January 2014

Stud lengths (again)

In NZS 3604:2011 *Timber-framed buildings* Table 8.2, **stud length** is the actual length of the timber member (stud) that is fitted between the top and bottom plates.

This is not to be confused with the term **stud height**, which is generally the dimension from the finished floor to the underside of the ceiling lining, as was explained in the November 2013 *Guideline* (using NZMP 4212:1998 *Glossary of Building Terms*).

To clarify, if the building plans had a **stud height** of 2.8 m or 2800 mm (between the top of the floor and the underside of the ceiling), actual **stud length** would be 2800 less 2 x 45 mm (top and bottom plate) plus 13 mm ceiling lining thickness to give an actual stud length of 2723 mm or 2.723 m. When using Table 8.2 for this example, read the columns for the 2.8 m stud length.

Ordinary pile fixings

The NZS 3604:2011 fixing requirements to connect a bearer to an ordinary **concrete** pile is a 4 mm galvanised wire threaded through a hole in the top of the pile and then stapled to the bearer with 4 staples at each end of the wire. The wire must be hooked (to form a U) around the end staple to allow the wire to be pulled tight before the remaining staples are driven across both wires of the U, which will further tension the wire. It is good practice to also fold the cut end of the wire back around the tensioning staple then staple it to further reduce the risk of the wire pulling out when loaded.

Where 125 mm square H5-treated timber piles are being used in new construction or to replace timber or concrete piles, the fixing requirements under NZS 3604 are 2/4.9 mm wire dogs plus 2/100 x 3.75 mm nails skew fixed into the top of the pile or 4/100 x 3.75 mm nails skew fixed into the top of the pile.

In exposure zone D, all timber pile fixings are required to be a minimum of grade 304 stainless steel.

In exposure zones B and C, the fixing durability requirements for ordinary timber piles are:

- stainless steel (wire dogs and nails) where the top of the timber pile is less than 600 mm from the ground or the floor has more than 7000 mm^2 of clear vent area per m^2 of floor
- hot-dip galvanised (wire dogs and nails) where the top of the pile is more than 600 mm from the ground or the floor has less than 7000 mm^2 of clear vent area per m^2 of floor.

Where the tops of timber piles are within 300 mm of the ground (minimum height from ground to the top of a pile is 150 mm), a DPC is required between the pile and the bearer.

Where piles are cut after treatment, the cuts to the piles are required to be treated with a paint-on timber preservative as detailed in clause 6.4.3.3 of NZS 3604:2011.

Veranda beams

Where the proposed span of a veranda beam is outside the options given in Table 10.8 of NZS 3604:2011, the beam will need to be specifically engineered or the beam may be able to be sized using BRANZ's Lintels and Beams calculation tool available on the BRANZ website (www.branz.co.nz/lintels_and_beams).

The lintel tables in NZS 3604:2011 **MUST NOT** be used to size veranda beams because:

- the in-use conditions for the spanning members are different
- they are subjected to less uplift than a veranda beam
- the lintel tables are for beams within enclosed walls
- the deflection requirements for lintel beams are more stringent.

Manufacturers' technical details

Reputable building product manufacturers should have available technical installation instructions, which should be referenced or shown in the consented drawings. To ensure that product warranties will apply, these instructions need to be followed.

Where a designer or contractor wishes to depart from or vary the installation, the proposed alteration variation needs to be discussed with and approved by the manufacturer (as well as the designer and owner). Once a consent has been issued, the building consent authority will also have to approve the change to the consented documents.

If this process is not adhered to, work that does not follow the instructions may have to be removed and reconstructed to meet consent requirements and maintain warranties.

Use of BRANZ 4218:2009 calculator

The BRANZ NZS 4218:2009 Calculation Method Tool (www.branz.co.nz/calcmethod2009) can be used as an alternative method to show compliance with the requirements of Building Code clause H1 *Energy efficiency*. NZS 4218:2009 is more restrictive than the 2004 version of the standard, which is cited in the H1 Acceptable Solutions and Verification Methods. The BRANZ tool uses the calculation method as prescribed in 4218:2009, which limits the area of glazing to 40% of the total wall area.

If the user has more external walls than there are fields in the worksheet, it is permissible to combine wall areas that are identical in construction R-value and enter it as a single wall. Walls that have different construction R-values must be entered separately.

Looking for performance verification of construction materials/systems

When evaluating a potential building material or component, it is better that the evaluation is backed by an independent assessment of the product's suitability for the proposed location on the building and the environment it will be exposed to. To assist, the BRANZ website has a list of all of the current BRANZ-appraised products and systems so that the guesswork can be taken out of product selection (see www.branz.co.nz/appraisals). Products can be searched by the Appraisal number, manufacturer or product type. Always check the scope of the Appraisal to be sure the Appraisal covers how the product will be used.

New BRANZ Good Repair Guides

Nine titles in the new publication series of BRANZ Good Repair Guides are now available – as an introductory offer, buy five or more titles and receive 20% off. All 10 titles will be available as an ePubs combo in late February.

For more detail and to place an order, go to www.branz.co.nz/cms_display.php?st=1&sn=55&pg=11811.

BRANZ seminars – *Getting to Grips with Prefab*

The aim of the first seminar of 2014, *Getting to Grips with Prefab*, is to provide a consistent understanding of the options and benefits of prefabrication such as:

- an introduction to a full range of prefabricated materials and techniques
- identifying risks and opportunities
- application of prefabrication options.

The guest presenter will be Dave Strachan of Strachan Group Architects (SGA) BArch 1979, Reg Arch. 1999, MArch (Hons) 2001, LBP 2009, FNZIA 2012.

SGA's Design Director, Dave has over 35 years' experience in the fields of building, interiors, teaching and architecture. Dave has a Master of Architecture Degree in Sustainable Design and is a 2002 graduate of the Newcastle University Glenn Murcutt Master Class. He is currently adjunct professor at Unitec School of Architecture and, as a licensed building practitioner, runs an annual design and build student programme. Enthusiasm, energy and experience are brought to the multi-award winning practice through Dave's commitment to creating an innovative contemporary sustainable architecture, appropriate to New Zealand and its unique landscape.

Location	Date	Time
Queenstown – Crowne Plaza	March 17	1–4 pm
Christchurch – Addington Events Centre	March 18	1–4 pm
Wellington – InterContinental Wellington	March 19	1–4 pm
Auckland North Shore – North Harbour Stadium Function Centre	March 20	1–4 pm
Auckland South – Waipuna Hotel & Conference Centre	March 21	1–4 pm

Online registration is now available on the BRANZ website.