SEMINAR FEEDBACK

WET AREA FAILURES

The recently completed BRANZ seminar on wet areas highlighted two particular areas of concern – the number of wet area failures and builders not taking mould found during renovation work seriously.

By Trevor Pringle, BRANZ Principal Writer

Feedback from a number of seminar attendees indicates that problems with the design and construction of wet areas within domestic buildings are more widespread than we thought.

Significant problems found after work began

Many participants discussed recent wet area renovation projects where they had found significant problems, often requiring major reconstruction of wall and floor framing. Although these problems are usually rectified during the upgrading work, typically, the upgrades are carried out to satisfy the building owner's desire for a new bathroom or kitchen to keep up with current trends, rather than because the failure was immediately obvious.

The following three examples show the kind of problems that were discussed:

- In one dwelling, three bathrooms required rebuilding. In the second bathroom to be repaired, the floor joists under the wet area were rotten.
- A builder was called in to remedy a shower problem and was almost too scared to walk across the bathroom to get to the shower because of its condition. He found that only the floor joists were holding it up. The rest of the flooring was close to collapse.
- A tiler/waterproofer said he would only work for half the builders in the room. He was often asked to do less than he thought was necessary in terms of waterproofing under tiled finishes. His reputation was at stake if he did what they wanted.

Watch out for toxic black moulds

Buildings constructed with materials that contain cellulose (Kraft building paper, timber, fibre-cement, paper-faced plasterboard) are more likely to have mould problems. A significant number of New Zealand buildings that have had water leaks into concealed spaces are infected with the toxic mould *Stachybotrys chartarum*. *Stachybotrys* needs a regular supply of water and cellulose to develop, but can then spread quite rapidly.

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The mould spores carry poisonous substances called mycotoxins. Mycotoxins can cause serious illness if the spores are inhaled or there is bare skin contact. Symptoms of contact can range from mild mucous membrane irritation (eyes, nose, throat and lungs), skin rashes and aggravated asthma attacks to influenza-like symptoms. Other effects attributed to the toxins include immune suppression, acute nervous system damage and bleeding of the lungs.

Of concern is the number of situations where black moulds are found within concealed spaces of buildings. Black mould may also be found on hidden surfaces of fibre-cement and paper-faced plasterboard where an unprotected surface has been exposed to moisture, for example, the unpainted area of wall behind a vanity. Often, further work is carried out without any identification of the type of mould present.

Be cautious and stay safe

Whenever a leak is suspected (whether from outside or inside) and there are materials containing cellulose, the following steps should be undertaken:

- Open up a small area to visually inspect the concealed space – always wear a respirator mask and gloves.
- If there is no black mould, work can proceed.
- If black mould is present, take a sample for analysis to determine if it is *Stachybotrys* or not. Once the sample is taken, close up the opening formed.
- If the mould is not toxic, work can continue. If the mould is toxic, BRANZ and the Ministry of Health recommend employing a specialist contractor to remove the affected materials. The space containing the mould needs to be sealed off from all other parts of the building to prevent the spread of spores during the work.

How to take samples

To take a sample, press a 100 mm long piece of 50 mm wide clear adhesive tape onto the mould. Carefully remove and place into a sealable plastic bag. Send the sample to a testing laboratory – such as Biodet in Auckland.

It's important to wait for the results before continuing with the work.

Moulds on internal surfaces

Moulds that form on the internal surfaces of building materials subject to moisture, particularly from condensation, are generally *Cladosporium* or sooty mould. Sooty mould is common and is not considered to be toxic, although it can cause an allergic reaction in some people. It can accelerate the deterioration of finishes if not removed promptly – usually by using a bleach solution (1½ cups of bleach to 4 litres of water).