

Help and advice



Peter Kaczmar on cumulative shrinkage

The risk of rafting is still making waves

I HAVE recently been asked to put together guidance notes and collate information on aspects of floor installation. As I so often do these days, I have looked to the pages of previous issues of **CFJ** for inspiration.

In doing so, it has occurred to me that in recent issues, and rightly so, much has been written about moisture dynamics and the way wood floors respond to changes in the local micro-climate and that certain subjects which had been commonly debated in the past seem nowadays to have been superseded by seemingly more pressing considerations.

One of these old 'faithfuls' is the phenomenon of rafting which enjoyed flavour-of-the-month status some years ago.

I can recall being drawn into a debate about its evils and asked to comment on the commonly held perception that the use of water-borne lacquers on parquet floors increased the risk of rafting.

I do not quite know how to react to the fact that what was a common problem some years ago today seems much less of an issue by virtue of its apparent absence in these columns - especially if one considers the increasing use of water-borne lacquers in recent years.

Could it be that rafting is on the decline? Or have installers just learned to accept it as a professional hazard and become de-sensitised to it?

It is accepted and well understood that rafting or cumulative shrinkage occurs when floorcoverings made up of individual elements are prevented from dissipating lateral movements caused by shrinkage, or for that matter swelling, in an even manner and across the entire area of the floor.

Local restrictions in lateral movement can be caused by a number of factors, but more commonly occur as a consequence of edge-bonding, where the flooring components become stuck together by applications of lacquer which can permeate into the gaps between adjacent elements.

This causes the bonded elements to respond to moisture

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movements as if they were a single entity or 'raft'. Internal stresses generated as a result of the shrinkage are subsequently relieved cumulatively, via a large crack or cracks along joint lines of weakest resistance.

In the past there was a tendency to think that water-borne lacquers exacerbated the incidence of edge-bonding, because of the intrinsic ability of acrylics and acrylic co-polymers to act as adhesives.

Personally, I feel this is an oversimplification and does not address the fact that these formulations can be more viscous, with a shorter open-time than many solvent-borne alternatives, making the latter more likely to permeate between even the very smallest of joints.

But what of the notion that cumulative shrinkage is on the decline?

Cumulative shrinkage brought about by edge-bonding relies upon the lacquer being applied to the

floor after it has been laid.

The growing trend towards factory pre-finishing may in itself make a sufficiently compelling case to argue that rafting could be on the decline.

Whilst in theory this explanation would not apply to remedial maintenance applications, in practice it could be argued that, by the time that maintenance was necessary, the floor would have bedded sufficiently - with any gaps sealed by everyday trafficking - and would be far less susceptible to rafting than one which had been newly laid.

There is also the distinct possibility that developments and trends in floor-laying methods may also be at work in changing the movement dynamics of wood floors.

Take stick-down systems for example where the floorcovering is laid into an adhesive applied directly to the screed.

In installations like this, it is less likely for problems of rafting

to occur if the adhesive cover is uniform and the adhesive offers a degree of in-service extensibility, providing individual components of the floor with a degree of tolerance for lateral movement.

There is no hard evidence to suggest that there is an actual decline in rafting, other than my own tenuous perception that apparently it is no longer 'hitting the headlines', though perhaps this is set to change in next month's issue of **CFJ**. Who knows?

Nevertheless, it has provided me with an excuse to air a number of pet topics which I often think about but seldom get the opportunity to express.

The purpose in doing so is to underscore that floor systems are becoming increasingly sophisticated and that functionality and performance are no longer aspects which can be defined solely by the product itself, but more by the compatibility of the various constituents and techniques inherent within the system. **CFJ**

Peter Kaczmar is a flooring expert at TRADA
 ■ www.trada.co.uk

Further information on
 ■ T: 01494 569600

John Roberts on installing wood flooring

The importance of sound and dry

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some products are more forgiving than others.

Carpets can cope with more movement than say laminate, or can they? Carpets that are flexed over a subfloor with movement will in most cases stretch, requiring the fitter to return for a re-stretch which may cause premature wear.

Laminate on the other hand tends to open along the joints and or causes a fracture of the wearlayer along the joints.

Nailed down wood can and very often does loosen the nails, causing squeaking and a failure of the installation.

These are just a few examples, I feel sure you can think of or have been involved with failed installations due to excessive

subfloor movement.

I would like you to consider and adopt the following tolerance for movement of a subfloor: 10mm measured under a 2000mm straight edge.

I have established this measurement, based on many failed installations that I have inspected and investigated. I have found that subfloors with movement of 15mm or greater have caused problems.

If you consider this tolerance to be unsatisfactory, please let me know your suggestions, giving reasons and method of evaluation / investigation. If you consider this tolerance is acceptable please also write in.

The Academy of Flooring Skills will publish a definitive guide to

the installation of floor coverings.

This is designed to help the flooring trade to work together, giving considerably more useful information than any previous document of its type and will include reasonable tolerances to work to.

Do you have a view or would you like to be part of this publication? If so please email me at

john@taofs.co.uk

I will cover LEVEL in my next article. **CFJ**

John Roberts is floorcovering and training consultant and founder of TAOFS.

■ www.taofs.co.uk

Further information on
 ■ T: 07831 584334