FactSheet
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TIMBER IN FLOOD PRONE AREAS

Floods have been a part of Australian life. Towns and rural houses have historically been built close to rivers for easy access to water. This has had the negative impact that when there are large rain events the river floods and inundates the homes and towns. This old housing and commercial stock is established and cannot be moved so the problem remains. We can however change this for new homes and developments.

Changing climate patterns have meant that weather events are becoming more common and also more extreme. In terms of flooding it was highlighted in the 2011 Brisbane floods, but hit home more recently with extensive flooding over much of the Eastern seaboard of Australia. Some areas like Lismore in NSW flooded twice within a month and smaller outlying communities such as Huonbrook are still cut-off by road, three months after the flood event.

Many council planners have responded to these events of 2011 and created flood maps for their jurisdiction. Part of the development consent contains wording similar to "due to the possibility of flooding, materials (below a certain level) must be able to withstand the effects of immersion in water". Specifiers and builders often bring this back to not being able to use timber, or only using timber that is treated to H3 levels.

The reality is that timber used in construction in flood prone areas (for 1 in 100 year floods) does not need to have any further levels of treatment. Timber needs increased durability against rot and fungus for prolonged exposure, but timber in areas with sporadic flood inundation is not exposed to high moisture for a prolonged period. The exposure is most likely to be a maximum of 2 weeks, and more likely only a few days. Untreated timber can be used in this instance and will not be adversely affected. Once the flood waters have receded though there needs to be some level of attention to the building as follows:

- Do not start remediation until the ground below the house is free from standing water.
- Ensure the timber is exposed to the atmosphere. This may mean removing items such as linings or insulation.
- Wash any debris from the previously inundated timber members. This is important for horizontal surfaces which may have accumulated sediment and particularly critical on the upper surface of the bottom flange of meyJOIST members.
- Provide adequate ventilation to the area to allow the moisture to be taken out of the timber and for it to reach equilibrium conditions again.
- Continually monitor the flood inundated area for a reasonable period (say 3 months). Ground water will still be present and this could be taken up by the timber. Ventilation may be required (continuouslyor at certain intervals) to remove this moisture depending on the layout and configuration of the home.

Although it took a natural disaster to bring to light the issue of flood inundation, the response has been of benefit to all involved. Now that flood levels are recognised, houses are being raised. This gives rise to the return of timber subfloors, which do not need any special level of treatment for these flood areas. It also provides comfort to the home owner that if a flood event occurs they have some level of confidence that the contents of the home will remain high and dry. Note that this factsheet is also intended to be used as a reference for councils, certifiers and builders to enable specification of appropriate timber solutions in these regions.

Other relevant references for building on flood prone areas are:

Wood Solutions TDG #12: Impact and assessment of Moisture-affected Timber-framed Construction.

Hawkesbury-Nepean floodplain management steering committee: Reducing vulnerability of buildings to flood damage.

Melbourne Water: Flood resilient guide to retrofitting your home.

Timber Queensland: Guide to Assessment and Repair of Flood Damaged Timber and Timber Framed Houses.

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