Earthing of reinforcing in slabs and walls in bathrooms
Steel reinforcement within concrete floors and walls of rooms that contain a bath or a shower must be bonded to the earth system - see AS/NZS 3000:2007 (Electrical Installations) *Wiring rules* (referenced in Building Code Compliance Documents G9 VM1 and AS1), clause 5.6.2.5.

Timber Treatment for Floors
Amendment 7 to NZBC B2/AS1 altered the required treatment levels for solid radiata pine and Douglas fir timbers when used in structures. The required treatment level for floors constructed from these timbers is H1.2. However, this only applies to solid timber floors. Particleboard flooring does not require any treatment in dry interior environments as specified by NZS 3602:2003. For protection of particleboard flooring in wet areas, refer to the manufacturer's recommendations.

Staining from kwila timber
Caution is needed when laying kwila decking near or over surfaces where the appearance of those surfaces is important. When wetted, kwila can release sap which may stain adjacent surfaces by running onto or splashing off the decking material. If staining has occurred to surfaces that are to be painted, contact reputable paint companies for a suitable sealer that will seal the surface and prevent the stain bleeding through the subsequent finish coats.

Moisture in framing
Always check the moisture in framing prior to fixing timber panelling or decorative timber-based sheet material. Usually, the panelling will have a lower moisture content when delivered (NZS 3602 requires 16% or less, installed) than the framing. Do not fix panelling immediately after delivery as this differential in moisture content is likely to result in expansion of the panelling and may cause buckling.

Allow time for the panelling to condition. This involves storing the panelling in the room it is to be installed in for sufficient time to allow the moisture content to equalise with the building space. Strip stack the panelling and take moisture readings at regular intervals, (a minimum of 2 weeks). Conditioning should not be done while concrete slabs are still drying out as moisture from the concrete will be absorbed. See Bulletin 380 *Timber internal linings* for further information.

Access to ALF 3.2 after software updates
Where computers have had software updates installed, some ALF 3.2 users are experiencing difficulty accessing their projects. This appears to be a result of improved security applications or the new browser. Where issues are being experienced, it is recommended that users try another internet browser, such as Mozilla Firefox or Safari.

Insulated raft/pod slabs and ALF 3.2
ALF does not have raft/pod slabs in the menu. To find R values for pod slabs, see the article *Floor slabs with polystyrene pods* in Build 123, April/May 2011. This article has Construction R values that can be used for designs in the programme. Choose 'Custom R value' when working in the floor section and enter the R value from the article. Copy the article and attach to the ALF calculations for consent so the BCA can verify the custom R value used.

Cantilevered joists for balconies
There is some confusion in regard to what is covered in NZS 3604:2011 around the use of cantilevered joists in balconies. Cantilevered balcony joists in 3604 only cover the example that is shown in Figure 7.6, where lapped joists that are bolted to the floor joists cantilever out beyond the face of the cladding. The maximum cantilever length is covered in Table 7.2 and the far right column of the Table is the column that applies to balconies (2 kPa loading, balcony floor and barrier only). Note also that only joists 190 mm or more deep are suitable for supporting a cantilevered barrier. (Where a barrier is not required on a cantilevered balcony, a smaller joist can be used.)

The overall length of the joist is governed by the cantilevered projection. The cantilevered projection (L) is multiplied by 2.25 to give the minimum overall length. For example, the maximum projection for 190 x 45 mm joists at 600 mm centres, from the 2 kPa floor load column in Table 7.2, is 1300 mm. The cantilevered section (L) is therefore multiplied by 2.25 to find the minimum overall length, which in this case is 2.9 m. Figure 7.6 gives the position and the sizes of the bolts where it attaches to a floor joist inside the building line.

Clause 7.1.5.3 of 3604 indicates that joists can be continuous over the outermost support. This is relevant only for a deck, as balcony joists require a step down of 50 mm to the deck surface (E2/AS1 Figure 14). Ripping a joist, and therefore reducing the depth by at least 70 mm (50 mm plus 20 mm thick decking), is not covered by 3604 as the ripping of the timber invalidates the timber grade.

Cantilevered deck joists should also obey the 2.25 backspan rule.

More information and potential solutions are being prepared for a future article in *Build* magazine.

BRANZ publications
BRANZ has just published *Renovate 1970s*, the fifth and final book in a series covering the renovation of houses from different eras.

The August Bulletins will be *Timber treatment* (replacing Bulletin 493) and *Internal gutter design*

BRANZ seminars – Domestic Sprinkler Design
BRANZ is running four Domestic Sprinkler Design seminars from 1 – 10 August in Tauranga, Ellerslie, Dunedin and Wellington. This seminar is for builders, designers, building officials, plumbers and anyone interested in home sprinkler systems.

Supported by the New Zealand Fire Service and Standards New Zealand, this is your opportunity to come along and learn the latest on home sprinklers and have a go at designing a simple system.

For more information and to register go to www.branz.co.nz

Guideline *is a free monthly update on building issues prepared by BRANZ and funded by the Building Research Levy.*

Do you want to receive Guideline by email?
Just send your email address to Desiree Pickering at desiree.pickering@branz.co.nz with *Guideline* in the subject line or you can download it for free at www.branz.co.nz.