

Introduction

NovaChip is our foil-faced chipboard panel that is pre-routed to accept 16mm underfloor heating pipe at 150mm centres.

It offers high thermal performance and is intended as a direct replacement for a standard chipboard or plywood floor board on top of joists.

This means an underfloor heating system can be added to upper floors, or indeed any joist floor, quickly and efficiently during the build process in both new build and retrofit projects.

Once the panels have been laid directly onto the floor joists, the underfloor heating pipe work can be installed into the pre-routed grooves before being covered with a 9mm ply which is recommended to reinforce the structural integrity of the board. A load bearing cement fibre board product (such as No More Ply) could also be used in place of plywood to improve heat outputs from the system.

The panels have been specifically designed with pipe spacings at 150mm to ensure they are compatible with low temperature heat sources such as ground and air source heat pumps as well as high temperature gas boilers.

Technical Information

WIDTHS AVAILABLE	600MM
LENGTHS AVAILABLE	1200MM, 2400MM
THICKNESS AVAILABLE	22MM
COMPRESSIVE STRENGTH	N/A
DIMENSIONAL TOLERANCE	(+/-1MM)
MOISTURE ABSORPTION	0.6%

Installation

Prior to installation we recommend storing the NovaChip panels in the room where they will be laid for a minimum of 48 hours to enable them to become conditioned to the environment and reduce the potential for shrinkage or swelling. Also, ensure that all joists are dry before laying any of the NovaChip panels.

Tools Required - Circular/hand saw, pencil, straight edge/spirit level, tape measure.

1) Preparation:

Before laying any NovaChip panels ensure the floor joists are structurally sound and the floor area is level and free from debris. If there are any loose or damaged joists, repair or replace them before proceeding with the installation.

NOTE: Installation method will vary depending on whether the floor void is accessible from below or not.

If the floor void is NOT accessible from below the fixing of the NovaChip panels and installation of the pipe will need to be completed room by room. Start at the room furthest from the manifold and work room-by room back to the manifold. Access panels are required here when installing the UFH pipework.

If the floor void IS accessible from below the fixing of the NovaChip panels and installation of the pipe can be completed for the whole floor at once. There is no requirement for access panels in this instance as pipework can be run between joists from below.

2) Installing the NovaChip Panels:

- The installation of the NovaChip panels is essentially the same process as laying a standard chipboard floor onto structural joists. Therefore, panels are to be laid across the joists and NOT laid lengthways in the same direction of the joists.
- Start by placing the first NovaChip panel in the corner of the room. Make sure to leave a small gap of at least 10mm between the panel and the wall to allow for any potential expansion.
- The grooved edge of the panel should be placed into the corner rather than the tongue edge.
- The opposite edge of the NovaChip panel must lay onto the centre of a joist rather than overhanging or laying between two joists.
- Lay the panels sequentially making sure the ends of the panels land on the centre of a joist. Use the off-cuts from each run to start the following run of panels. Line up the panels so that each run has the required pipe return loops at each end.

4) Fixing the NovaChip Panels:

D4 PU chipboard adhesive should be applied to the tongue and groove of the panels you are joining. Push together firmly and tap in to place if required.

Use screws to fix the panels to the joists. We recommend using screws that are at least 2 times the thickness of the chipboard. The screws should be spaced approximately 150mm apart.

5) Installing the Manifold:

The manifold location will be shown on your UFH CAD design. When you have located the correct positioning fix the manifold firmly to a wall ensuring there is adequate space available for access to either side of the manifold for future servicing and maintenance.

Manifolds are usually fitted at least 600mm from the floor to allow pipes to be connected up to the manifold easily. Refer to the manufacturers instructions provided for detailed installation instructions regarding the manifold, ball valves and pipe connectors.

6) Installing the Pipe:

Before laying any pipe, use a brush or vacuum to remove any debris on top of the panels or within the pipe runs. Once you are satisfied that the floor area is clear you can begin to install the pipe work. Lay in accordance with the CAD design that was supplied with your system.

Our pipes are labelled every linear metre so you can easily see how much pipe you have laid and check this against the CAD design if necessary.

Lay the pipe by pushing it into the grooves within each panel. Ensure the pipes sit flush within the grooves. A rubber mallet can be used to tap the pipes into the grooves if additional pressure is required.

Running Pipes between Joists - In order to route pipes between joists it is necessary to notch or drill a hole in the joist. Any such works must be carried out in accordance with Building Regulations. Exposed pipes that run between the joist spaces must also be insulated.

7) Cover the Joist Deck Panels (After system pressure test is completed):

When installation is complete a 9mm plywood board should be installed on top of the panels before laying final floor coverings.

Take care to ensure that any screws used to fix the plywood panels do not penetrate the UFH pipes below. It is also advisable to mark on the plywood where the UFH pipes run beneath the panels so that flooring installers do not accidentally pierce or damage the pipework when installing floor coverings.

Filling & Venting The System

1) Once all of the circuits have been completed, and all connections are tight, connect a suitable hose to the upper drain valve and a second hose to the lower drain valve on the right hand side of the flow and return manifold.

2) Connect the Upper drain valve to the cold water fill. Ensure both the red and blue isolating ball valves are closed and all flow meters are closed on the flow rail. On the return rail, all actuator valves should be open. Working from the left open up the flow meter on the first manifold port. With all of the remaining circuits closed, open up both drain valves. You are now ready to flush out the first loop. Visually check the water coming out of the hose from the lower drain valve is flowing freely without any bubbles into a suitable drain/bucket.

3) Repeat the process on the remaining circuits. When each loop has been flushed correctly, ensure that the flow meter is closed before moving on to the next port. When flushing the underfloor heating system, only 1 loop at a time should be open. When all loops are flushed, open all flow meters and close the lower drain valve first and then the upper to maintain pressure within the manifold.

You can now vent any remaining air in the system through the manual or auto air vents.

Pressurising The System

Once all of the loops are flushed and air has been removed, the system should be pressurised to 6 bar, using a suitable pressure testing pump.

Open all of the circuit flow meters and close off the upper drain valve on the right hand side of the manifold. Connect the pressure tester to the lower drain valve, and raise the pressure to 6 bar.

Testing Period

We recommend holding the system at 6 bar pressure for 1 hour.

The pressure gauge may drop even though there are no leaks. This is due to the temperature change of the water. Generally in 1 hour you will recognise a leak.

It is important to make sure a suitably responsible person witnesses the pressure test, and signs to say the test was successful. Make sure you carry out a thorough visual inspection of all the pipework before you leave site.