ambiente®
sole warming solutions

AmbiChipboard | 22

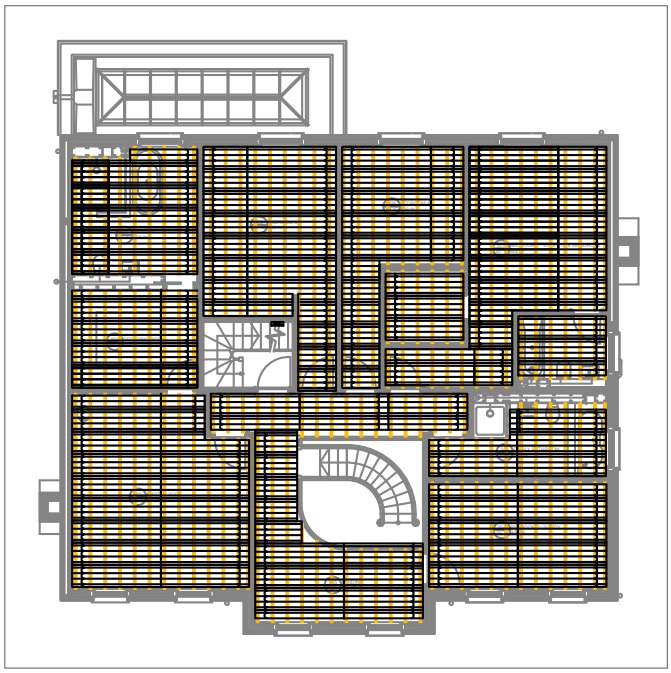
Installation Guide

Ambichipboard | 22 System is designed specifically for turning a standard joisted floor into an underfloor heating system. Panels are pre-routered to accept 12mm UFH pipe. They are strong, moisture resistant and can be used and handled in exactly the same was as conventional chipboard panels.

- Turns a joisted floor into a UFH system
- Pre-routered chipboard panels
- Rapid installation
- Simple, non-specialist installation

Installation layouts

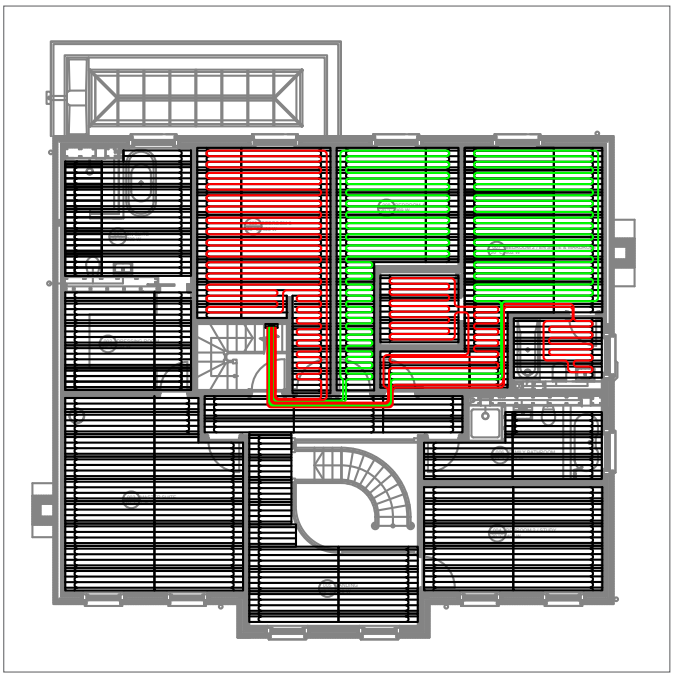
A



Panel Layout

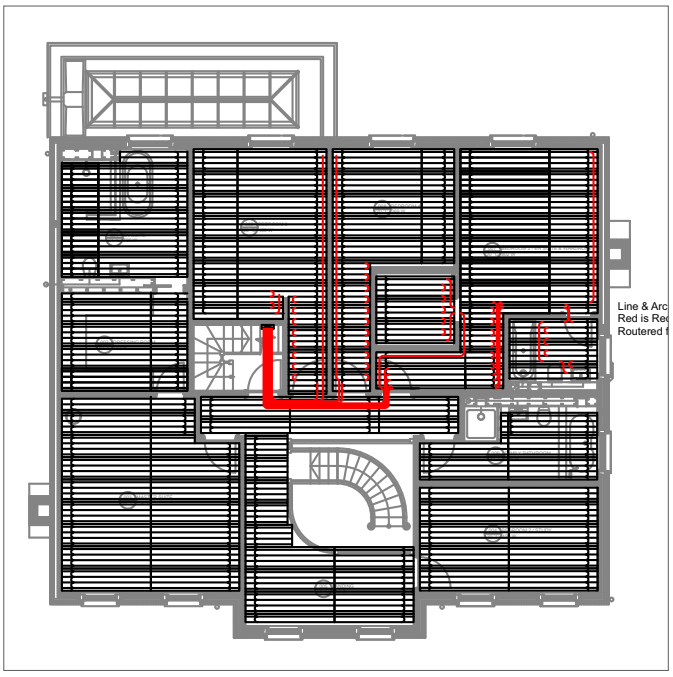
ambiente®
sole warming solutions

B



UFH Pipe Layout

C



UFH Pipe Routering Layout

AmbiChipboard | 22

Introduction

AmbiChipboard | 22 system manufactured from P5 grade moisture resistant chipboard with tongue and groove edge detail. Panel size is 2400mm x 600mm x 22mm and panels are pre-routered to accommodate 12mm UFH pipe.

The board can be used as a structural floor across joists on battens at 400mm centres.

If the final floor covering is to be any other material than an engineered wood floor, a 6mm ply layer should top of the AmbiChipboard floor to provide surface protection to the UFH pipe.

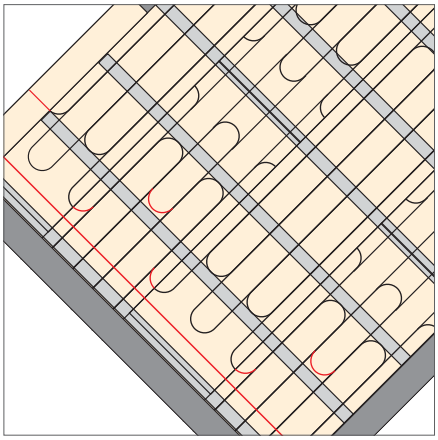
When laying the AmbiChipboard System you will also require the following items:

- Required insulation for the floor.
- Suitable glue or bonding agent.
- No.8 particleboard screws.
- 6mm plywood (where an additional wood flooring is not fixed directly to the panels).
- Suitable gluing materials are also required.

IMPORTANT
Store panels in a dry, weather tight area. Keep away from direct sunlight, away from sharp objects that can damage the surface areas and keep away from chemical spills.

ambiente®
sole warming solutions

1



Exposed pipe

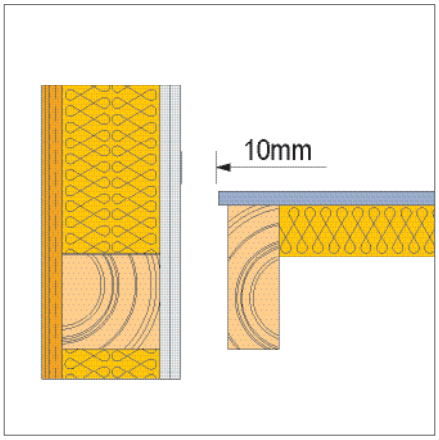
AmbiChipboard 22 is designed to avoid the need for UFH pipe joints under the floor by utilising factory made, pre-routered panels and a manual routering process on-site. However, it may be necessary to install flow and return pipe in the joist space prior to completing the floor. Where flows and returns run through joists there must be a notch or hole. Notching and drilling in solid wood joists must be done in accordance with Building Regulations Part A such that:

a. Holes should be drilled through the neutral axis, and positioned between 0.25 and 0.4 times the joist span length and

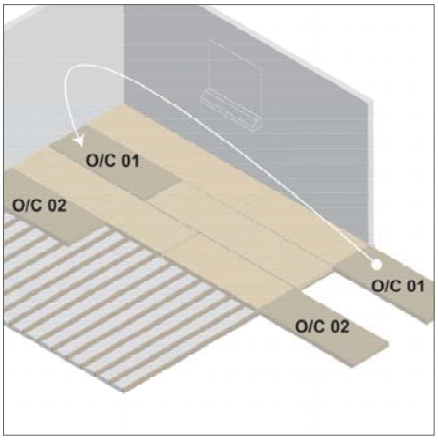
b. Must not be less than 3 diameters (of the hole) apart.

c. Notches must not be greater than 0.25 times the joist depth.

2



3



Laying AmbiChipboard

When laying the boards, leave a minimum 10mm gap between the edge of the panel and the wall.

Lay the first panel in a room into a corner, in accordance with industry best practice.

Panels should be cut to the centre line of the joist or be supported by a noggin. Use cut-offs from the previous row to start the next row.

See UFH design drawing for exact positions of pipe for each installation.

4

5

6

Laying AmbiChipboard

Each tongue and groove must be glued using water resistant D3 Grade PVA adhesive to BSEN204/205. Ensure that adhesive is applied to both sides of the tongue and groove.

Panels must be screwed and glued to the top of the joist. Use four fixings per joist and ensure they are equidistant between each routered channel.

Drill a pilot hole first and use No.8 particleboard screws to fix the AmbiChipboard to joist or batten.

The screws should be 2.5 x panel thickness in length.

Ensure the grooves are free from any debris before installing the pipe - We recommend that the floor and grooves are swept and vacuumed prior to laying the pipes.

ambiente®
sole warming solutions

7

Laying AmbiChipboard

When the panels are laid, prepare for manually routering the panels in preparation for flow and return tails and pipe returns. Please refer to UFH design for pipe layout.

However, the flow and return tails can be installed underneath the AmbiChipboard for return to the manifold. Where there is no access from below or where the joists cannot be notched - use a hand router to create an additional channel in the AmbiChipboard for the pipe to pass over the joist.

8

If access is only available from below, use the method described below to run your tails.

Drill a 12.5mm hole through the chipboard where the pipe is required to drop into joist space. The hole must be drilled at 20^{O} angle to allow the pipe to run smoothly into the space.

9

Laying AmbiChipboard

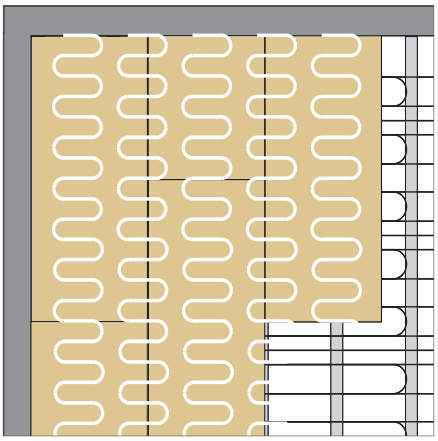
Follow your design drawing and starting from the manifold, lay the pipe into the channels in the chipboard in a serpentine pattern and return back to the manifold.

All flows and returns within the void beneath the floor must be insulated.

10

11

12



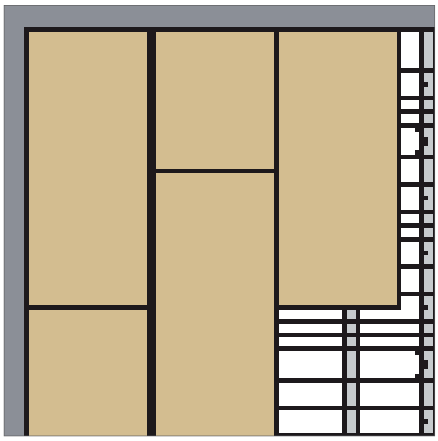
Laying AmbiChipboard

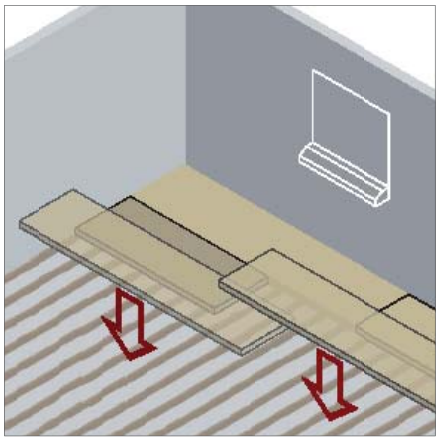
Terminate your flow and return at the manifold and connect using Ambiente manifold connectors.

Once the system is installed the pipe work must be pressure tested and preferably kept under pressure while the covering deck is laid. If this is not possible, the pressure test must be carried out for a second time when the covering deck is laid. This is important as it ensures that the pipe has not been damaged during installation.

With the system installed and fully pressure tested, the 6mm overlaid plywood layer can be laid and fixed in the opposite direction to the panels. Overlay panels must be minimum of 6mm thick ply and should be glued and pinned to the top of the chipboard panels in such a way that each overlay panel overlaps the tongue and groove edges by 300mm. Apply PVA glue in a serpentine pattern across this exposed chipboard (as illustrated), before laying the ply overlay.

13





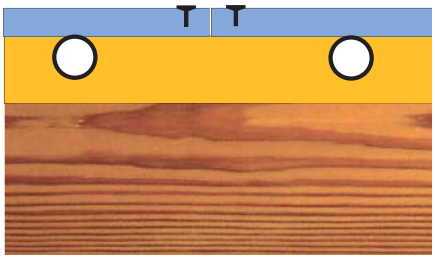
Laying AmbiChipboard

The overlay panels should be pinned down in order to ensure the final cover board should remain flat and even. Be careful not to puncture the pipes with these pins. 25mm ring shank nails should be used.

Optional overlay panels :

a) 6mm thick ply : glued and pinned on top of the AmbiChipboard panels.

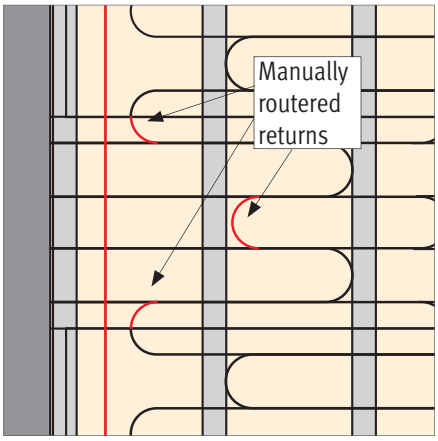
b) 18mm thick Knauf Brio screedboard, T&G with the laps glued and screwed.

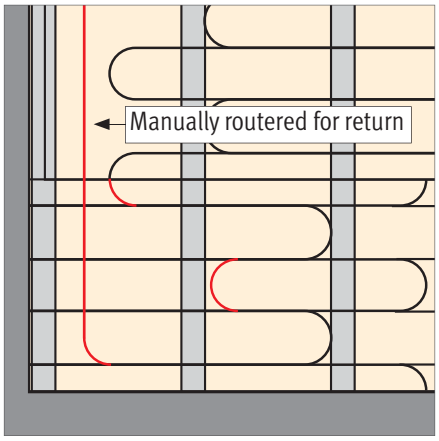


(Above) Overlay joints should be in the centre link between the grooves in the routered Ambi panels.

Please note: Where alternative floor finishes are recommended by the manufacturer, these must be used.

14





Installing tongue and grooved AmbiChipboard | 22

Ambiente panels are 2400mm x 600mm. So with joists/battens at 400mm, the panels work well but in many cases, joists/batten centres may vary. The panels should be cut to ensure that the cut edge is fully supported at the centre line of a joist/batten.

The diagram (above) illustrates the cut edge and the left hand side of the panel to enable the right hand side panel to be trimmed and both ends routered to take the panel. Some areas will need to be manually routered, to take the return pipe and smaller cut panel, where a return is required.

Minimum Length Of Cut Panels
When timming AmbiChipboard or plain T&G panels, TRADA recommends that the panel should be supported by a minimum of three battens/joists. That means that at 400mm centres, the shortest cut length will be 800mm.

This is to ensure that load and impact is spread over the three battens/joists equally. Installers should NOT fix short lengths which are only supported by two battens/joists unless supported by additional noggins.

Gluing of T+G Edges
When installing T+G decks it is important to optimise the structural strength and to minimise the risk of squeaking and loose joints. Therefore it is important to strictly follow the gluing instructions when laying the AmbiChipboard and overlaying sheets of ply or Brioboard.

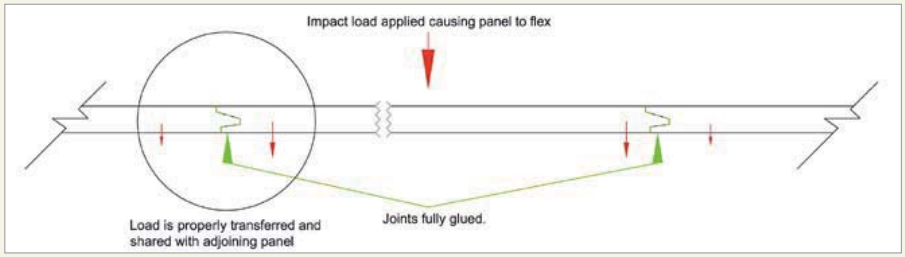
Structurally, each timber floor must be installed to withstand the minimum concentrated loads and soft body impact loads that are specified in the domestic and residential guidelines.

Poor installation practice can result in floors not meeting conformance standards.

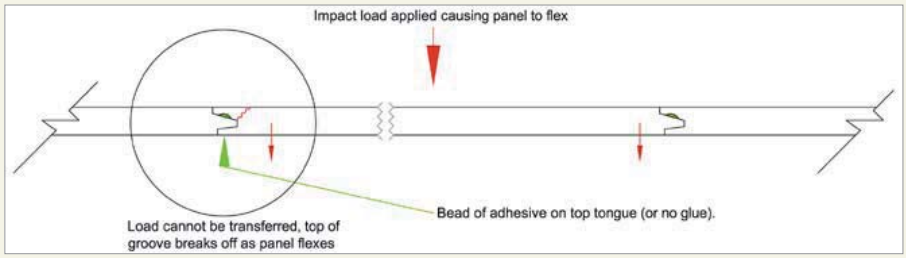
Note: All parts of T+G joints must be fully coated with adhesive.

ambiente®
sole warming solutions

Guidance



To achieve this, it is important to place a generous bead of adhesive to both faces of the T+G joint and then spread it using a brush. When the T+G edges are fully glued, you can see that an impact load applied to one panel is shared with the adjoining panels.



If T+G edges are left unglued or if adhesive is only applied to the top of the tongue (a common practice), and hence to only one half of the T+G, you can see that flexing of the panel under impact load cannot be properly transferred to the adjoining panel. In this case, any impact load is taken entirely by the single panel under load and the top of its grooved edge can easily break off as it flexes. If the top of the groove would break off under the load it is required to take for its Service Class, such a floor might fail to satisfy minimum strength criteria, and be rejected.

Router Tip Specification
TCT Two Flute Box Cove Oreder reference Number:XC351-6.
D12mm x L25mm x R6mm x DL84mm.

Minimising The Risk Of Squeaks
Most floor squeaks are caused by a floor deck moving up and down and rubbing on a nail that has been used to fix the floor deck to the top of the joist. This can particularly occur if a timber joist should shrink as it dries, and then drop relative to adjacent joists.

The risk of squeaks can be minimised by avoiding nails and using screws instead. Screws should preferably be hand-tightened to ensure their heads do not puncture the surface of the chipboard. If powered screwdrivers are set with the torque-slip too high, screw heads can easily penetrate the chipboard and end up within the inner and softer chipboard core, where the fixing strength is greatly reduced.

The risk of squeaks can be further minimised by applying a generous bead of adhesive along the top of each joist and setting the chipboard onto this. Use a minimum number of screws to simply hold the chipboard panel in position and prevent it slipping after the T+G joint has been driven together.

This type of glued joint is not only quieter but also stronger and some surveys suggest that it can be quicker and cheaper than using nails.

For more information, help and advice, call us on

08450 70 38 95

Ambiente UK Systems
Heritage House
1 Woodside Lane
Bell Bar AL9 6DE

Telephone 08450 70 38 95
Fax 08450 70 38 96
Email info@ambienteufh.co.uk

www.ambienteufh.co.uk

ambiente®
sole warming solutions

ISO 9001
REGISTERED FIRM