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CRACKING NOISES FROM RESIDENTIAL TIMBER FLOOR STRUCTURES

As previously communicated a small number of householders have complained about a 'cracking' or 'creaking' sound coming from the first floor/ceilings structures, incorporating engineered timber I joists or trusses, in their new properties, when individuals walk on the floor above.

The GPDA, UK Timber Frame Association and NHBC have been working with the University of Salford Acoustics Research Centre to understand initially the exact location of this noise and ultimately to understand the root cause. Ultimately this will result in firm guidance, from the appropriate organisations, to avoid the creaking occurring

From the research undertaken to date the location of the noise has been identified as the junction between the joist, block work party or external walls and the plasterboard wall/ceiling lining. Whilst the exact mechanism causing the noise is yet to be established, it is evident that the noise is most prominent where the lower flange of the engineered timber joist is in contact with the plasterboard wall lining to the blockwork wall, and is further compromised if the gypsum plasterboard adhesive used to fix the wall lining bridges this junction.

It is therefore the GPDA's initial recommendation that careful attention is paid to this junction, at time of construction, to ensure that none of the gypsum plasterboard adhesive is forced up above the top of the wall lining and into contact with the underside of the i-joist.

The joists are the flooring structural elements and should be designed to prevent excessive movement. If they are not, then other elements within the floor structure including the plasterboard ceiling may creak due to the floor flexing under load.

Based on our experience to date, in the event of the noise occurring, the only way to be sure of remediating the problem is to decouple the ceiling boards from the joists using a metal ceiling system such as resilient bars.

With all ceilings, we recommend that plasterboard is screwed rather than nailed into place, to minimise any movement, which could eventually result in nail popping.

Where householders are aware of a problem, they should in the first instance contact the builder of the property.

The GPDA continues to work with the University of Salford, the UK Timber Frame Association and NHBC to develop further guidance to help avoid the problem in future.