Guideline

June 2017

Welcome to this update on technical and informative advice for the building and construction industry on issues relating to building controls and good construction practices.

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External gutters

To fall or not to fall is not the question – the slope of fall is

Acceptable Solutions E1/AS1 and E2/AS2 require external gutters to have a fall towards an outlet but are silent on how much. All is not lost. The *New Zealand Metal Roof and Wall Cladding Code of Practice* specifies in section 8.4.9 that metal eaves gutters must have a minimum fall of 1:500 (2 mm in 1 metre). For plastic gutters, one manufacturer specifies a minimum fall of 5 mm for every 10 metres of gutter run.

Sizing lintels

A number of options

Under NZS 3604:2011 *Timber-framed buildings* the maximum span for a framing timber lintel is 4.2 m. However, the actual maximum span in any specific case may be lower depending on what the lintel supports.

Where NZS 3604:2011 cannot be used, the options are to engage an engineer or use the BRANZ Lintels and Beams Calculator online tool. Once the correct parameters are entered, the tool will give suitable beam options plus the required connections for beam ends and connections at the floor level.

Wall bracing

Ensuring it works

There are strict limits on the size and location of penetrations that can be formed in sheet wall bracing such as plasterboard, plywood and fibre-cement. If a penetration is too big or too close to the edge of the sheet, the sheet loses its bracing capacity. An outline of the typical limits on the size and location of permitted small penetrations is given on page 3 of BRANZ's *Builder's Mate* 79.

It is important that the fixings are a sufficient distance away from the edge of the sheet and comply with the pattern/spacing specified by the system manufacturer. This is to ensure that they don't break out when loaded.

Always use the latest information from the system supplier to determine size limits for permitted small penetrations.

Bottom plate fixing – suspended timber-framed floors
It's all in the tables

Requirements for the fixing of bottom plates of external and internal walls to suspended timber floors is given in NZS 3604:2011 Table 8.19.

The specifications are:
- hand-driven nails to external walls and internal wall bracing elements – 2 x 100 x 3.75 mm nails at 600 mm maximum centres
- hand-driven nails to unbraced internal walls – 1 x 100 x 3.75 mm nail at 600 mm maximum centres
- power-driven nails to external walls and internal wall bracing element – 3 x 90 x 3.15 mm nails at 600 mm maximum centres
- power-driven nails to unbraced internal walls – 1 x 90 x 3.15 mm nail at 600 mm maximum centres.

Depending on the capacity of bracing within walls, the manufacturer of the bracing system may specify different fixings to those specified above. The maximum bracing capacity for walls fixed to timber-framed floors under NZS 3604:2011 is 120 bracing units/metre.

Thermal performance of concrete slabs
Exposure provides benefits

Concrete slab on ground is the most common domestic floor construction used. In many cases, the potential benefits of the thermal mass are lost as it is covered with carpet. Exposing concrete to winter sunlight heats up the slab. This heat is stored and released later in the evening when needed. The result is a lower demand on purchased energy to heat the house.

Thermal mass works best when:
- the floor is exposed to winter sun but shaded during summer
- the concrete is exposed or is finished with a darker-coloured stone or ceramic tile
- the body of the slab is insulated so absorbed heat is retained
- the slab is kept as compact as possible to minimise the perimeter length
- the edge of the slab is insulated – 80% of heat lost from a slab is through the edge area above the finished ground level
- full-height windows are installed adjacent to the exposed area of slab to maximise the area of slab exposed to direct sunlight.

Implied warranties
Knowing what we are using

The Building Act incorporates implied warranties for residential building work that:
- are valid for 10 years
- are transferrable to subsequent owners
- cover almost all aspects of building work from Building Code compliance to good workmanship and timely completion.

These are the implied warranties related to building work:
- All building work will be done properly, competently and according to the plans and specifications in the approved consent.

- All the materials used will be suitable and, unless otherwise stated in the contract, new.
- The building work will be consistent with the Building Act and the Building Code.
- The building work will be carried out with reasonable care and skill and completed within the time specified or a reasonable time if no time is stated.
- The building will be suitable for occupation at the end of the work.
- If the contract states any particular outcome and the owner relies on the contractor's skill and judgement to achieve it, the building work and the materials will be fit for purpose. They will also be of a nature and quality suitable to achieve that result.

Under the implied warranty provisions of the Act:
- the contractor must remedy any breach within a reasonable time
- cover includes repairing or replacing defective materials supplied by the contractor or their subcontractor.

However, many materials, components and finishes we specify for building work are unregulated, and the availability of imported products is increasing all the time. Unless we carry out due diligence, we may unwittingly (or wittingly) include products that may not provide adequate performance over the life of the building.

We can protect ourselves by:
- ensuring we research materials before specifying or using
- obtaining independent verification of performance such as a BRANZ Appraisal
- confirming compliance and suitability for use of imported building materials and components
- checking the credibility of the supplier or manufacturer
- reviewing technical information
- asking for evidence of successful history of use in New Zealand
- obtaining and verifying product technical statements
- avoiding unauthorised on-site substitution of products.

Consumer Guarantees Act

What does it apply to with respect to building work?

The Consumer Guarantees Act (CGA), according to the MBIE website, applies to services provided by the building industry but not to buildings and building materials. Materials and buildings are covered under the implied warranty provisions.

The CGA requires that tradespeople:
- carry out work with reasonable skill and competence
- must fix work that is not competently and skilfully done at no cost.

If the repairs are not carried out (the tradesperson can't or won't), the building owner can have the work done by someone else and recover the cost from the original tradesperson

The CGA also applies to:
- professional services supplied as part of a project
- items such as appliances or furniture purchased for the building by the client/owner
- building materials purchased by the owner.

For services rendered, they must be:
- carried out with reasonable care and skill
- fit for any particular purpose that the service provider has been told about
- carried out within a reasonable time where a time to complete the work has not been agreed
- charged for at a reasonable price if a price hasn't been agreed for the work.

BRANZ seminars
BRANZ Answers 17

Following on from the successful BRANZ Answers 2016, this 2017 seminar will cover a wide range of new topics that have been developed from common questions asked of the BRANZ helpline. This is important technical information everyone needs to know.

As we said in 2016, the key to any question is getting the right answer.

This seminar aims to give you practical answers to a wide range of questions,:

- the new requirements for fencing of swimming pools
- concrete slab design and construction – free joints, shrinkage control joints, floor tile movement control joints, reinforcing steel cover, edge distances, slab moisture content, screw bolt installation
- flashings – proprietary flashings and large roof flashings
- access – level entries, stair design
- building exterior – timber finishes, timber profiles
- verandas and sunshades – uplift, fixings/connections, bracing
- corrosion – protection to structural steel, dissimilar metals
- compliance – notices to fix, certificates of acceptance, outbuilding exemptions, acoustic wall principles
- innovation – prefabrication/panellisation, CLT, LVL
- general – mitigating bushfire risk, earthquake damage prevention, wet room drainage channels.

This seminar is a must for BCAs, architects, designers and builders.

The seminar will be delivered by:
Greg Burn – NZCD(Arch), DipBus (Marketing) – Structure Ltd
Des Molloy – the 'Old Geezer' returns

Remaining dates and locations are:

Mon 26 Jun	Nelson	Rutherford Hotel Nelson
Tue 27 Jun	Hokitika	Order of St John Hokitika
Wed 28 Jun	Christchurch	Sudima Christchurch Airport
Mon 3 Jul	Timaru	Landing Service Conference Centre
Tue 4 Jul	Christchurch	Addington Events Centre
Wed 5 Jul	Blenheim	Scenic Hotel Marlborough
Mon 10 Jul	Whangarei	Forum North
Tue 11 Jul	Auckland – North Shore	QBE Stadium
Wed 12 Jul	Wellington	InterContinental Wellington
Mon 17 Jul	Auckland – Central	Crowne Plaza Auckland
Tue 18 Jul	Hamilton	FMG Stadium Waikato
Wed 19 Jul	New Plymouth	The Devon Hotel
Mon 24 Jul	Tauranga	Trinity Wharf Tauranga
Tue 25 Jul	Rotorua	Millennium Rotorua
Wed 26 Jul	Auckland – Ellerslie	Ellerslie Event Centre

All seminars run from **1.00–4.00pm**. Online registration is available now.