ASSESSING WATER DAMAGE TO PLASTERBOARD LININGS

Information Supplement Number 22

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SCOPE OF USE

Whether it is from a leaking or burst pipe, drain, overflowing grey water waste or from widespread catastrophic regional flooding, the damage caused to your house or building can be an extremely traumatizing event.

The ability of GIB® lining systems to deliver or retain their claimed performance is dependent on the GIB® components remaining dry in service. GIB® lining systems must be protected from internal and external moisture in accordance with NZ Building Code Clauses E2 and E3, relevant Winstone literature and BRANZ Appraisals.

The information offered in this bulletin is intended to assist with the assessment of damage to GIB® plasterboard linings exposed to moisture under these and similar circumstances.

PRELIMINARIES

Before attempting any assessment or repairs, put your safety first and shut down the electricity to the affected area or the whole house or building. Call your electrician if necessary to do this.

Under severe circumstances such as widespread flooding, it may not be safe to enter the building until inspected and authorised by a representative from your local authority. Safe Design loadings on fasteners and underlying framing or connections from wet linings and/or insulation may be exceeded.

Consult your insurance assessor or Loss Adjuster to seek advice and/or approval before proceeding further.

Comprehensive information is contained in BRANZ Bulletin 455 December 2004 ‘Restoring a House after Flood damage’ available for free down load from the BRANZ website
http://www.branz.co.nz/branzltd/bookshop/info.php?ask=free&idnum=1409

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Plasterboard may be exposed to moisture from incorrect storage, rain during or immediately post installation due to inadequate or failure in site weather protection or water from leaks or internal condensation.

In general, plasterboard should not be exposed to water for extended periods. Some board exposed to these conditions may need to be replaced depending on the source of the moisture and the subsequent condition of the board.

NOTE; Flood damage If the plasterboard has been exposed to flood damage, then often the water is contaminated with sewage and hence the plasterboard linings are not salvageable and must be replaced.

If the wall linings are wet to less than 1200 mm from floor level then ideally the linings should be removed to allow for a full replacement of a horizontally fixed 1200 mm wide sheet.

As a minimum, remove and replace any wet plasterboard on walls to a minimum of 500 mm above the high water line.

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In all other cases where the plasterboard is or has been saturated, it *must be* fully removed and replaced UNLESS *ALL* of the following conditions are met;

- **The water which has wet the plasterboard is not contaminated**
- **The plasterboard is *fully* dry within 48 hours of becoming wet**
- **There is no evidence of rusting fasteners, adhesive failure or evidence of other physical damage to the plasterboard**

The reason for these requirements is that plasterboard gypsum core strength and thus board performance will start to deteriorate as the gypsum core dissolves and/or bacterially degrades upon exposure to water for longer periods. Other GIB® components may also degrade and thus not perform as tested.

NOTE

1. Where a high quality plasterboard surface finish is required or plasterboard bracing elements become wet due to flooding, *all* plasterboard linings *must be* removed and replaced on a like for like basis.
2. When replacing plasterboard in a Fire Resistant or Noise Control system, ensure that all repairs are consistent with the originally installed systems.

IF THERE IS ANY DOUBT ABOUT WHETHER TO KEEP OR REPLACE WET PLASTERBOARD LININGS THEN DON'T TAKE A RISK! REPLACE IT.

DRYING RECOMMENDATIONS

The following are general recommendations. For more detailed information refer to BRANZ Bulletin 455.

First Steps

- Identify and eliminate any sources of water, condensation or leaks
- Remove standing water
- Drain any freestanding water from wall and ceiling cavities (for walls cut a hole in each cavity between the studs just above the bottom plate). Wet ceilings can be dangerous due to the weight or volume of water that can be held. Start by driving a sharp nail into a broom handle and *carefully* pushing it into the *edge* of the ceiling areas. DON'T start this process at the center of any wet ceiling areas that appear to have 'bellied' as these may collapse. As the water drains out then progressively punch nail holes closer to the center of the ceiling.
- Remove all soaked or dirty materials including wet insulation and carpet
- Open cupboards and doors between rooms
- Remove vinyl wall coverings
- Remove defective plasterboard

After cleaning surfaces, ventilate the building until it is completely dry (which could take weeks). When the outdoor weather permits, open doors and windows and use fans to improve air movement (Note; the use of gas fired heaters alone may not suffice)

DO NOT ATTEMPT TO REPLACE LININGS OR AFFECT REPAIRS TO PLASTERBOARD LININGS UNTIL ANY UNDERLYING TIMBER FRAMING HAS REACHED A MOISTURE CONTENT OF 18% OR LESS AND DOES NOT SHOW ANY SIGNS OF ROTTING.

Mould and mildew will only stay alive in a moist environment