Product Advice:

Assessing Flood Damage

PLASTERBOARD • FIBRE CEMENT • INSULATION • BRICKS • CEILING • HEBEL • ROOFING

The recent flooding across Australia has caused loss of life and immense damage to properties. Understanding where to start in the rebuilding or reconstruction process can be difficult. As people now start to assess the damage to their homes, CSR appreciates the situation they may face. In order to assist the process this bulletin will aim to provide relevant information relating to products which may have been affected by the flood waters. Your safety and understanding of what to do is our priority and these recommendations are based on dealing with plasterboard, fibre cement, insulation, bricks, ceilings, hebel panels and roofing products.

Before the work begins – things to consider…

Assessment of damage

- Prior to any assessment or repairs commencing, we recommend using licensed trades people to undertake relevant assessments to understand the extent of the structural damage. Assessments include electrical safety inspection, plumbing safety inspection and an inspection and assessment of structural damage to buildings and houses. If you are insured, make sure your claim has been submitted and the insurance company has conducted their assessment before works commence (unless they advise otherwise).
- Once this has occurred and it is deemed that structural damage has occurred, repairs should be undertaken in accordance with and under the direction of professional advice.
- Before starting any work it is important to take all safety precautions to avoid any injury. When cutting or grinding fibre cement sheets using power tools, always ensure the work area is well ventilated. An Australian Standard approved dust mask and safety glasses must be worn as well as gloves to ensure materials are handled responsibility. CSR recommends that hearing protection be worn where appropriate.
- For any health concerns resulting from the residue of contaminated floodwaters, seek medical advice or contact your local health inspector or relevant authority.
- When handling sheets, please consider the size and weight before lifting.
- Ensure that the power switch is off. We recommend the use of battery operated electrical tools in wet areas.
- Please contact your local authorities for guidelines on the safe disposal of building materials.

For fibre cement (commonly known as fibro), before any action, it needs to be assessed if the product contains asbestos. Any buildings constructed prior to 1987 may contain asbestos, although it is important to obtain a verification from an approved assessor. Removal of asbestos products can only be done by an authorised person using approved processes. Contact your State and Territory building authorities for information on the removal of asbestos.

Getting started….

Draining any water from the cavities.

Walls

- Where flood water has risen up walls, it is important to drain any water from the cavities. Skirting boards should be removed and holes should be formed as close as possible to floor level. If water is present in the cavities then form a hole which is large enough to drain the water. To ensure all water is completely drained, this process must be repeated at each cavity. If the wall cavity has insulation material in it and this is wet, then the lining on at least one side of the wall should be removed to take the wet insulation out. Wet insulation should be removed as soon as possible. In most cases it will not be suitable for reuse - refer below for more guidance.

Ceilings

- There is a significantly greater risk to the integrity of plasterboard when it is on ceilings (and ceiling tiles when installed in exposed two way grid), particularly when it is in contact with saturated insulation. Saturated ceilings can be unsafe so it is important to also drain the water carefully. Be alert to warning signs that it may collapse. Starting from the perimeter, away from the worst sagging area, you need to work towards the centre of the sag progressively by poking holes allowing water to exit slowly (or for ceiling tiles progressively removing tiles to allow the water exit slowly). Wet insulation should be removed as soon as possible. In most cases it will not be suitable for reuse - refer below for more guidance.

Once the draining process has been completed an assessment can then be made on the best course of action for your plasterboard.

Assessing the damage and consideration of removal

Walls

- In general, we recommend that Gyprock® plasterboard and cornice be replaced after being wet. When the paper lining is wet, or is subject to deterioration, board strength and the holding capacity of fixings may be reduced.
- The board or cornice should be allowed to dry and be inspected for signs of deterioration or distortion. Inspect the walls under glancing light conditions, or use a long straight edge to determine if the plasterboard is distorted and will need to be removed.
- Contamination of sheeting by sewage, toxins and chemicals should also be evaluated and affected products removed.

Ceilings

- Almost all ceilings that have been inundated will need to be replaced (especially where absorbent insulation is installed) as excessive water will likely have ponded on the ceiling sheets compromising its integrity as well as its fixings.

Plasterboard

- If the plasterboard (or plasterboard tile) is flat and shows no sign of the paper delaminating from the plaster core, is flat, shows no signs of distortion and that its strength does not appear to be affected, it is expected that the board can be retained. When fully dry, plasterboard (or plasterboard tile) can maintain its properties and strength and not be permanently affected. However, if there is any doubt, it should be replaced.
- Check also that the stud adhesive is holding the board firmly to the frame and that any nails or screw fixings have not been compromised. Additional nails or screws may be used.
- Plasterboard (or plasterboard tile) that is affected by mould, particularly on the unpainted back surface, should be removed. Mould on the painted surface of plasterboard can usually be removed by washing with a bleach solution (sodium hypochlorite) mixed 1 part bleach to three parts water. Allow to stand for 15 – 20 minutes before washing off with clean water. Care must be taken to protect hands, skin and eyes when using bleach solutions. If the mould cannot be removed by this method then the Plasterboard (or plasterboard tile) should be removed.
- Plasterboard joints that have been wet or immersed may show some deterioration. In many cases it will be possible to repair these joints by scraping off loose material, skimming the joint with a plasterboard compound, and sanding prior to re-painting. If there is any doubt regarding the integrity of the joint, seek the advice of a plasterboard tradesman.
- Advice should be sought from paint manufacturers for over coating walls and ceilings which have been stained due to flooding.

Mineral Fibre

- All Mineral Fibre / Glasswool Tiles that have been inundated will need to be replaced (especially where absorbent insulation is installed) as excessive water will likely have ponded on the ceiling tiles compromising its integrity.

Fibre Cement

- The above comments apply to fibre cement as well although it retains greater strength than plasterboard when wet and may resist warping or deterioration to a greater extent. Tiled areas are likely to be OK as long as there is no visible deterioration.
- External cladding and eaves can be expected to survive immersion in water as long as they are not subjected to physical damage.

Hebel cladding

Hebel panels are an autoclaved aerated concrete (AAC) material. The panels are generally coated with an acrylic coating system that provides protection for the ingress of water from inclement weather.

Extended periods of inundation by flood waters may possibly breach the integrity of the external coatings and sealants allowing the panels to absorb moisture. If there are any signs that the integrity of the panels and/or external coatings have been compromised this should be assessed following a flood event via inspection and possible removal of affected external coatings.

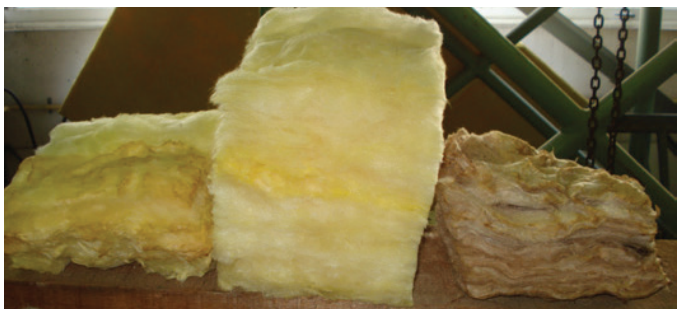
Long-term damage to the durability of panels may result in corrosion of panel reinforcement, damage from impact by flood debris etc, in which case, the affected panels should be removed and replaced.

For these reasons, best building practice would be to ensure that the base of panels remain within the freeboard region of the determined and site-specific flood level to avoid inundation.

Insulation - Ceiling & Walls

If the insulation has been saturated then it should be replaced - even if insulation is allowed to dry, it is unlikely to recover to its original thickness and its thermal performance will be reduced. Consideration should also be given to the presence of contaminants, which should not be allowed to dry or remain trapped in the insulation.

If the insulation is only slightly damp or partially wet due to a localised leak, and can be dried out, it could be reused provided it recovers to the same thickness as the surrounding insulation.



Disposal considerations

Insulation

It is recommended to use gloves during collection and pack insulation into rubbish bags to contain the insulation in case it breaks up or from being blown away prior to disposal. CSR recommends that you refer to your local authorities for specific regulations relating to disposal.

Plasterboard

- Plasterboard that needs to be removed should preferably be taken to the nearest board joint above the inundation level. Depending on the size of the plasterboard, this will either be 1200mm or 1350mm from the floor. In some instances, all the plasterboard on the walls may need removal, including the cornice. This work may be best left to a tradesman, as careful removal of the cornice can considerably reduce rectification costs. Note: Insurance companies may only agree to cover the costs of removal to a certain height.
- Contact your local CSR Gyprock Customer Service Centre for more information for a list of recommended contractors in your area to provide such repair work. PHONE 13 17 44. CSR recommends using members of the Association of Wall and Ceiling Industries.
- Waste should be placed in containers and disposed of with other construction waste in accordance with local authority guidelines.

Fibre Cement

- Please note before any action can be taken on fibre cement, it needs to be assessed if the product contains asbestos. Removal of asbestos products should carried out by authorised persons using appropriate processes. Contact your State or Territory building authorities for information on the removal of asbestos.
- Fibre cement that has been identified as not containing asbestos can be treated as a common waste for disposal in accordance with local authority guidelines.

Hebel panels

Waste panels should be disposed of with other construction waste in accordance with local authority guidelines.

Preparing for new linings

Prior to commencing any work, contact your insurance supplier to ensure you are adhering to any requirements in your policy.

- It is important that the substrate (ie; timber frame/masonry etc) is fully dry before replacing any plasterboard. Use fans and open windows (when low humidity outside) to assist in the drying process. Moisture measurement tools are available to test walls and timber frames before commencing any work if required.

Where to from here?

Should you require any further information, please contact our help line or log onto the CSR website for further information as the safe handling of these products is our priority.

- All Material Safety Data sheets and product related information can also be located at **www.gyprock.com.au, www.bradfordinsulation.com.au, www.cemintel.com.au, www.hebel.com.au, www.pghbricks.com.au**
- Contact your local CSR Gyprock® Customer Service Centre for more information or for a list of recommended plasterboard contractors in your area. **PHONE 13 17 44** or log onto **www.gyprock.com.au**
- **Contact CSR designLINK for further product technical support. PHONE 1800 621 117** or email **designLink@csr.com.au**
- We recommend that local authorities be contacted should you have any specific enquiries relating to your area.

The information contained in this advice is general in nature and does not take into account your personal situation. You should consider whether the information is appropriate to your needs, and where relevant, seek professional advice from the relevant body in your state.

Your bricks after a flood

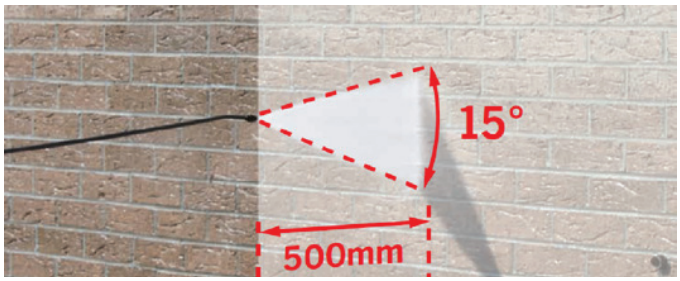
In general, clay bricks as compared to other cladding products are highly resilient to water damage from a flood event. Where brickwork has flooded, generally the only damage to clay bricks is short term deterioration in the visual appearance of your brickwork, as a result of mud and debris on the surface. In order to clean flood affected brickwork, we recommend the following.

Brick cleaning is a specialist trade, and should only be undertaken by a professional to decrease the potential for damage to the face of your clay bricks.

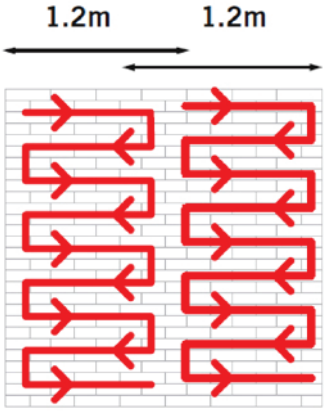
In the case of flooding, brick cleaning using aggressive chemicals can easily damage the product and is not recommended.

High pressure water jet cleaning is the best way to clean clay masonry affected by flood waters, but the following simple precautions must be taken so that the bricks and the mortar joints are not damaged by the process.

1. Masks and other protective clothing should be worn whilst cleaning.
2. Any non fixed or adjacent materials such as loose metal, glass and wood should be removed prior to commencing.
3. Wash the wall with a high pressure water hose or gurney from top to bottom so all dissolved mortar particles will be completely flushed from wall surfaces.
4. The maximum pressure of the pump should be kept low, below 1000psi (6800kPa), to prevent damage to either the masonry units or the mortar. The concentration of power with which the water jet strikes the wall is a function of the flow in the hose, the pressure, the type of nozzle and the distance from the nozzle to the wall.



5. A straight or zero degree water jet should never be used. A spray angle of 15 degrees, called a fan jet, will allow the operator to concentrate the pressure on the bricks and not on the joints. (Shown above).
6. The nozzle should be no closer than 500mm from the wall at all times.
7. Pressure cleaning should be carried out in ‘runs’ from the top of the wall down, to rinse down debris during cleaning. The width of a run is usually 1 to 1.2 meters, and should only be as wide as the operator can clean while keeping full control of the pressure gun.
8. The gun must be kept moving: surface abrasion will occur if it pauses in one spot.
9. When all pressure cleaning is finished, go back and rinse loose sand and dirt from the eaves, walls and windows. Once the walls begin to dry, check to see if any further cleaning is required.



Cleaning

Caution:

- Test clean a sample area to determine the effectiveness of the cleaning compound and the technique, and to check the wall for possible damage caused by the system before continuing with the rest of the house.
- Turbo or rotary head attachments damage brickwork and mortar and are not recommended for use.
- If the mortar joints or the bricks are being damaged, either the pressure is too high or the water jet is too close to the wall.
- High pressure water cleaning is not recommended for dry pressed bricks. Hand cleaning is required for these type of bricks.

In very limited and extreme cases of intense flash flooding or where extreme currents have been experienced, physical degradation of the brick structure itself may occur. In these very rare instances, we recommend that your brickwork be inspected by a licensed builder and/or structural engineer.

For further technical assistance please call **13 15 79** or visit us at **www.pghbricks.com.au**

Your roof after a flood

After a flood event, the critical factor relating to your tiled roof is to ensure that it remains watertight.

When your roof needs checking or if you have a roof leak, we recommend that it is inspected by a CSR Roofing specialist, as walking around on your roof can be dangerous and create more damage to your roof.

If you do need to inspect or make minor repairs to your tiled roof, below are some simple hints for you to consider:

- Look for broken flexible pointing to the ridge or hip capping. If the ridge capping is damaged they should be re-bedded or re-pointed.
- Look for cracked or dislodged tiles. These should be replaced.
- Displaced tiles should be put back into their proper position.
- Blocked drainage channels under the 'side laps' of individual tiles should be cleared.
- Blocked gutters (including valley gutters) and downpipes should be inspected and clear of debris.
- Use a long stick or rake to remove objects from the roof where possible.
- Remove roof tiles by kicking the lower centre of the tile towards the ridge.
- Look for damaged flashings. Depending on the extent of damage, the flashing should be repaired or replaced.

If you are in doubt, we recommend that you consult with a roofing specialist.

To have your roof inspected by a CSR roofing specialist visit our website **www.monier.com.au** or call **1800 666 437** (1800 MONIER).