Guideline

April 2016

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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Residential flooring and slip resistance

What's the minimum?

Within a dwelling, there are no specific New Zealand Building Code requirements to provide a minimum level of slip resistance for floor finish. However, it is considered prudent to consider the slipperiness of floor finishes when specifying them. This is particularly so in wet areas, where water on a floor can make some tiles and many other floor finishes even more slippery.

Where a defined level of slip resistance is required by Building Code clause D1 Access routes or is specified, the documents typically referenced are:

- AS/NZS 3661.1:1993 *Slip resistance of pedestrian surfaces – Requirements* – referenced in D1/AS1 but now superseded
- AS 4586-2013 *Slip resistance classification of new pedestrian surface materials* – while this replaces AS/NZS 3661.1:1993, it is not yet referenced in D1/AS1
- AS 4663-2013 *Slip resistance measurement of existing pedestrian surfaces*
- Table 2 of D1/AS1, which uses a coefficient of friction to define typical flooring slip resistance values when tested in accordance with AS/NZS 3661.1:1993
- suppliers' information, which may also reference other overseas classifications of slip resistance.

To define slip resistance, AS 4856-2013 uses:

- the R (ramp) rating system, which ranges from R9 (low slip resistance) to R13 (high slip resistance), or
- the pendulum rating system, which uses Z (lesser slip resistance) to V (greatest slip resistance).

Unfortunately, BRANZ can find no direct correlation between the coefficient of friction used in D1/AS1 to classify slip resistance and the values assigned when using AS 4856-2013.

Guidance is provided in the Standards Australia Handbook HB197:1999 on appropriate levels of slip resistance for various situations.

Therefore, using AS 4586-2013 as a means of compliance for clause D1 requires the test evidence for the specific product to be submitted for consent as an alternative method.

Deck supports

Size and treatment

Where a deck is supported on timber piles, NZS 3604:2011 *Timber-framed buildings* requires these piles to be 125 x 125 mm H5 treated members.

100 x 100 mm posts are not permitted by NZS 3604:2011 to provide deck support because they are:

- only treated to H4
- not graded in accordance with NZS 3605:2001 *Timber piles and poles for use in building*.

Windows and F4 *Safety from falling*

Restrictions on opening windows

In Building Code Acceptable Solution F4/AS1 Section 2 places restrictions on opening windows where the possible height of a fall from an open window is more than 1000 mm.

The requirements vary with window width, the sill height of the opening sash and whether the building is likely to be frequented by children under 6.

The fall height is measured from the inside floor level adjacent to the window. If a fixed window seat is provided, the sill height is measured from the seat.

These are the requirements in buildings **likely** to be frequented by children under 6 years:

- For a window with an opening width of **less** than 1000 mm, either:
  a) the lower edge of the opening shall be at least 760 mm above floor level, or
  b) a restrictor is fitted to limit the maximum opening so that a 100 mm diameter sphere cannot pass through it, or
  c) a 760 mm high barrier of solid construction or with vertical members its full height is installed to protect the opening.
- For a window with an opening width of **more** than 1000 mm, either:
  a) the lower edge of the opening shall meet the barrier height above floor level requirements of F4/AS1 Table 1, or
  b) a barrier of the same height complying with F4/AS1 paragraph 1.2.1 is installed to protect the opening.

These are the requirements in buildings **not likely** to be frequented by children under 6 years:

- For a window with an opening width of **less** than 1000 mm, either:
  a) the lower edge of the opening shall be at least 760 mm above floor level, or
  b) a restrictor is fitted to limit the maximum dimension of the opening to 460 mm.
- For a window with an opening width of **more** than 1000 mm, either:
  a) the lower edge of the opening shall be at a height of at least 1100 mm above floor level, or
  b) an 1100 mm high complying with F4/AS1 paragraph 1.2.2 1 is installed to protect the opening.

Sheet wall bracing elements – permitted penetrations

System manufacturers' installation requirements

All sheet wall bracing systems are proprietary, so the first port of call for information is the specific system manufacturer's installation requirements. The aim is to ensure that small penetrations for electrical and other services can occur without de-rating the bracing capacity. Let's take a look at three systems:

Plasterboard systems

- No penetrations are permitted within 90 mm of the perimeter of any bracing element. Where light switches are near a braced panel edge, a block will need to be fixed to the stud to provide the edge separation and fixing for a flush box.
- For penetrations in the body of the sheet, one supplier allows small penetrations (90 x 90 mm maximum) anywhere else within the bracing element. Another allows up to 125 mm diameter penetrations as long as they are more than 300 mm from the edge of the bracing element.

One plywood system

- Small openings (such as power outlets) of 90 x 90 mm or less may be located no closer than 90 mm to the edge of the braced element.
- Wastepipe outlets of up to 150 mm diameter may be located no closer than 150 mm to the edge of the braced element.

One fibre-cement system

- Holes or penetrations up to 100 x 100 mm are permitted no closer than 200 mm to the edge of lining or another hole.

Please remember that these figures relate to a specific product, and while they are similar, always refer to the requirements for the specific product you are specifying or installing.

***BRANZ Answers 2016* seminar**

Registration available soon

Detailing or construction that is incorrect can have significant implications on the performance of the completed building. Many design and construction issues that arise could have been addressed if that design or construction was questioned.

The key to any question is getting the right answer. If a question has been asked, usually more than one person needs to hear the answer.

This seminar aims to cover questions that have been asked of BRANZ recently. These range from the latest updates on newly released standard NZS 4223.3:2016 *Glazing in buildings – Part 3: Human impact safety requirements* to specific technical topics:

- Location influences on material durability
- Balancing concrete cover with bending steel
- Insulating existing external walls
- Waterproofing wet areas
- Achieving clearances
- Defining the thermal envelope
- Identifying Schedule 1 exemptions
- Avoiding apron flashing moisture traps
- How good are our consent documents?
- Constructing barriers
- Installing bevel-back claddings
- Role of CodeMark
- Detailing roof space ventilation
- Proving product provenance
- Using H3.1 treated timber outside.

This seminar, delivered by Greg Burn and Trevor Pringle, is a must for BCAs, architects, designers and builders. This 3-hour CPD/LBP points event will be delivered at 21 locations around the country between 7 June and 20 July.

All seminars run from 1.00–4.00 pm – please be signed in and seated before 1.00 pm so the session can start on time.

Online registration for specific dates and locations will be available in early May.

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- *Retrofitting Wall Insulation*
- *Wall Linings*
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