

BRANZ

builder's mate



Strap-happy

BRANZ gets quite a few calls about the requirements around fixing top plates that support roof members to wall studs or lintels. Here is a quick guide.

The connections between roof and wall framing require straps in many areas. The framing here is subject to uplift in strong winds and is therefore the most vulnerable part of the structure. Where a roof is supported over an opening such as a window, it is critical that the load is properly transferred around the opening and ultimately down to the ground.

NZS 3604:2011 *Timber-framed buildings* Table 2.2 is a guide for fixing requirements and describes the types and capacity of fixings. Five of the fixing types include galvanised mild-steel strapping.

Lintels

NZS 3604:2011 paragraphs 8.6.1.7 and 8.6.1.8 require that, where a lintel supports a rafter or truss, and depending on wind zone, lintel span and loaded dimension, the lintel must be fixed against uplift according to Table 8.14. This includes using

25 × 1 mm galvanised steel straps meeting the capacity requirements in clause 8.6.1.8 to secure the lintel to the trimming stud and the trimming stud to a floor joist or solid blocking (Figure 8.12). Each strap must be fixed by six 30 × 2.5 mm nails into both the lintel and the trimming stud.

Table 8.18 in the standard sets the requirements for top plates that support roofs:

- 900 mm is the maximum roof member spacing for heavy roofs
- the nailing specified is satisfactory for studs up to 2.7 m long, but for longer studs, BRANZ recommends 3/90 x 3.15 mm end nails, not 2 (see Note 3 of Table 8.19)
- where nailing plus wire dogs is specified, nailing plus straps may be a better option as wire dogs can split jack studs when they are installed. >

WIN!

An Arges 10.8v drill kit



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worth \$149.90!

INDUSTRY NEWS

Earth building wins award

An earthbank building has won a 2014 EECA Award. Te Mirumiru childhood centre in Kawakawa, built for Ngati Hine iwi, uses passive design to be 67% more energy efficient than a standard building. It uses solar hot water and underfloor heating.

BRANZ Maintenance Schedule tool launched

BRANZ has launched a web-based tool that records in one place all the materials used in a building, gives building owners a maintenance guide and helps manage a builder's liability if anything goes wrong.

Enter the materials used and the tool automatically enters the maintenance required. Print a copy for clients, and save one in your records. BRANZ has an introductory special price. Use promo code MS001. Order online at www.branz.co.nz or call 0800 80 80 85, and visit maintenanceschedules.co.nz.

New insulation guide out

The BRANZ *House Insulation Guide* 5th edition has just been published, with thermal performance for different levels of insulation in various constructions. Available at www.branz.co.nz.

HAMMER 'N' NAILS



Tying down is also required at 600 centres between:

- top plate and lintel
- top plate and jack studs
- jack studs and lintel
- trimming studs to top plate.

An alternative 4.7 kN connection (in tension) may also be used when a type B fixing is required.

Trimming studs

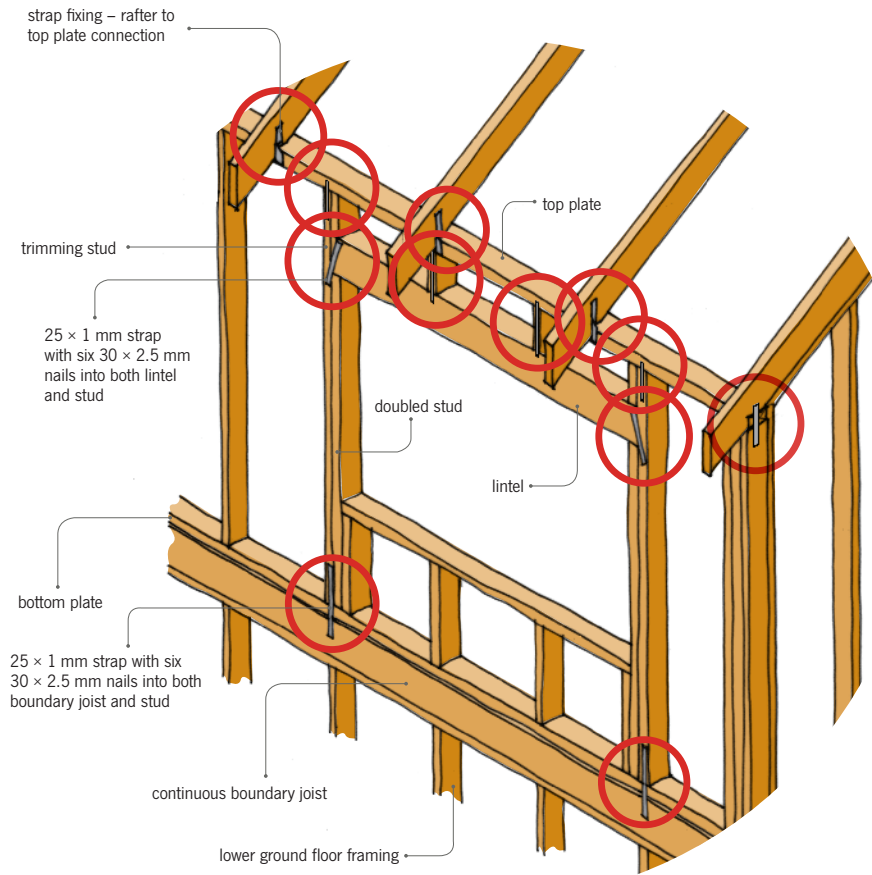
Fixing the trimming stud to the floor joist for timber-framed floors applies to a single-storey building or to upper floor framing to the intermediate floor.

Where ground floor framing is on a concrete floor slab, the strapping is folded under the bottom plate and fixed to each side of the stud using six 30×2.5 mm nails. A proprietary anchor that is tested to and meets the requirements of NZS 3604:2011 7.5.12.3 or cast-in bolt must fix the bottom plate to the slab within 150 mm of the stud.

Other straps

Other locations where strapping of roofs is required are shown in Figure 1 and include:

- rafter to top plate connections
- truss to top plate connections – may be straps and/or wire dogs
- over adjacent rafters supported by a ridge beam and when they support the ceiling lining
- dummy rafters over sarking or ceiling lining and supporting purlins.



Note: Circles indicate strap fixing locations to resist uplift.

Figure 1. Framing locations requiring strap fixing.



Mouth piece

2014 is a milestone year for the Roofing Association of New Zealand (RANZ) as it celebrates its 20th anniversary. One of our key objectives from the outset was finding better ways to ensure roofers were safe working at height. The old Department of Labour (DoL) had a goal of 25% reduction in workplace injuries over a 5-year period, but with a lot of hard work and a new regime at the Ministry, this has been achieved in 2 years. I believe this is due to the collaborative approach of the then DoL and now WorkSafe being very proactive with us in getting workable, safe solutions out there. We have also observed that the emphasis on educating the sector has worked, as the calibre of discussion has changed significantly. We are now handling queries about the intricacies of controls compared to the time when there was a lack of clear direction and queries might have been about the 3 m rule or what should be used to be compliant.

We have evolved significantly, and the issues are now about accuracy of scaffold/edge protection dimensions, what short-term work is and what constitutes safe work methods when it comes to working at height. There is a real desire in the roofing industry to do what is right.

RANZ has enjoyed and leveraged the very strong relationship that it has built with WorkSafe NZ, which is a significantly different agency to the DoL. They have separated their operations into investigations and education: the investigative team are the ones you don't want ever to have to deal with. The education team are working with various sector groups to ensure everyone knows what safe looks like.

We have collaborated with WorkSafe on some significant projects recently including a factsheet for the roof restoration sector, *Best Practice Guidelines for Mobile Elevating Work Platforms* and *Best Practice Guidelines for Scaffolding/Edge Protection*.

WorkSafe has a new complaints system that enables photos to be emailed from a smart phone, and we'd like to see an app developed that the industry could use when non-compliance needs to be reported. Like WorkSafe, RANZ wants its people to get home to their families safely after work and for them not to become another statistic.

Graham Moor

Chairman of the Roofing Association of New Zealand's Health & Safety Committee

Exposure limits of H1.2 framing

H1.2, boron-treated framing timber – the pink-coloured timber when freshly treated – is used for enclosed framing in houses. To remain in best condition, it needs to be properly stored on site and not exposed to rain or standing water for very long periods.

If you get packets of boron-treated timber delivered to the site, keep the wrapping on until you need to use the timber. Store the packets on treated bearers at least 100 mm clear of the ground, and use enough bearers to keep the timber straight. Timber that is not in a wrapper should be covered.

Pre-nailed frames should also be protected before and after delivery to site.

Some boron can leach out of the timber if the timber is exposed to persistent rain or kept in contact with wet ground. If weather patterns are normal and construction is carried out at a normal pace, enough boron will stay in the timber for the treatment to remain effective. One manufacturer suggests 3 months is the maximum exposure allowed to ensure compliance with treatment requirements in the finished building.

Make sure the framing timber is dry before being closed in.

Maximum exposure times (including exposure before installation begins) for some other construction materials are:

- particleboard flooring – 8 weeks
- kraft paper wall underlay – 30 days
- synthetic wall underlay – 30–60 days depending on the product.



Pink framing timber of house under construction.

build

“Do you get your free Build magazine?”



All building contractors who are in the business of building and have paid a Building Research Levy in the current year can receive BRANZ's *Build* magazine for free. This Levy is paid as part of the building consent fee on all construction projects over \$20,000. If you are missing out on your free copy of *Build*, call 0800 80 80 85 (press 2) or email vera.chan@branz.co.nz.



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For the homeowner and public enquiries:

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Calls cost \$1.99 per minute plus GST

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Competition

Here's a tool.



What is it?

Win!

An Arges 10.8v drill kit



Worth \$149.90!

This Arges 10.8v Li Ion drill kit comes with 2 x 1.3 ah batteries and fast charger.

It has a steel housed gear box with 14 torque settings. Two speed settings as well as a variable trigger give you utmost control. It is super comfortable to use with its rubber hand grip.

The prize is provided courtesy of The ToolShed.

All you need to do to win is tell us the name of the mystery tool (above).

Email your answer to buildersmate@branz.co.nz. Put "August Competition" in the subject line. The message should include your answer, your name, postal address and phone number. One entry per entrant please.

Don't forget to tell us where you picked up your copy of *Builder's Mate*! The winner will be the first correct entry drawn at 9 am on Friday 5 September 2014. Details will be posted on the BRANZ Ltd website (www.branz.co.nz) and in the next edition of *Builder's Mate* due out on 1 October 2014.



The winner of the June competition was Kelly Silson of Whangarei. Kelly wins a Makita cordless driver drill worth \$399. The mystery tool was a digital angle finder/protractor.

Terms and conditions:

Entry is open to all New Zealand residents except employees and immediate families of BRANZ and The Tool Shed shops. The competition will close on Friday 5 September 2014. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into.

What's wrong in these PICTURES?



1 BRACING-TO-PILE



2 GROUND LEVELS

1. The bracing-to-pile connection is too close to the ground (it should be within 200-300 mm of ground level) and has no effective washers. Fixings must be 12 mm stainless steel and the bottom of the brace 150 mm off the ground.
2. The soil is built up too high around this house.

ANSWERS

Maintenance Schedule for a new house

BRANZ

The BRANZ Maintenance Schedule is a brand-new web-based tool that:

- records in one handy place all the materials used in a building
- gives your clients a comprehensive maintenance guide
- saves you time and effort by creating a maintenance schedule
- helps manage your legal liability if anything goes wrong

Simply enter the materials and finishes used in a building via dropdown boxes, and the tool automatically creates the maintenance schedule required.

Lack of maintenance can bring expensive problems, and these can result in legal challenges.

With a maintenance schedule, clients know how to keep their property in top condition, and you have an easy-access record.

The schedule is a comprehensive document to present to your clients and to save for your records.

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Standards referred to can be purchased from Standards New Zealand. Tel: 04 498 5991 or www.standards.co.nz.

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