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KNOWLEDGE HUB

Causes of cracks in plasterboard joints

The causes of joints cracking can be broadly broken under these headings:

- Fibre tape
- Movement
- Poor installation
- Environmental

The FIS Advisory Service is often called out to report on the possible causes where cracks that align with plasterboard joints have appeared, sometimes months after the project has been completed.

This information sheet is designed to highlight the causes which have been identified and to help avoid similar situations occurring in future.

Most of the projects that were investigated were constructed using a single layer of plasterboard to the face of a stud, double boarded installations rarely show signs of cracking.

Fibre tape is quick to install but of all the causes this appears most often in reports that FIS carries out. The reason for this is; fibre tape does not hide any potential gaps/movements hence it comes to the surface, whereas the paper tape masks the movement that is happening behind.

Movement in drylining can be caused by underlying issues such as settling and loading of the building itself, and in some cases by the drying out of the frame and studs if timber has been used. Ply has also been recognised as a risk, especially if it was damp, is fixed to the face of the studs and if the face of the plasterboards have been plastered, which led to some of the moisture percolating back into the ply, which caused it to warp as it dried. Drywall constructions should coincide with movement joints within the building structure.
Note: *installing ply in the front of studs should be checked with the system owner to ensure that it will not adversely affect any warranties.*

Poor installation can lead to cracking particularly where the short edges of the board is jointed at a double lift, here the common mistake is to omit installing flat plate. Not only does this allow boards to move but would invalidate any performance warranty from a systems supplier.
Likewise, Incorrect centring and fixing of the drywall screws can lead to movement at the plasterboard edges.

Other errors can occur when plaster is used in lieu of joint filler; the second coat of plaster can weaken the material in the joint causing cracks to appear later.

In all cases ensure the operatives are fully conversant with the systems methods and materials being used; substitution of any component part of a system can have far reaching implications and additional costs that far out way any advantages.

Environmental considerations include ensuring that the plasterboards are dry and that the installation is being carried out in a watertight building and that the ambient temperature is above the minimum stated on the manufacturer's literature and relevant British Standards when taping and jointing.

Some failures have been put down to rapid drying of a new build where moisture is forced out of the materials by rapidly increasing the ambient temperature. This should be avoided at all costs, as there is likely to be structural movement as well as undue shrinkage where moisture is forced from the materials.

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