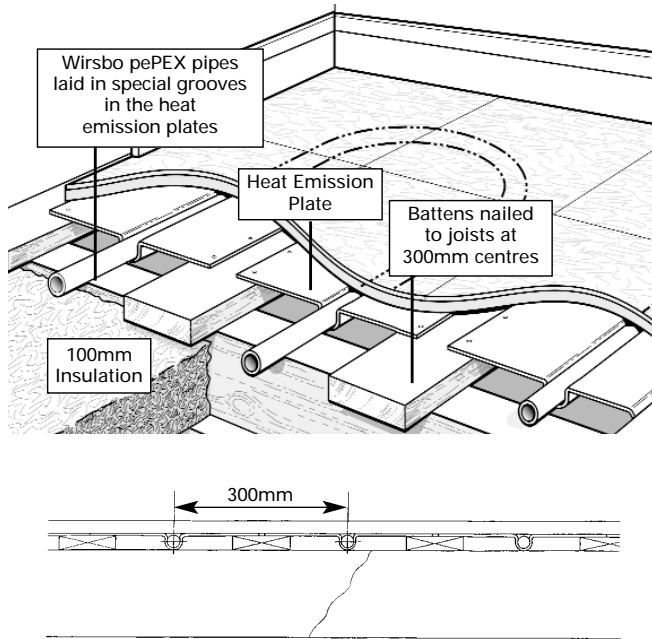


# Fact Sheet 3 Timber Suspended Floors

This application is suitable for both new and existing buildings. Suitable insulation (normally glass fibre) is laid between the joists to minimise downward heat loss. All other services such as cables and plumbing pipes should be laid before the underfloor heating.

## New Floors

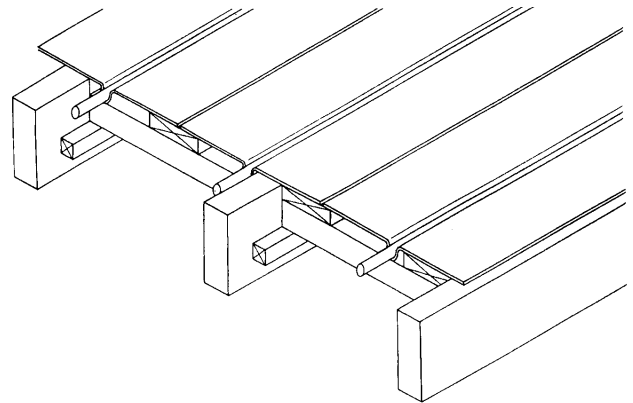


Insulation is laid between the joists. Joists are then cross-battened at 300mm centres with 100 x 25mm (4" x 1") battens. (Alternatively joists can be laid at 300mm centres). Heat emission plates are used to spread the heat evenly, the plates being secured directly onto the battens or joists. The groove in the plate is designed to grip the pipe securely.

Once the loops are laid, connected up and pressure tested, the floor deck can be fixed to the battens or joists.

## Existing Floors

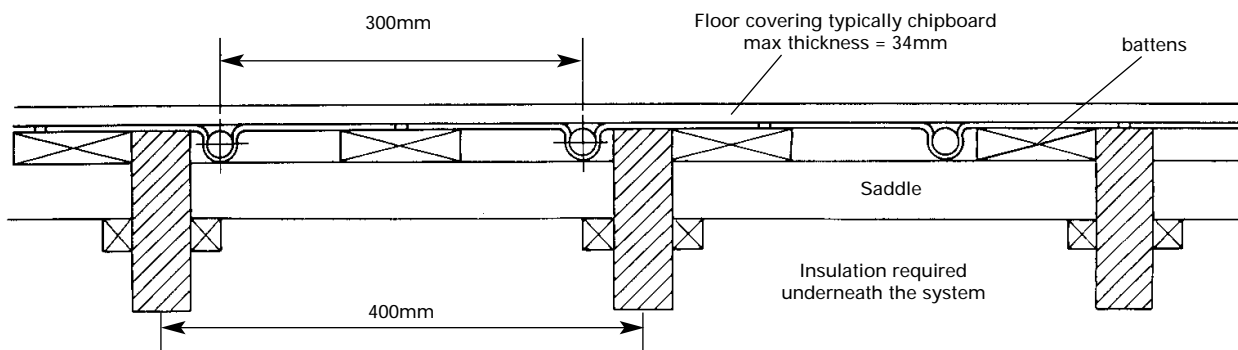
For existing buildings with timber suspended floors that cannot be raised, the saddle floor provides an ideal solution. Insulation is laid between the joists. An arrangement of battens must be supported at joist level giving the required 300mm centres. These battens and the joists themselves then act as supports for the heat emission plates which are fixed to them. The pipe is laid into the groove in the plates to run in line with the joists. Finally the floor is replaced in its original position.



## Heat Output

The maximum heat output available will be approximately 70W/m<sup>2</sup> with a floor temperature of 26° and a design air temperature of 20°C. This output should be checked against the heat losses of the building given by the Architect and/or consulting engineer. This is particularly important in refurbishments and rooms with large glazed areas and/or high ceilings.

## Existing floor with joists at 400mm



## Materials Supply and Installation Guide

|                             | Supplied by |        | Installed by  |        |
|-----------------------------|-------------|--------|---------------|--------|
|                             | Wirsbo      | Others | UFH Installer | Others |
| Wirsbo-pePEX pipe           | ✓           |        | ✓             |        |
| Pipe bend supports          | ✓           |        | ✓             |        |
| Manifold Components         | ✓           |        | ✓             |        |
| Heat Emission Plates        | ✓           |        | o             | o      |
| Controls                    | o           | o      |               | ✓      |
| Insulation                  |             | ✓      | o             | o      |
| Battens and Joists          |             | ✓      |               | ✓      |
| Floor Deck and Finish       |             | ✓      |               | ✓      |
| Flow and Return to manifold |             | ✓      |               | ✓      |
| Boiler                      |             | ✓      |               | ✓      |
| Timer/Programmer            |             | ✓      |               | ✓      |

Key: o denotes optional item which can be offered by Wirsbo or by UFH installer on request.

### Installation Guide

The following important points are offered as a guide when using Wirsbo underfloor heating with timber suspended floors.

1. Insulate between the joists prior to battening or cross battening. Glass fibre or similar insulation is easiest to install since it fits snugly between joists. The insulation should be laid so that it is in contact with the underside of the Wirsbo heat emission plates thus avoiding any air gaps. Ensure that there are no draughts underneath heat emission plates.
2. Cross battening to 300mm centres is best done by using 25mm x 100mm battens. Leave the ends of the battens loose so that the pipe loop can be laid beyond the end of or under the cross batten. Fix batten ends before laying floor.
3. In existing floors where the finished floor must be at the same level as previously, noggins and battens must be laid so that the top edge of the battens are flush with the top of the joists. Notch the joists where the pipe loops are to be laid over them. Inform Wirsbo if there are any steel beams in the floor.
4. Lay out all the heat emission plates in the required configuration prior to fixing. This ensures that the appropriate quantity of plates are evenly set out across the entire area. Plates are scored so that they may be easily broken into sections if required.
5. Heat emission plates are fixed to the joists and/or battens as appropriate, either by stapling or nailing. Leave a gap of at least 10mm between each plate end.
6. The system should be pressure tested prior to and during the laying of the floor deck.
7. Exclude all other trades from the area other than the flooring contractor until the system is completely covered by the floor deck. The installation of underfloor heating is regarded as a 2nd fix operation.
8. Make sure that the flooring contractor notes the position of the pipes, particularly where they cross joists. Care must be exercised so as to avoid accidental damage to the pipes. Nailing through heat emission plates is however normal. Wirsbo cannot accept responsibility for damage to the system by others during floor laying or thereafter.
9. Carpet fitters should take care when fitting grips and bars, especially in doorways. Equal care should be taken when fixing any furniture to the floor.