Chris Betteley on advances in damp proof membranes

Coping with pressures on building sites

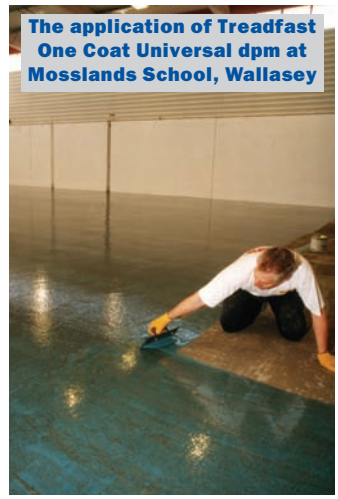
ADVANCES in DPMs can allow screeds with high RH readings and containing underfloor heating to be covered early.

In response to pressures on time and access faced by flooring contractors – along with problems as residual moisture and surface irregularities – flooring products manufacturers have developed compatible treatments designed to guarantee success in almost any situation.

However, there are several key aspects to achieving the desired outcome that both contractor and consultant must consider and that must be incorporated into the contract arrangements.

Concrete or sand/cement screeds still predominate and overlaying them with an epoxy damp proof membrane may be effective in dealing with residual damp in such substrates. However, only a few manufacturers have developed and tested epoxy systems able to deal with RH readings up to 97%; and contractors must always obtain written specification to ensure recognised adherence to manufacturers' guidelines.

With calcium sulfate screeds, there is no option but to wait for them to dry out to a point where testing indicates an RH of 75%, although some manufacturers now



The application of Treadfast One Coat Universal dpm at Mosslands School, Wallasey

permit application of a surface applied DPM from 87% RH or below. Force drying with blowers and de-humidifiers can shorten this process, but it is fraught with practical and programme difficulties. Calcium sulfate screeds containing underfloor heating (UFH) systems must be allowed to dry out naturally in all cases.

Meanwhile the popularity of UFH – often for its compatibility with modern condensing boilers and all types of heat pumps – creates issues for flooring contractors, both in sequencing and long-term performance.

In refurbishments, UFH loops, or electrical heating cables, are often incorporated into shallow screeds or dry panel overlay systems, but in new-build work the pipework is normally laid within a deep section screed. This ensures efficient heat transfer, and the warmth can help a concrete/screed subfloor to dry out far more quickly than it would naturally. The critical consideration for the flooring contractor is the RH when the floorcovering is laid and its vapour permeability.

Vinyl floorcoverings exhibit very low porosity and act as a cap to evaporating moisture. This can lead to problems with the adhesive and sweating beneath the sheet material, often resulting in the contractor being called back due to blistering or other failure mode.

Many flooring contractors and specifiers familiar with the problem utilise a specially formulated DPM, for example Treadfast One Coat Universal which has been developed to enable it to be applied over substrates with RH of up to 97% and which is designed to cure overnight to facilitate the early installation of smoothing underlayments or primers. It can also be used over concrete screeds containing UFH systems.

It is essential for any installation contract to be based on an agreed specification, covering both product selection and the correct method of working. The writing of this, along with the identification of suitable sub-contractors for the tender stage, is something with which any reputable manufacturer will be able to assist.

This type of design service should also be backed up by the availability of well-trained technical representatives able to offer site guidance and supervision. This will help ensure that the specification is not broken and that the correct standards of workmanship are displayed. The taking of accurate RH readings is a normal part of this site liaison service and the site management process forms an integral part of any warranty offered.

The cost of rectifying any failure – both in direct cost and interrupting use of the building – normally far outweighs any percentage difference in the initial pricing of competing systems.

Installing the flooring systems or floorcoverings is one of the last tasks in the build process, but it should be no time to start cutting corners. *CFJ*

Chris Betteley is market manager, flooring and sterile coating systems, at Tremco illbruck

■ **www.tremco-illbruck.co.uk**

■ **T: 01942 251400**

John Roberts on underfloor heating

It's about knowing when to turn off!

I HAVE written several articles about underfloor heating, covering the effects of adhesive and most importantly moisture readings.

In many inspections on floor failures installed on underfloor heating, I find it's often key how long before the installation that the UFH is switched off. Typically it should be turned off 48 hours prior to the installation and not turned on again for at least 48 hours afterwards.

This is mainly to avoid movement in the material to allow the adhesive to reach its full cure strength. And even then do not expose the materials to instant heat (i.e. don't turn the heating back on at full temperature).

Hopefully all installers know that the heating should be switched back on at a low heat increasing by 2-3degC each 24 hours. What is low? Start at around 12degC.

Always use commonsense and information from the manufacturer. Adhesive producers state the cure time on their tubs or in the literature. These times can vary between 48 hours and 72 hours, but some adhesives may require different criteria, so always check. Adhesives grab fairly quickly, but don't reach full strength in less than the times given.

I always ask installers: 'Did you switch off the heating and if so, did you use alternative forms of heating to keep the room at the recommended temperature at which floorcoverings should be installed – 18degC?

Most people don't properly consider the implication of turning underfloor heating off and not introducing other forms of heat.

There are many manufacturers who state that the subfloor should be 15degC during the installation. This means you should leave the underfloor heating on at around 15degC to comply with the adhesive manufacturer's instructions. But also keep the room at an acceptable temperature to install in.

The advantage of leaving the heating on at this level, means when the customers come to reuse the area, they can achieve normal room temperatures in a shorter time; this will reduce the risk of shock variations in temperature to the floorcovering (I call this the sauna syndrome). Some customers expect to turn the heating back up instantly.

Some installers who have left the heating on at this level tell me they don't get the problems they once did with underfloor heating.

When using moisture curing adhesives, you should also consider whether the subfloor is too dry. Underfloor heating can sometime reduce the moisture level in the subfloor sufficiently to affect the curing of these types of adhesives, so always ask for the manufacturer's advice.

Always remember: Don't expose floorcoverings to changes in atmosphere until the adhesive has reached full cure strength and for those floorcoverings not adhered to the subfloor, don't don't make big changes. *CFJ*

John Roberts founded TAOFS (The Academy of Flooring Skills) and is a prominent consultant in flooring. TAOFS offers training in all types of floorcoverings. ■ Email: john@taofs.co.uk ■ www.taofs.co.uk ■ T: 07831 584334