

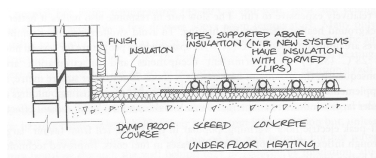


Many churches are now considering under-floor heating. Contrary to what is frequently claimed, there is no best method of heating a church: each heating method has its advantages and disadvantages.

Churches need to consider carefully the technical, practical, aesthetic and economic issues and take professional advice.

The Existing under-floor systems in churches are often wet systems in trenches, or (for post-war churches) floors incorporating electric heating.

New systems in churches are generally plastic pipes embedded in a screed over insulation and a damp-proof course, with the floor finished in stone or tile.



Many churches are now considering under-floor heating. Contrary to what is frequently claimed, there is

no **best** method of heating a church: each heating method has its advantages and disadvantages.

Churches need to consider carefully the technical, practical, aesthetic and economic issues and take professional advice.

Under-floor heating

A new floor with under-floor heating alters a church's architectural and historic character, and therefore the necessity for this work will have to be shown as part of the faculty process, with reasons given why methods with less intervention had been ruled out.

A key issue, as with any new concrete floor in a historic building, is the protection of the fabric from dampness. This will need careful consideration by the architect/surveyor and a perimeter duct or other measure incorporated. Although under-floor wet systems are commonly proposed, other methods are available such as electric matting.

Benefits

- Can help produce good comfort in continuously heated buildings without stratification.
- Continuous heating in the building can be beneficial for the fabric.





- Fewer visible heat emitters provide for a pleasing aesthetic.
- Low temperatures create no burn hazards, nor is there a hazard for physical injuries due to trips and falls.
- Can be suitable for use with new technology such as heat pumps.

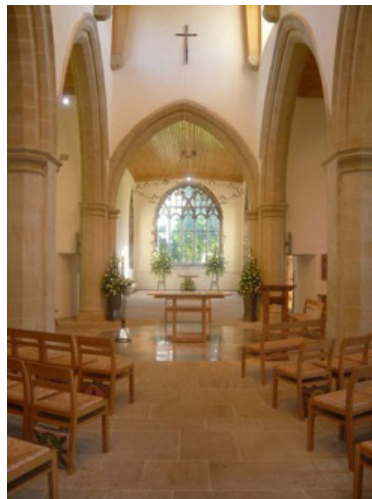
Drawbacks

- Under-floor heating may not reduce costs when compared to other similarly fuelled systems. Running costs need careful consideration with professional advice. Experience from other churches in similar situations is valuable.
- Unlikely to be appropriate for intermittent heating: under-floor heating is used in continuously heated buildings. Parishes should ensure that they can justify continuous heating; if not the installation will not be worthwhile.
- Floor temperatures need to be kept down to avoid swollen feet, therefore supplementary heat likely to be necessary. This may call into question the initial need for an under-floor system.
- Usually involves the construction of a new floor and therefore irreversible changes to a building.

Historical and archaeological issues need careful consideration.

- Maintenance may be difficult and leaks hard to find and repair.
- Finishes in wood or carpet can impede thermal transfer and therefore the effectiveness of the system. Wood finishes have been known to buckle.
- Effect of under-floor heating on organs and other artefacts needs individual consideration.

September 2012



Brancepeth, St Brandon, rebuilt following a fire. The floor incorporates under-floor heating powered by a condensing boiler plant