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GN GUIDELINES No.203

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THE PROBLEM WITH STORAGE & ACCESS

One of my least favourite greetings from helpful homeowners when I arrive for roof inspections is, "It's okay mate, we've got lights up in the roof space. I'll just turn them on for you" or "Don't worry about getting your ladder. Here, I'll just pull down the attic ladder".

The thought that immediately grips me goes along the lines of, "What have they got up there this time?"

Let's set the record straight.

Roof trusses are designed to support only the weight of roof and ceiling materials (and short term load from wind, snow or occasional light traffic from a tradesman or engineer). That's it! Unless otherwise specified on the truss details (very rare), that is all they are designed to carry.

SAFETY MARGINS

That isn't to say that there aren't safety factors to account for a range of minor "just-in-cases", like just in case the tradesman is a bit heavier than average or just in case there is water take-up in the concrete tiles, or just in case a ceiling fan is installed and so on.

The level of safety margin built into the Australian Design Standards employed by all timber truss design software is sufficient to deal with such nominal variances.

ROOF STORAGE

However, these safety margins, are not there just in case the owner decides to set up an office space above the garage, complete with desk and filing cabinets!

Nor are they there just in case there isn't enough storage space in the house for a range of items like old magazines (you know the ones), spare floor tiles, archived documents, spare roof tiles, winter clothes, rolls of carpet, etc., etc., etc.

These are all real examples from my personal experience. The following photo is just one of many from my personal collection:

Turning a roof into a storage space.

Not only does this practice invalidate the truss warranty, in extreme cases it can cause structural failures.

AS4440 has this to say about additional loads on roof trusses:

"Loads other than the standard loads shall not be imposed on the trusses without being approved. Typical fittings, which may induce special loads, are hot-water services, air conditioning, solar systems, protective handrails, and fall-resistant systems. Loads shall not differ, nor be located at positions other than those taken in design."

Storage of a few empty boxes or empty suitcases, or even a plastic Christmas tree is tolerable, but not stacked boxes or heavier items.

We strongly advise against laying out sheets of flooring (e.g. particleboard, plywood, MDF) in the roof as it only encourages roof storage, if not by the current owner then by the next, or the next.

ROOF ACCESS

Besides the problem of overloading caused by unapproved storage, another associated problem arises when easy access is provided to carry things into and out of the roof.

Every time a person enters the roof, it flexes the framing and causes vibration in the ceiling. The glue which fixes the ceiling to the truss is essentially only stuck to paper covering the plasterboard. The nails and screws used in installation are mostly there to temporarily hold the plasterboard in place until the glue sets.

Frequent on-going vibration and flexing of the ceiling is not conducive to keeping plasterboard attached to truss chords.

The following photos are from a house which had spare roof tiles stored over the garage with a handy access ladder. The plasterboard detachment was so widespread it was only held up by the cornices:

Protect the roof trusses that protect the house from the outdoors. Roof tiles should only be seen on the roof, not in the roof! TTN

Surplus tiles stored in roof.

Detached ceiling resting on roller door.

Roof space above roller door.