

Help and advice



John Roberts on underfloor heating versus moisture and adhesives

Why flooring fails over under floor heating

IS the subfloor dry? If you use a pin or resistance type meter immediately after the heating has been used, or when it is switched on, you may get a false reading.

The meter nearly always gives a dry reading. I recommend using a hygrometer, set on the subfloor and left for at least seven days prior to taking a reading. You must, however, turn off the heating before setting the hygrometer.

Remember the under floor heating will dry the area above the pipes fairly quickly, but may suppress the drying of the screed below the pipes. This moisture will take a considerable time to dry out and may not show for a few months, if the heating is running.

If the heating is being used (during cold spells) the moisture may not surface until after the heating is turned off, which could be months after the installation of the floorcovering.

At this point the customer complains and the installer returns and states the subfloor was dry prior to the installation!

How can the subfloor be dried? I suggest turning the heating on and off on a seven day cycle to allow the moisture to surface and dry out.

'Remember the underfloor heating will dry the area above the pipes fairly quickly, but may suppress the drying of the screed below the pipes'

The floor is deemed to be dry when the hygrometer gives a reading of 75% RH or less. Remember to remove the hygrometer when the heating is on and only reset the instrument 48 hours after turning the heating off.

The depth of the screed above the pipes and the type of product the pipes are set into (impervious or not) will influence the drying times.

You may be considering applying an epoxy membrane to stop the moisture. I should inform you that epoxy membranes can soften slightly at high temperatures, allowing moisture to permeate through the membrane.

My suggestion is to ask the manufacturer of the membrane if they guarantee their product on top of underfloor heating.

Remember when you ask the question 'What if the customer turns the temperature up above 27degC, will the product still perform?'

Ask the manufacturer to put the answer in writing!

Let us assume the subfloor is dry and you have installed the floorcovering using an adhesive. Is the adhesive capable of working at temperature around 27degC (the upper limit temperature stated in British Standards) and generally accepted by the trade?

Do remember that the customer may use the heating above 27degC!

I have found during some of my investigations into complaints, that certain types of adhesives do not hold the floorcovering sufficiently at high temperatures.

The adhesives that fail most commonly on complaints are release or tackifier types. These types of adhesive (fitter friendly type) tend to soften at around 27degC or above to allow the floorcovering to move.

Vinyl tiles tend to show gaps between the tiles after they have expanded from the heat and then shrink back to their original size.



Some carpets can also shrink! In my experience some carpets tend to expand and then shrink back to a smaller size. I have also found that smaller installations, with carpets (under 15sq m) tend to stay more stable!

These types of complaint are difficult to analyse if the inspection is carried out when the heating is turned down or off.

I suggest that you use a permanent type of adhesive when installing on top of underfloor heating. Remember always consult the adhesive manufacture for their technical advice.

This is only an overview of the situation; there could be other factors which have an influence.

TAOFS (The Academy of Flooring Skills) offers training in all types of floor coverings, including how to survey subfloors for moisture prior to the installation.

For further information visit the web site www.taofs.co.uk or for Ireland www.taofs.eu **CFJ**

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Ian Knifton on preventative medicine

Sink or swim when tiling on a floating floor

WHILE it is possible to tile onto many types of floating floors – provided the correct tile protection systems are used – there are also many types that are not suitable, and the installation will fail if respective of the protective measures taken.

The trick is knowing which floating floors are suitable to take tiles.

Q: What's the problem when it comes to tiling onto floating floors?

A: As with any substrate, while the different layers may compress, deflect or move, we have to remember that tiles are rigid, so any movement under the

tile assembly usually results in the tiles cracking or debonding.

Q: So how do we overcome it?

A: Floating floors are normally an insulation layer, either for sound or heat, laid over the base substrate. The installation can include a flooring grade chipboard system – or other system, such as a baton-based one, over the top.

Where the insulation is the correct density, giving only little movement, the tiles can be protected from damage by installing an uncoupling membrane.

The majority of new systems

coming onto the market regularly, are usually acceptable for successfully uncoupling.

Q: Why are some systems still not suitable to take tiles?

A: There are certain systems on the market where the movement is negligible, and an uncoupling membrane will easily accommodate it.

Normally failures happen because the insulation layer beneath the flooring itself is too compressible, and even the uncoupling properties of a polyethylene membrane would not be able to compensate for the movement.

However, in some cases it is

possible for the installation to be strengthened sufficiently – perhaps with overboarding – for the membrane to absorb or disperse the shear stresses.

But where systems do have a higher degree of movement, which cannot be successfully absorbed, the advice would have to be that tiling should not be carried out. So, in order to be safe, rather than sorry, every case should be looked at on an individual basis. **CFJ**

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