MARCH 2015

Deck construction and consents

Tempting though it may be to carry out work without necessary building consents, the following should be a warning. Last month, a number of news websites reported that a faulty deck that collapsed during an 80-year-old's birthday party has resulted in the landlord being fined. The deck was only nail fixed (no bolts) to the adjacent support wall. During the party in September last year, the deck became detached, leaving five people injured as a result of the collapse.

Auckland Council argued in court that the deck was not compliant with the Building Code and had no building consent. The landlord pleaded guilty to constructing a deck that was unsafe and was ordered to pay a $4,500 fine and $130 in court costs.

The council said, "The purpose of the regulations is to protect life and make sure buildings are safe for occupants. All building works need to comply with the Building Code. Any kind of building work needs to have safety as the highest priority, and when the work requires building consent, working with council ensures compliance, and therefore safety."

Ripping or machining treated timber

Machining or ripping H3.2 and above treated timber on site is not recommended by Appendix B5 of NZS 3640:2003 *Chemical preservation of round and sawn timber*. Where such machining is unavoidable, supplementary protection as prescribed by the manufacturer should be applied to the machined surface(s). Any cut ends must be protected in the same way. Such protection will not be as effective as the original treatment.

External use of H3.1 treated timber

When used externally, H3.1 treated timber such as weatherboards must be fully encapsulated (all surfaces) with a quality primer. All cut ends and notches must also be primed. Finish coats must be well maintained to retain the required level of moisture protection.

Custom R-values for concrete slab floors in ALF3.2

The 5th edition of the BRANZ *House Insulation Guide* includes a wider range of insulation options for slab-on-ground floors than is available in ALF3.2. New options provided are perimeter edge insulation and waffle pod insulation.

To use these construction types with ALF3.2, the custom R-value for the slab-on-ground floor can be used.

ALF3.2 does a lot of checking of input values. For slab-on-ground floors, ALF3.2 checks to see if values for the slab perimeter and for the wall thickness are specified. These are required for the built-in slab-on-ground floor calculations but are not used for the custom R-value calculations. If either the perimeter length or the wall thickness is missing, the ALF3.2 report will include an error statement saying: 'Slab floor perimeter length and wall thickness must be non-zero.'

To prevent this error appearing, ensure that you enter the correct perimeter length in the slab floor section of ALF3.2 and then select any built-in slab-on- ground floor construction type. This will then allow you to select any external wall thickness (the particular value is not important). The floor type can then be changed to custom R-value, and the construction R-value can be entered for that particular slab-on-ground floor type from the BRANZ *House Insulation Guide* or another source.

When custom R-values are used, the ALF3.2 report will note this at the front and ask that supporting documentation for how these values were determined be supplied. For slab-on-ground floors, this could include:

- a page reference to the 5th edition of the BRANZ *House Insulation Guide*
- identification of which construction and insulation variation is appropriate
- the value for the slab area to perimeter ratio.

Free-standing garage design – additional questions addressed

The February *Guideline* article covering a question to the Helpline regarding garage design confirmed that NZS 3604:2011 *Timber-framed buildings* can be used to design a garage that is larger than 30 m^2. Resulting from the article, the Helpline has had further questions regarding:

- specific engineering design (SED)
- the importance level (IL) of buildings.

Key points:

Garages and outbuildings can be built to a lower structural requirement than NZS 3604:2011 when SED is used for both IL 1 and IL 2 structures.

Buildings constructed to IL 1 are not intended for gatherings of people.

NZS 3604:2011 Table 1.1 for buildings covered by this standard states the following for IL 1 buildings. They are those "structures presenting a low degree of hazard to life and other property" such as "freestanding, uninhabited garages and buildings with a total floor area of < 30 m^2". This is considered confusing because stand-alone garages designed to NZS 3604:2011 automatically meet the requirements for IL 2 irrespective of size.

IL 2 buildings have no floor area limit for single storey. However, the open area of structures designed to NZS 3604:2011 will be limited by the bracing requirements and the restrictions on bracing line spacing.

Garages over 30 m^2 can be constructed using NZS 3604:2011, but will be restricted by:

- the maximum construction space of 7.5 x 7.5 m when dragon ties are used to extend the bracing grid from 6.0 to 7.5 m (see NZS 3604:2011 clause 8.3.3) or
- the structural ceiling diaphragm requirements.

Garages designed to NZS 3604:2011 can be used as spaces where people congregate (see limitations of Table 1.1 for IL 2 buildings).

BRANZ seminars 2015: Building Science at Work

BRANZ performs research that helps support all aspects of the building industry, but have you ever wondered what actually occurs in our laboratories and test facilities? This seminar for architects, engineers, designers, builders and BCAs brings some of that research to the fore and demystifies it.

The aim of this seminar, delivered by experienced BRANZ researchers, is to provide an insight into:

- how research priorities are determined and how you can get involved
- current research programmes including:
    - durability
    - materials performance, with a focus on corrosion
    - building resilience to seismic and flooding hazards
    - weathertightness and indoor air quality research
- recently completed projects such as:
    - the Window Energy Efficiency Rating System (WEERS)
    - Up-Spec – data for home performance improvements
    - the building quality survey
    - the updated BRANZ Maps tool
- new research projects for the coming year

- the National Science Challenge and the opportunity for the industry
- overseas research and where we might be in 10 or more years.

Seminar dates and venues are:

Monday 16 March	Queenstown	Crowne Plaza
Tuesday 17 March	Dunedin	Dunedin Centre
Wednesday 18 March	Christchurch	Addington Events Centre
Thursday 19 March	Auckland – North Shore	QBE Stadium
Monday 23 March	Hamilton	Claudelands Conference & Exhibition Centre
Tuesday 24 March	Tauranga	ASB Baypark
Wednesday 25 March	Auckland – Central	Rydges Auckland
Thursday 26 March	Wellington	Amora Hotel

Online registration is now available.