



Neil Sanders answers readers' queries

Questions when vinyl is laid on concrete

HERE are the answers to some of the most frequently asked questions from **CFJ** readers on resolving problems of subfloor moisture:

Q: I am installing a vinyl floorcovering onto a new concrete subfloor, however the hygrometer readings indicate a relative humidity (RH) level of 95%. How should I proceed?

A: If you don't have time for the new concrete subfloor to dry out naturally, an appropriate waterproof surface membrane should be used before installing vinyl.

Where the subfloor RH is above 92%, we recommend the application of a two coat waterproof surface membrane to suppress the passage of construction moisture.

Two coat epoxy resin systems chemically cure to prevent moisture rising through the subfloor and causing adhesive failure.

Moisture damage to the

adhesive will be observed as blistering or tenting of the vinyl floorcovering.

Selecting resin systems which are pigmented allows visual control of the application for coverage uniformity.

Q: When undertaking a fast-track flooring project where the subfloor has a RH level of 85%, are there any timesaving methods of dealing with the excess moisture?

A: With a RH level of 85%, the subfloor must be treated for moisture. Provided that a structural damp proof course is present, a one coat resin waterproof surface membrane system is recommended for use at RH levels up to 92%.

For projects where speed of installation is essential, fast-curing additives can be used in conjunction with a resin waterproof surface membrane, accelerating the curing time to just three hours under certain environmental conditions.

Allowing the early installation of floorcoverings, fast-curing additives can help contractors meet fast-track deadlines in projects where areas need to re-occupied quickly, for example, in retail environments and hospitals.

Alternatively, an impervious, loose lay membrane can be laid directly onto the damp subfloor to provide a physical barrier to moisture.

Quick and easy to install, isolator membranes comprise a laminated sheet with nodules on the underside. The nodules create an airspace to allow the ventilation of water vapour out of the subfloor and into a dry wall or ventilated skirting.

Resilient sheet floorcoverings can then be installed on top of the membrane using the recommended flooring adhesive.

An additional benefit of loose-lay membrane systems is that they allow the easy removal of floorcoverings, leaving the subfloor in its original condition.

As such, these systems are suitable for use in listed buildings, or where a building is to be occupied on a limited tenancy. Moreover, isolator membranes are ideal for use on contaminated floors.

Q: How can I achieve a level floor surface before applying a waterproof surface membrane?

A: As moisture can cause standard floor smoothing underlayments to expand, leading to bond failure, only specially formulated products should be selected for use under waterproof surface membranes.

Choosing floor smoothing underlayments which are not susceptible to moisture will give the floor greater stability and greater resistance to damp conditions. **CFJ**

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Terry Wolfe on testing new screeds

Don't be fooled if a subfloor appears to be dry

A LOT has been written both by me and others, regarding the testing of new screeds, but I recently had an exchange of emails with a contractor on the subject of moisture in old screeds subjected to flooding.

It related to an oak floor, laid in 20mm boards, secret nailed to battens, the battens being screwed to a screeded subfloor that had been flooded, but was tested with an electronic search meter, and appeared to be dry before installation. Yet about three months after installation, severe cupping was reported.

As you know, cupping is usually caused by moisture under a floor, whereby the underside of the board absorbs moisture and increases in moisture content, whereas the surface does not.

The bottom of the board, therefore, expands whilst the surface does not, thus distorting the board. This begs the question as to how the subfloor could be wet, if it was tested before installation and found to be dry!

In order to explain this, consider the difference between a newly screeded subfloor and an existing screed that has been flooded. The existing screed could

'When I first came into flooring, we used to throw a rubber tile on the screed'

contain considerable residual moisture. The surface may dry to the air, so that the top 10-15mm gives a dry reading on some electronic meters, but there can still be large deposits of moisture at lower levels.

When I first came into flooring, we used to throw a rubber tile on the screed in the evening and if in the morning there was a dark patch, it was wet, if not, it was dry! Perhaps a rather unscientific test but actually quite effective.

The rubber tile sealed the surface and drew up residual moisture. That is the theory behind the method of hygrometer testing, where a humidity box is sealed to the screed's surface for 48 hours. I suppose one might achieve similar results if polythene sheet was sealed to the screed prior to testing with the search meter.

So, in the case of the floor I was

examining, I think the moisture was always present in the subfloor following the flood, but it was not detected by the electronic meter.

I think the time lapse between fitting the flooring and the incidence of cupping is due to the air space created between the battens and the screed.

Manufacturers of electronic search meters all advise that the meter is only intended as a rough guide. They all recommend that definitive tests are carried out using a hygrometer.

The advent of the digital hygrometers from manufacturers like F Ball and Co and Tramex, makes this easy.

Particularly when installing wood flooring, it is essential to ensure the subfloor is dry. Many installers include a surface dpm in every installation; not a bad idea if it saves a lot of aggravation later! **CFJ**

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