

INSTALLATION GUIDE

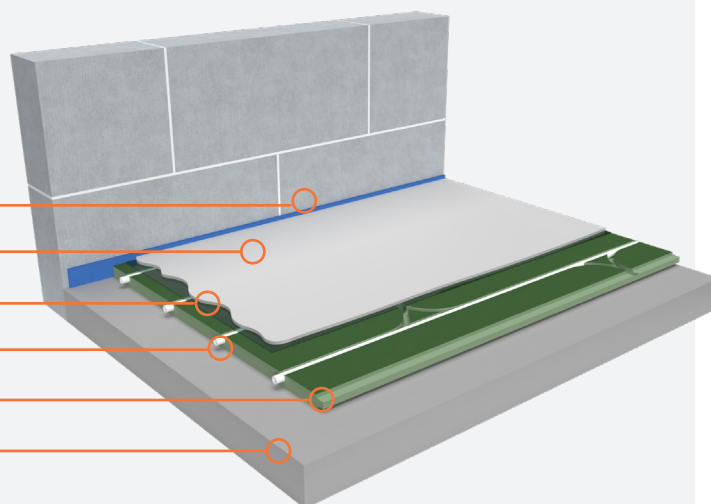
Tekwarm Routed Chipboard Panels Over a Solid Base with UFH

INSTALLATION OPTIONS

This guide covers instructions for installation of Tekwarm Routed Chipboard Panels over a concrete or screed substrate, the below options show the required products for both an even and uneven substrate, and options for the desired finish before installing the final floor covering.

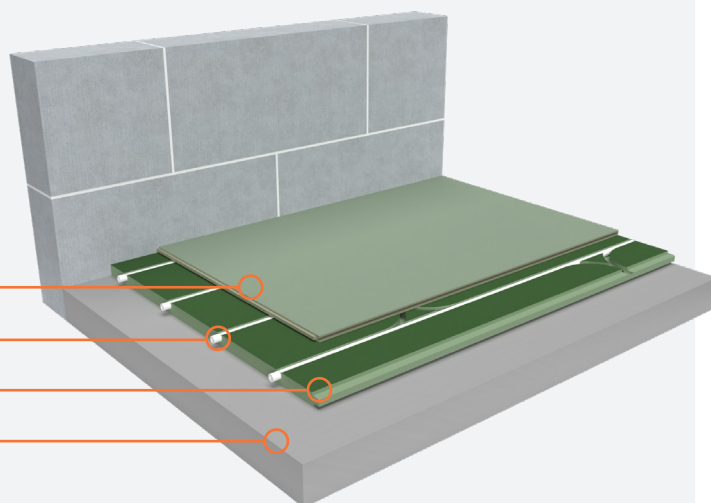
INSTALLATION OVER EVEN SUBSTRATE with screed finish

- perimeter strip
- tekcem 550 fibre screed
- tekcem tekrip or tekprime primer
- ufh pipes
- tekwarm routed chipboard panels
- concrete/screed substrate



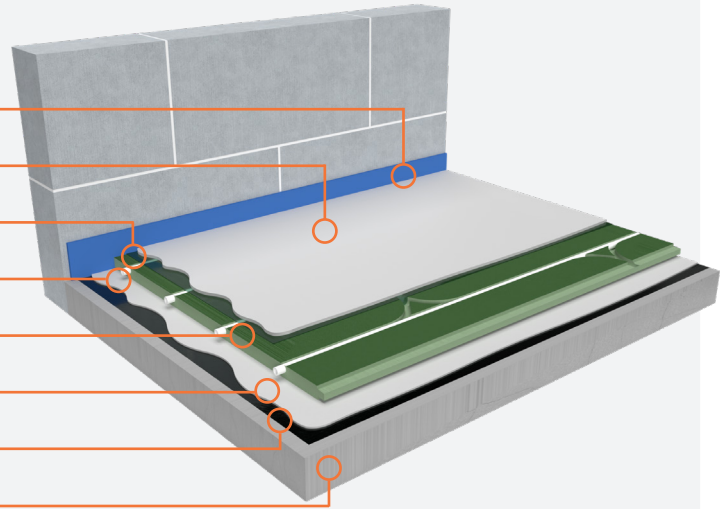
INSTALLATION OVER EVEN SUBSTRATE with overlay board finish

- overlay board
- ufh pipes
- tekwarm routed chipboard panels
- concrete/screed substrate



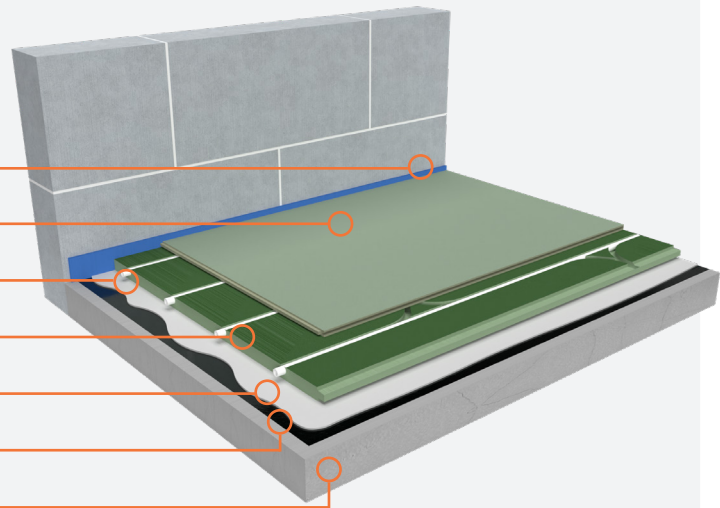
**INSTALLATION OVER
UNEVEN SUBSTRATE
with screed finish**

- perimeter strip
- tekcem 550 fibre screed
- tekcem tekgrip or tekprime primer
- ufh pipes
- tekwarm routed chipboard panels
- tekcem 220 screed
- tekcem tekgrip or tekprime primer
- concrete/screed substrate



**INSTALLATION OVER
UNEVEN SUBSTRATE
with overlay board finish**

- perimeter strip
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- ufh pipes
- tekwarm routed chipboard panels
- tekcem 220 screed
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MATERIALS NEEDED:

MATERIALS REQUIRED FOR ALL INSTALL OPTIONS

- Tekwarm Routed Chipboard Panels
- UFH pipes (12mm diameter)
- UFH manifold and pressure testing kit
- Fixings (screws and washers suitable for UFH boards)
- S1 flexible adhesive (optional, for bonding UFH boards to the substrate)
- Insulation (if required)
- Adhesive (if specified by the panel manufacturer)
- Tools: Tape measure, circular saw, power drill/driver, utility knife, pipe cutter, pressure testing pump, spirit level, trowel, and safety equipment

ADDITIONAL MATERIALS FOR UNEVEN SUBSTRATE

- **Tekcem 220 levelling screed** (or equivalent)
- **Tekcem Tekgrip primer or Tekprime primer** (or equivalent)

ADDITIONAL MATERIALS FOR SCREED FINISH

- **Tekcem 550 fibre screed** (or equivalent)

ADDITIONAL MATERIALS FOR OVERLAY BOARD FINISH

- **Tekwarm Overlay Board** (or equivalent)

IMPORTANT NOTES:

1. **Floor Finishes:** When installing floor finishes above the UFH system, always check with the floor finish manufacturer for any specific stipulations for overlaying over a UFH floor. Follow any guidance provided to ensure compatibility and performance.
2. **Commissioning UFH System:** For systems that are overlaid with Tekcem 550 screed, ensure that the UFH system is commissioned in line with the guidance set out in BS1264, BS8203, and BS8204. The system should be commissioned prior to the application of floor finishes. Refer to specific commissioning details that may be available from Tekcem.



PRE-INSTALLATION STEP:
obtain a professional design layout

1. **Consult the Manufacturer:** Before starting the installation, consult with the manufacturer (Tekwarm) to obtain a professional design layout for your UFH system. This design will ensure accurate heat outputs based on the following factors:
 - **Materials:** The type of UFH boards and overlay boards.
 - **Pipe Spacing:** The correct spacing of the UFH pipes to ensure even heat distribution.
 - **Heat Source:** The compatibility of your heat source with the UFH system.
 - **Floor Finish:** The type of floor finish that will be used on top of the overlay boards.
 2. **Review the Design:** Carefully review the provided design layout and ensure all details are understood and can be implemented on-site.
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STEP 1:
prepare the subfloor

1. **Inspect Subfloor:** Ensure the concrete or screed base is clean, dry, and free from dust, debris, and any substances that might affect adhesion.
 2. **Repair Cracks and Holes:** Fill any cracks or holes with a suitable repair compound and allow it to cure as per the manufacturer's instructions.
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STEP 2:
lay levelling screed if required

IF LEVELLING IS NOT REQUIRED PLEASE MOVE ON TO STEP 3.

1. **Prime the Substrate:** It is crucial to prime the concrete or screed substrate with either Tekcem Tekgrip or Tekprime primer. Follow the manufacturer's instructions on the data sheets for detailed information on application and drying times.
 - **Apply Primer:** Use a roller or brush to apply the primer evenly across the entire substrate surface. Allow it to dry completely before proceeding.
2. **Mix Tekcem 220:** Follow the manufacturer's mixing instructions for Tekcem 220 screed. Typically, this involves mixing the screed with water in a suitable container until a smooth, lump-free consistency is achieved.
3. **Apply Screed:** Pour the mixed screed onto the primed subfloor and spread it evenly using a trowel to achieve a flat and level surface. The thickness of the screed layer should be as specified by the manufacturer.
4. **Allow to Cure:** Allow the screed to cure completely as per the manufacturer's recommendations before proceeding to the next steps.

3**STEP 3:
lay the insulation (optional)**

Install Insulation: Lay over the cured screed or level subfloor. Ensure it fits snugly without gaps.

4**STEP 4:
lay tekwarm routed chipboard panels**

1. **Measure and Cut:** Measure the room and cut chipboard panels to fit, ensuring cuts are straight and panels fit tightly together.
 2. **Start Laying Panels:** Begin laying the first board in a corner of the room, ensuring the grooves are positioned correctly for the UFH pipes according to the design layout.
 3. **Fix Boards:**
 - **Adhesive (Optional):** Apply adhesive to the back of the panels to bond them to the substrate, following the manufacturer's instructions for application and drying times.
 - **Mechanical Fixing:** Secure the chipboard panels to the subfloor using screws and washers. Place screws and washers at intervals of 150mm along the edges and 300mm in the field of the panel. Ensure screws are countersunk to avoid protrusions.
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5**STEP 5:
lay ufh pipes**

1. **Follow the Design Layout:** Lay the UFH pipes into the routed grooves of the EPS panels exactly as specified in the professional design layout. Ensure correct spacing and pipe routing.
 2. **Install Pipes:** Lay the UFH pipes into the routed grooves of the UFH boards. Cut the pipes as needed with a pipe cutter, ensuring clean and straight cuts.
 3. **Connect to Manifold:** Connect the pipes to the UFH manifold according to the manufacturer's instructions. Make sure the connections are secure.
 4. **Secure Pipes:** Ensure pipes are securely seated in the grooves and do not protrude above the board surface.
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6**STEP 6:
pressure test ufh system**

1. **Prepare for Testing:** Close all manifold valves and connect the pressure testing pump to the system.
2. **Test Pressure:** Pressurise the system to the recommended pressure (typically around 4–6 bar) and maintain this pressure for at least 24 hours.
3. **Check for Leaks:** Inspect all connections and pipes for leaks. If any leaks are found, depressurize the system, fix the leaks, and retest.
4. **Release Pressure:** Once the system passes the pressure test, release the pressure according to the manufacturer's instructions.

7 STEP 7: **preparing the floor for finishing**

OPTION 1 - LEVELLING SCREED OVER UFH BOARDS

1. **Prime the UFH Boards:** Apply Tekcem Tekgrip primer to the UFH boards following the manufacturer's instructions. This will help the screed bond properly to the boards.
2. **Mix Tekcem 550 Fibre Screed:** Prepare the Tekcem 550 fibre screed according to the manufacturer's mixing instructions.
3. **Apply Screed:** Pour the mixed screed over the UFH boards, spreading it evenly with a trowel to achieve a nominal thickness of 6-10mm. Ensure a smooth and level surface.
4. **Allow to Cure:** Allow the screed to cure completely as per the manufacturer's recommendations before proceeding.

OPTION 2 - INSTALL OVERLAY BOARDS

1. **Select Overlay Board:** Use a minimum of 6mm overlay boards for optimal performance, available from The UFH Group.
2. **Measure and Cut:** Measure and cut overlay boards to fit the room dimensions.
3. **Lay Overlay Boards:** Lay the overlay boards over the UFH boards and pipes, ensuring they are well-aligned and tightly fitted.
4. **Fix Overlay Boards:** Secure the overlay boards with screws, ensuring fixings do not penetrate the UFH pipes beneath.

8 STEP 8: **final inspection**


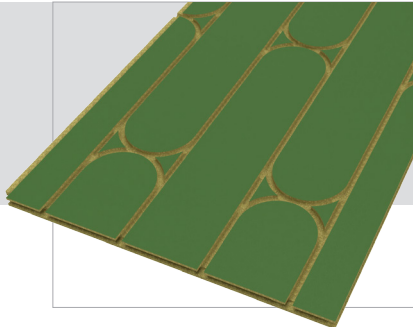
1. **Check for Levelness:** Use a spirit level to ensure the entire floor is level and there are no raised edges or gaps.
2. **Ensure Fixings Are Secure:** Verify all screws are properly countersunk and the floor is stable.


9 STEP 9: **clean up**

1. **Remove Debris:** Clean up any debris and tools from the installation area.
2. **Final Check:** Perform a final inspection to ensure all work has been completed to a high standard and all materials have been used correctly.

SUMMARY

By following these steps, obtaining a professional design layout from the manufacturer, using the recommended overlay board thicknesses, and applying an optional levelling screed with Tekcem 550 fibre screed after priming with Tekcem Tekgrip, you will ensure a successful and durable installation of Tekwarm routed EPS panels with a UFH system over a solid base such as concrete or screed. This approach guarantees accurate heat outputs and optimal performance of your UFH system, while ensuring compatibility with the chosen floor finishes.



TEKWARM

CHIP-UFH BOARD

Moisture resistant routed chipboard, available standard, foiled, or bonded to additional thermal or acoustic insulation.

Our Chip-UFH Board is highly conductive which allows for an even spread of heat throughout the floor.

A 6mm or 9mm plywood (or Tekwarm Construction Board) should be laid over the top of the routed chipboard depending on the joist spacing and required floor finish.

The board size is 2400mm x 600mm x 22mm, being grooved on one face as required to suit 12mm diameter underfloor heating pipes, with radius returns as standard.

Other routed pipe layouts and patterns are available.

INSTALLATION

Tekwarm Chip-UFH Foiled Board is typically installed directly onto floor joists (usually insulated inbetween), utilising standard chipboard screws and joint adhesive.

FINISHING

A Tekwarm Overlay Board or suitable plywood should be applied prior to the application of any floor finishes.

Tekwarm Overlay Board is installed as a floating floor, plywood should be installed using suitable fixings.

Laminates, hardwood flooring and carpets should be applied using a suitable underlay as per manufactures instructions.

SUITABLE FOR

Tekwarm Chip-UFH Foiled Board is suitable for new build or retro fit installations, and the standard pattern board is normally available from stock.

TFTWRCUFH1022V1