



Winchester Hardwood Flooring Limited

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Installation options for Cathedral flooring over Underfloor heating

When installed over Underfloor heating Cathedral flooring must be fully bonded to a suitable substrate because:

- It works as a lateral tie to bond the individual boards together and in the case of floating floors reduces rotational movement at board joints to decrease movement and undulation when walked on.
- Ensures a greater area of bond to a sub floor by joining the boards together. The risk of separation from the screed is far greater for individual boards bonded to the screed. By bonding the boards to a sheet substrate and bonding the substrate down the risk of release is massively reduced by the larger overall contact area. In many cases where floors release from the screed it is found that the adhesive has not failed but the screed has separated from itself. Trying to take up individual boards to relay is very difficult. Normally as the problem boards are taken up other boards are loosened and you find yourself chasing your tail. The chance of a board 1200 x 2400 releasing is very slim but if it did the floor would still serve as a mass diaphragm floating floor.
- Helps to disburse heat more evenly onto the floorboards and elevates hotspots.
- Eliminates the possibility of convected air between joints which could lead to floor failure over time
- Acts to support header/butt joints of floorboards laid over joist, so there is no need to cut boards back to joist for support of header joints
- The substrate in length should be laid with staggered joints at 90° to the length of the Cathedral plank for the best lateral stability. This may however be impractical over joists.

Carpets and Underfloor heating

- The maximum tog value of a carpet to be laid over under floor heating is 2.5 tog (0.25 w/m²k).
- In a timber floor system R = 0.00 includes a layer of 18 mm chipboard and then the 2.5 tog carpet is allowed as an overlay.
- The total resistance of the carpet at 2.5 tog and the chipboard at 1.05 tog is 3.55 tog (0.355 w/m²k).

Fitting over UFH in screed

Option A:

- 6mm plywood bonded to screed with polyurethane adhesive.
Cathedral 21 mm plank fully bonded to the plywood with D3 moisture resistant PVA.
PVA is also required along the top of the tongues.
Total resistance = 0.1588 W/m²k. 1.58 tog

Option B:

- 9mm plywood bonded to screed with polyurethane adhesive.
Cathedral 21 mm plank fully bonded to the plywood with D3 moisture resistant PVA.
PVA is also required along the top of the tongues.
Total resistance = 0.1764W/m²k. 1.76 tog

Option C:

- 12mm plywood bonded to screed with polyurethane adhesive.
Cathedral 21 mm plank fully bonded to the plywood with D3 moisture resistant PVA.
PVA is also required along the top of the tongues.
Total resistance = 0.1941 W/m²k. 1.94 tog

Option D:

- 15mm plywood bonded to screed with polyurethane adhesive.
Cathedral 21 mm plank fully bonded to the plywood with D3 moisture resistant PVA.
PVA is also required along the top of the tongues.

Total resistance = 0.2117 W/m²k. 2.11 tog

Option E:

- 18mm plywood or chipboard bonded to screed with polyurethane adhesive.
Cathedral 21 mm plank fully bonded to the plywood or chipboard with D3 moisture resistant PVA.
PVA is also required along the top of the tongues.

Total resistance = 0.2294W/m²k. 2.29 tog

Option F:

- 10mm Fermacell bonded to screed with polyurethane adhesive.
Cathedral 21 mm plank fully bonded to the Fermacell with polyurethane adhesive.
PVA is required along the top of the tongues.

Total resistance = 0.1535 W/m²k. 1.53 tog

Option G:

- 10mm Fermacell bonded to screed with polyurethane adhesive.
Cathedral 15 mm plank fully bonded to the Fermacell with polyurethane adhesive
PVA is required along the top of the tongues.

Total resistance = 0.118 W/m²k. 1.18 tog

Fitting over UFH in batten or joisted floor**Option H:**

- Choose your substrate, 10 mm Fermacell, 12mm plywood, 18 mm chipboard etc.
Note, Fermacell cannot be walked on between joist prior to the floor being overlaid so consider the practical and safety aspects involved in the installation. The substrate and the Cathedral plank in length should be laid at 90° to the joist. The substrate should be laid with staggered joints. Screw the substrate to the batten / joist making sure that all joints are structurally supported and then fully bond the Cathedral floor to the substrate using PVA to bond wood to wood and Polyurethane to bond wood to Fermacell. Do not use liquid batten system. PVA is also required along the top of the tongues.

Fitted over floated system UFH**Option I:**

- The substrate should be laid with staggered joints floated 90° to the desired direction of the Cathedral flooring. Float the substrate over the UFH and then fully bond the Cathedral floor to the substrate using PVA to bond wood to wood and Polyurethane to bond wood to Fermacell. Do not use liquid batten system.