



GN GUIDELINES

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An overloaded floor accident waiting to happen

I was recently asked to inspect a PosiStrut floor that had been damaged after being loaded by a stockpile of plasterboard sheets. As soon as I heard this, I immediately advised the truss fabricator that the builder would need to be notified and that the affected area required a prop, as well as a removal of the stockpile to relieve the load.

Apart from preventing any further damage to the trusses, this was to stop any possibility of collapse and subsequent damage to the building structure, or the worst case scenario, the possibility of a fatal accident.

When I arrived as soon as I could a few days later, I was horrified to find that the

plasterboard stockpile (Image 1) was still on floor trusses even though they were temporarily propped.

Even more worrying was that fact that four plasterers were sitting on the stockpile during their break, adding more load to an already overstressed floor.

As a safety precaution, the site supervisor should have closed off the damaged zone with tapes or barriers on both the ground and first floors of the area in question, as well as posting appropriate 'Caution: No Access' signage (Image 2).

We should be preventing entry to any location where there is a potential for collapse at all times.

The plasterboard stockpile was approximately 6.0 m long, 1.2 m wide and 0.8 m deep. This equated to a superimposed load of 5.5 kilopascal (KPa), which is about three times the 1.5 KPa design standard for a live load on domestic floors.

The floor installation manual, as supplied by the nailplate supplier, stipulates that a temporary stack of sheet materials on floors should not be greater than 300 mm deep or exceed 250 kg/m².

This is equivalent to 15 sheets of 19 mm particleboard, 13 sheets of 22 mm particleboard or 23 sheets of 13 mm plasterboard.

When lifted mechanically they should be seated on five bearers, the width of which is 600 mm longer than the width of the board.

Although I observed no deflection under the floor trusses because of the temporary propping, judging by the condition of the metal webs, they must have been sagging much earlier.

The webs in this case were completely dislodged and twisted at the support points.

Additionally, the props were not secured with nails or screws and neither was the spreader plank underneath the floor trusses. With the plasterboard stockpile still loading the floor trusses, any slight movement would see the props slide out and a subsequent collapse of the floor.

As always, prevention is better than cure – and installers should be fully aware of the floor loading requirements as set out in the installation manual, particularly concerning handling and storage.

It will save on unnecessary costs of repair, delays to construction and, more importantly, prevent the potential loss of life or limb. **T**



Image 1: Plasterboard stockpile overloading the floor.



Image 2: The danger area was not closed off with any signs or barriers.



Image 3: Overloading caused the webs to dislodge.



Image 4: Neither prop nor timber plank were securely fixed.

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