YELLOW HEATING CABLE**
5. **NEVER ALLOW YELLOW HEATING CABLE TO GO UP WALL OR INTO CONDUIT.**

7A. CABLE INSTALLATION IN *MEMBRANE*



1. Starting at one end of the room, string the yellow heating cable through the membrane, ensuring runs are spaced 3 inches apart. Depending on your application, 2" - 4" spacing is acceptable.
2. As you go, press the cable down every few inches so it clips securely into the membrane along its entire length.

7B. CABLE INSTALLATION IN *FIXING STRIPS*

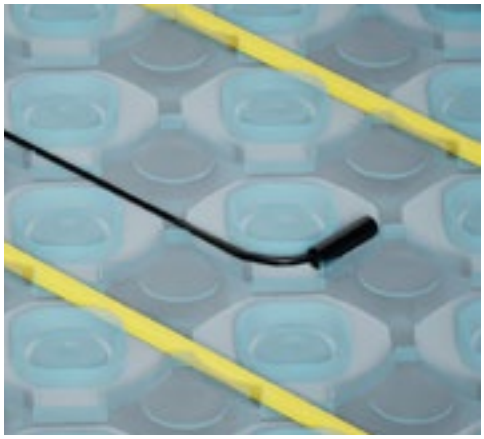


1. Starting at one end of the room, string the heating wires between the fixing strips clipping them in every 3". Depending on your application, 2" - 4" spacing is acceptable.
2. Use provided fastening tape to hold wires to the floor as needed between rows of fixing strips.

Installer's Tips

- **NEVER** use nails or cable fasteners to hold wires in place.

8. FLOOR SENSOR INSTALLATION



1. Position end of sensor probe in the exact center between 2 runs of yellow heating cable.
2. **Important:** Lay your floor sensor 12" away from any heating or cooling register and avoid areas where forced air ductwork below the floor may affect the sensor. Ensure the floor sensor will not be in an area covered by a bathmat or area rug.
3. Fasten floor sensor with the fastening tape provided, if needed.
4. Feed floor sensor wire up through your conduit to the electrical box

9. RESISTANCE TEST - STAGE 2
(During Installation)

Locate the end of the black cold connection cable and using a digital ohm meter measure the resistance as follows:

1. Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire)
   —This reading should be within 5% of the stated ohm reading from cable tag.—
2. Between heating conductor 1 (insulated wire) and ground (uninsulated wire)
3. Between heating conductor 2 (insulated wire) and ground (uninsulated wire)

These should have no reading or .OL (open load). If you have an ohm reading at this point **STOP AND DO NOT CONTINUE WITH INSTALLATION.** Measure Ohm reading for thermostat floor sensor. The thermostat floor sensor should read between 8 and 12 kohm.

4. Measure ohm reading for thermostat floor sensor.
   — This reading should be between 8 and 12 kohm. —

Record all four readings on page 12 of this installation guide.

Connect the circuit fault detector to the heating cable. This device is provided to ensure that you leave it connected throughout the entire installation.

Installer's Tips

- Keep foot traffic & general construction to a minimum until tile flooring is installed.
- DO NOT use a knife to clean grout lines.
- DO NOT have floor heat on during floor install.
- The membrane does NOT eliminate the need for expansion joints including perimeter joints within the tiled surface. Expansion joints must be installed in accordance with industry standards and norms. *(TCNA EJ171 and TTMAC 301 MJ).*
- Thinset may be flat troweled one day and floor finish installed the next day if preferred.

10. FLOOR FINISH

1. Cover floor and heating cables with thinset mortar or self-leveling concrete compound in accordance with manufacturer's instructions. Ensure that all cavities between cables and membrane or fixing strips are filled.
2. Use a trowel float or or the flat side of a notched trowel to gently spread, ensuring full coverage of the heating cables, being careful not to damage the heating cables beneath.
3. Ensure that the thermostat floor sensor is entirely encased in thinset mortar. Ensure that no part of the sensor comes in direct contact with your tile or flooring material.
4. Before setting each tile, back butter it with thinset mortar. This ensures maximum coverage and adhesion. Once the tiles are set, allow the thinset to cure completely, following the mortar manufacturer's recommendations.
5. Finally, fill the grout joints and carefully remove any excess grout from all surfaces, including the tile edges, using the edge of a float. Allow the grout to cure as per its manufacturer's guidelines. Remember that grout can be a corrosive product, so work carefully and clean thoroughly.

11. RESISTANCE TEST - STAGE 3
(After Installation)

Locate the end of the black cold connection cable and using a digital ohm meter measure the resistance as follows:

1. Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire)
   —This reading should be within 5% of the stated ohm reading from cable tag.—
2. Between heating conductor 1 (insulated wire) and ground (uninsulated wire)
3. Between heating conductor 2 (insulated wire) and ground (uninsulated wire)

These should have no reading or .OL (open load). If you have an ohm reading at this point **STOP AND DO NOT CONTINUE WITH INSTALLATION.** Measure Ohm reading for thermostat floor sensor. The thermostat floor sensor should read between 8 and 12 kohm.

4. Measure ohm reading for thermostat floor sensor.
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Record all four readings on page 12 of this installation guide.

Connect the circuit fault detector to the heating cable. This device is provided to ensure that you leave it connected throughout the entire installation.

WATCHPOINT

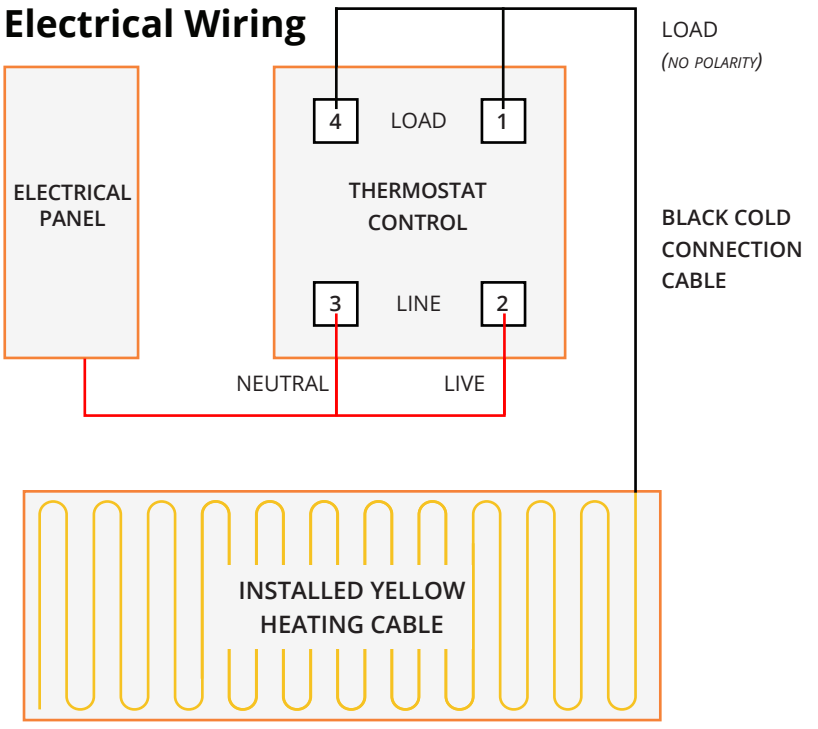
The installation must be performed in accordance with all National and Local Building & Electrical Codes and any local amendments. Turn off the electrical supply to avoid risk of electric shock.

Perform electrical connections in accordance with the thermostat installation guide provided.

12. THERMOSTAT ELECTRICAL WIRING GUIDE

Install thermostat in accordance with thermostat instructions.

Find your CosyFloor Thermostat instructions here:



13. COMPLETE WARRANTY REGISTRATION
(After Installation)

Once the installation is complete, upload warranty data at ***www.cosyfloor.ca/warranties/*** Upon registration of warranty, CosyFloor will email the owner with warranty registration confirmation.

Provide the following to the homeowner:

- This Installation Guide
- Thermostat Programming Instructions
- Heating cable test readings taken during installation
- Layout Drawing

Remind the homeowner of the location of the heat sensor, and the importance of never covering the sensor with a bathmat or anything else that may cause the sensor to give a false reading.

TROUBLESHOOTING

Thermostat screen is blank	1. Check there is power to the thermostat, and the circuit breaker is switched on.
Heating Cable resistance does not correspond with measurement on CosyFloor factory test certificate	1. Make sure your multi-meter is set to the correct ohm setting. 2. Ensure fingers are not touching the probes, as this will affect the resistance reading.
Heating Cable is not heating up, and thermostat display says “GFI”	1. Check thermostat connections. 2. Ensure ground conductor from heatmat is connected to ground, not to thermostat. 3. Perform GFI test as outlined in thermostat instructions.

COMPREHENSIVE LIFETIME WARRANTY

- Complete peace of mind covering all materials and labour for your full flooring project
- 100% coverage – no depreciated cost methods
- Lifetime, for the original homeowner

As infloor heating specialists with 20 years of experience manufacturing and supplying infloor heating systems across North America, we know the importance of our warranty commitment to the lives of our installers and end-users.

- All thermostats carry a 3 year warranty.
- This warranty applies for all infloor heating systems installed after January 1, 2025.

Warranty Application

Installer Details

Name _____ Last Name _____

Phone Number _____ Email _____

Where did you buy CosyFloor from? _____

On-Site Resistance Test Results

Stage 1 Reading: Take the first reading prior to installing your CosyFloor system.

Stage 2 Reading: Take the second reading after the CosyFloor system is laid, but prior to flooring installation.

Stage 3 Reading: Take the third and final reading after the final floor covering is laid.

Stage 1

Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire) _____

Between heating conductor 1 (insulated wire) and ground (uninsulated wire) _____

Between heating conductor 2 (insulated wire) and ground (uninsulated wire) _____

Thermostat floor sensor ohm reading: _____

Stage 2

Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire) _____

Between heating conductor 1 (insulated wire) and ground (uninsulated wire) _____

Between heating conductor 2 (insulated wire) and ground (uninsulated wire) _____

Thermostat floor sensor ohm reading: _____

Stage 3

Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire) _____

Between heating conductor 1 (insulated wire) and ground (uninsulated wire) _____

Between heating conductor 2 (insulated wire) and ground (uninsulated wire) _____

Thermostat floor sensor ohm reading: _____

ELECTRICAL RESISTANCE TESTS

These resistance tests are crucial for ensuring the proper functionality and safety of your CosyFloor heating system. Please follow these instructions carefully. If any test indicates a problem, stop installation immediately and do not proceed.

Before starting, ensure your multimeter is set to measure resistance (ohms, indicated by the 'Ω' symbol).

1 STAGE 1: Test Before Beginning Installation

Purpose: To detect any manufacturing defects or damage to the yellow heating cable before installation.

2 STAGE 2: Test After Cable Layout, Before Floor Installation

Purpose: To ensure the yellow heating cable has not been damaged during the layout of the CosyFloor System.

3 STAGE 3: Test After Floor Installation is Complete

Purpose: To confirm the yellow heating cable remains undamaged after the final floor covering has been installed.

HOW TO PERFORM TESTS:

Between heating conductor 1 (insulated wire) and heating conductor 2 (insulated wire)

1. Touch one probe of the multimeter to black cold connection cable 1.
2. Touch the other probe of the multimeter to black cold connection cable 2.
3. Observe the multimeter display and record the reading on your form.

Expected Result: ***This reading should be within 5% of the ohm reading indicated on the cable tag.***

Between heating conductor 1 (insulated wire) and ground (uninsulated wire)

1. Touch one probe of the multimeter to the yellow heating cable ground braid.
2. Touch the other probe of the multimeter to black cold connection cable 1.
3. Observe the multimeter display and record the reading on your form.

Expected Result: *This reading should show no reading or .OL (open load). If you have an ohm reading at this point,* **STOP AND DO NOT CONTINUE WITH INSTALLATION.**

Between heating conductor 2 (insulated wire) and ground (uninsulated wire)

1. Touch one probe of the multimeter to the yellow heating cable ground braid.
2. Touch the other probe of the multimeter to black cold connection cable 2.
3. Observe the multimeter display and record the reading on your form.

Expected Result: *This reading should show no reading or .OL (open load). If you have an ohm reading at this point,* **STOP AND DO NOT CONTINUE WITH INSTALLATION.**

Thermostat floor sensor ohm reading:

1. Touch one probe of the multimeter to one of the thermostat floor sensor wires.
2. Touch the other probe of the multimeter to the other thermostat floor sensor wire.
3. Observe the multimeter display and record the reading on your form.

Expected Result: *Between 8 and 12 kohm.*

TILE OR NATURAL STONE FLOOR FINISH OVER CONCRETE SUBFLOOR

Installation Applications for CosyFloor

Membrane System

OSB OR PLYWOOD SUBFLOOR

Subfloor Applications:

- Most houses (1st and 2nd floors)
- Some low rise multi-unit buildings
- Some commercial office spaces

Subfloor Preparation:

- Ensure that wood subfloor is stable prior to beginning installation.

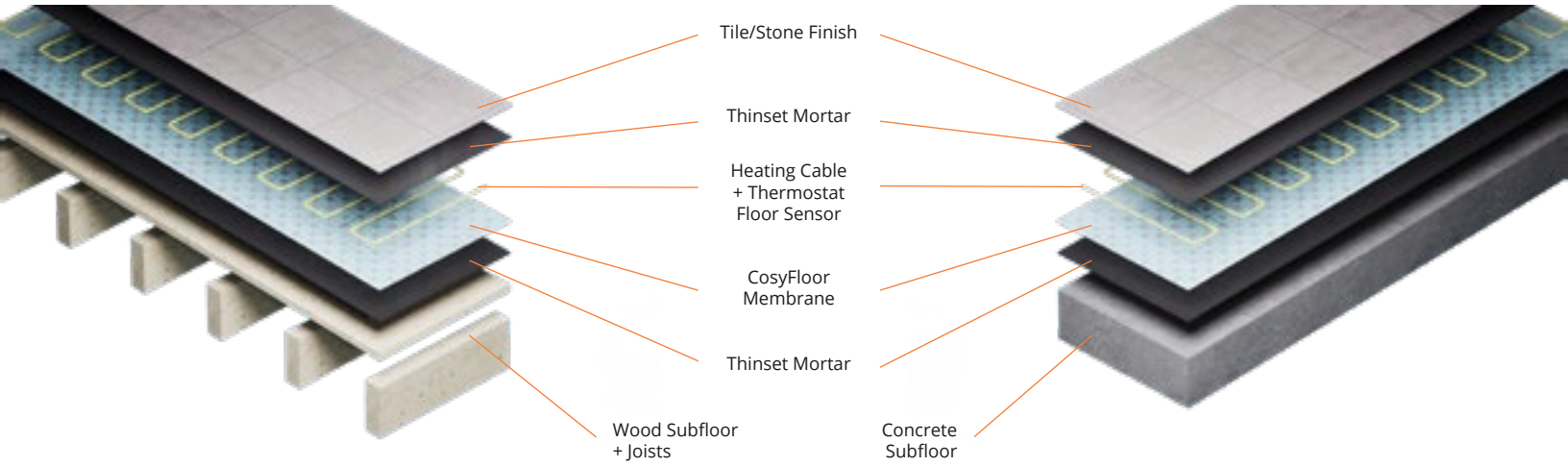
CONCRETE SUBFLOOR

Concrete Applications:

- Most houses (1st and 2nd floors)
- Some low rise multi-unit buildings
- Some commercial office spaces

Concrete Preparation:

- Ensure that wood subfloor is stable prior to beginning installation.



Maximum Heating Cable Spacing Recommendation:

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W/sq.ft.	18w	15w	2w	11w	9w

Spacing	2″	2.5″	3″	3.5″	4″
W/sq.ft.	18w	15w	12w	11w	9w

Primary Heat Applications *CosyFloor System will be the main heating source*

Secondary Heat Applications *CosyFloor System will be supplemental to forced air or another heat source*

ENGINEERED WOOD, LAMINATE, OR VINYL FLOOR FINISH

Installation Applications for CosyFloor
Membrane System

OSB OR PLYWOOD SUBFLOOR

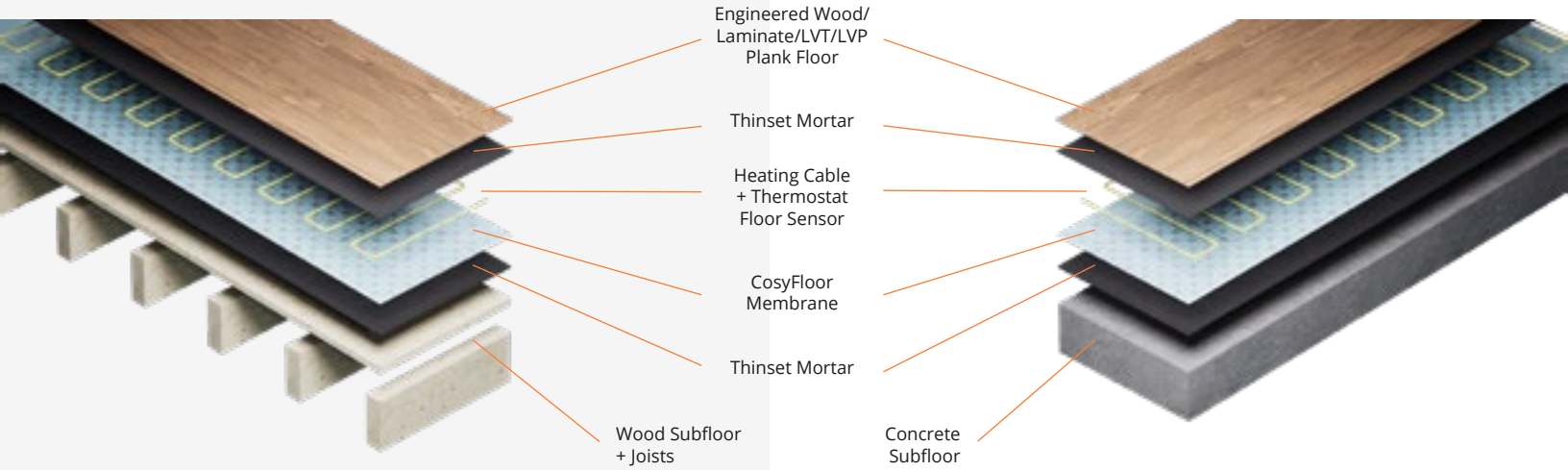
Subfloor Preparation:

- Ensure that wood subfloor is stable prior to beginning installation.

CONCRETE SUBFLOOR

Concrete Preparation:

- Inspect concrete subfloor for cracks or unevenness, especially on older floors. Address prior to installation.



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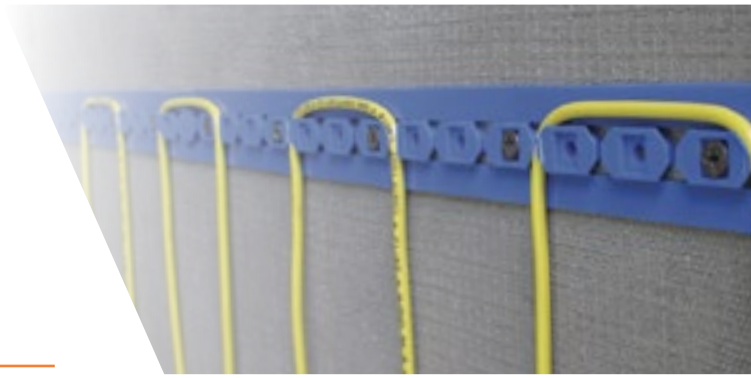
Spacing	2″	2.5″	3″	3.5″	4″
W/sq.ft.	18w	15w	12w	11w	9w

For these types of floor finishes, you must confirm suitability of heated floor application with floor finish manufacturer prior to installation.

- ***Primary Heat Applications*** *CosyFloor System will be the main heating source*
- ***Secondary Heat Applications*** *CosyFloor System will be supplemental to forced air or another heat source*

TILE, ENGINEERED WOOD, AND OTHER FLOOR FINISHES OVER CONCRETE SUBFLOOR



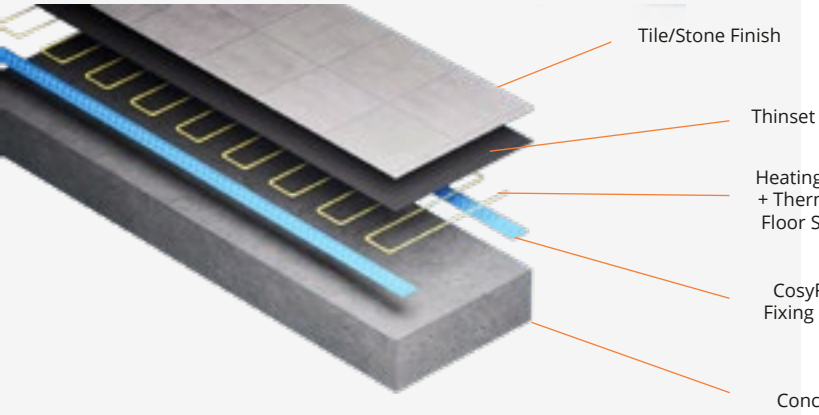
Installation Applications for CosyFloor

Fixing Strip System

Concrete Preparation:

- Inspect concrete subfloor for cracks or unevenness, especially on older floors. Address prior to installation.

TILE OR NATURAL STONE FLOOR FINISH



Maximum Heating Cable Spacing Recommendation:

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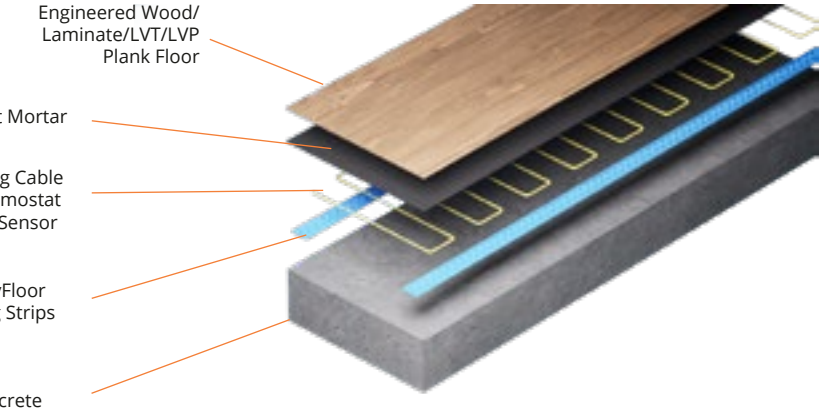
ENGINEERED WOOD, LAMINATE, OR VINYL FLOOR FINISH



Spacing	2″	2.5″	3″	3.5″	4″
W/sq.ft.	18w	15w	12w	11w	9w

For engineered wood, laminate, LVT, and non-stone floor finishes, you must confirm suitability of heated floor application with floor finish manufacturer prior to installation.

- ***Primary Heat Applications*** *CosyFloor System will be the main heating source*
- ***Secondary Heat Applications*** *CosyFloor System will be supplemental to forced air or another heat source*