

Builder's MATE



FREE TO ALL BUILDERS

September 2003
Issue 1



This short profile shows the string line being secured in place on the batter board by two nails. A saw cut is often used as an alternative method

Correct setting-out is vital

Getting it right comes with practice

The builder's level is an important tool that should be regularly checked and recalibrated.

Using the surveyed boundary pegs as starting points the footprint of the building is established, then temporary guides (profiles) are constructed outside the building area to allow string lines to be run to work from.

Make the profiles sturdy and place them carefully so they are not in the way when you are building.

Where possible, set the profile batter board to the floor height or other reference and only when the slope of the site becomes too much should you use a vertical offset.

When you are using offsets, make them a round figure – such as 500mm, 1m, 2m etc – so that you won't forget. If the set-out on a steep, sloping site becomes too hard

to do because your profiles would be like the floodlight towers at the local stadium, call in a surveyor with a Total Station laser level. A Total Station can take in angle and distance requirements in one operation.

The 3-4-5 method of getting an exact square corner comes from the ancient Greeks and there is no reason to do things differently today. A triangle with sides in the ratios of 3-4-5 (see page 2) will give a right angle opposite the long side. This is simple and totally accurate.

The bigger the scale of the 3-4-5 check, the more accurate it is likely to be. If you can measure out 3m and 4m from the corner and not be obstructed when measuring for the 5m across the long side of the triangle, this will be more accurate than if you halved all the measurements to 1.5m, 2m, 2.5m.

Continued on p2

Industry News

It's for you...

A new text-messaging service will make life easier for builders on the go. Telecom Message Alerts let you know as soon as anyone leaves a message on your landline message service, by sending a text message to your mobile. It's free till December 1, 2003, and is available to Telecom mobile customers with a text-capable mobile phone and a Telecom landline message service.

Get in on the Act

If you're a contractor or a subbie, book a place at one of BRANZ seminars on the Construction Contracts Act and find out what it means to you. They're on around the country from October 6 to November 25. For more information contact Gail King (04) 237 1170 or check out BRANZ website: www.branz.co.nz

Inside: Be in to win a DeWalt hammer drill worth \$850



2 Setting-out



A tall profile at the low end of the site, braced to ensure rigidity

From p1

More accurate again would be doubling the measurements to 6m, 8m and 10m, but remember to pull the tape measure tight when you are using the bigger measurements or you will lose accuracy through the sag of the tape.

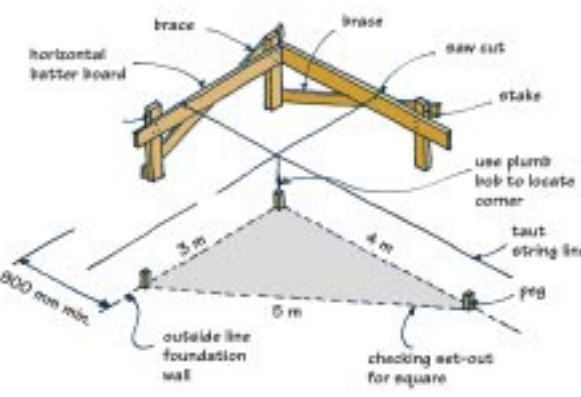
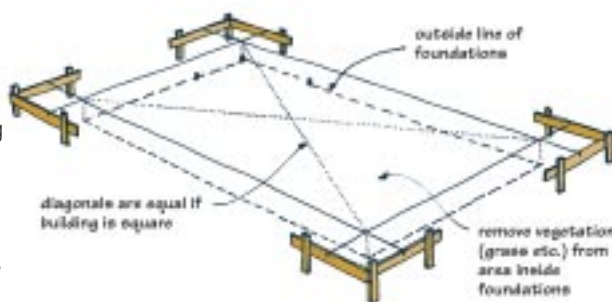
Set-out checks involve making sure the long sides are parallel by measuring the distance between them at each end and, finally, by comparing the diagonal measurements across the inside of any rectangular part of the building. For the building to be set out square, the diagonals must be the same length.

Tip

Take time to double-check your set-out. It must be right or you will face huge problems later on

Summary

- Locate the site boundary pegs
- Establish the front line of the building to be constructed
- Clear the site
- Build sturdy temporary set-out guides (profiles) outside of the building lines
- Fix horizontal (batter) boards of the profiles to the level of the floor slab, etc
- Use 3-4-5 method to get square corners
- Mark the building outline on the profile board with a saw cut (or use nails as guides). Run string lines from profile to profile through the saw cuts to give an exact set-out (or use a measured offset)
- Check the long sides are parallel by measuring the distance between them at each end
- Check all the rectangular shapes by measuring the diagonals; they must be the same for the corners to be square.

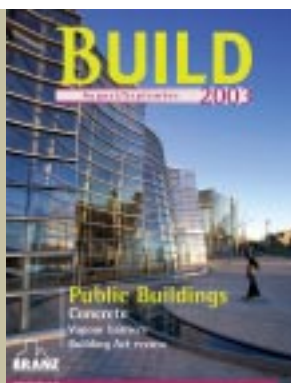


Note: Set datum for relative levels prior to constructing profiles. Keep profiles at least 900 mm clear of building.

BUILD magazine

Want to know more?

BUILD, published every two months, is the industry magazine for building-related issues. Subscriptions: \$54. Free to building company owners and sole traders. Visit www.branz.co.nz to find out more.



Step-by-step guide Using a laser level



1. The laser instrument is set on the tripod then levelled by the centralising of bubbles at its base.



2. The reader unit, attached to a standard measuring staff, is moved up and down until the audible warning sounds are heard. An immovable object, such as a manhole cover, can be used as a set-out datum.



3. The final adjustment is done either by adjusting the receiver until the beeps become continuous, or by visually following the instruction given by either an up or down arrow.



4. When the pointer on the staff is level with the laser-sending signal, the arrows will disappear, leaving a straight line.

Next time Supporting reinforcing
Getting it right

Weathertightness

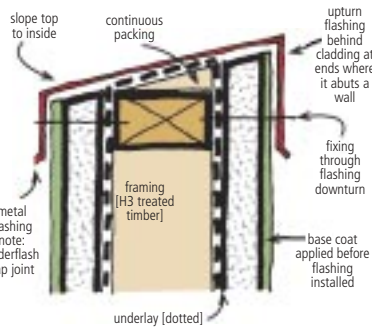
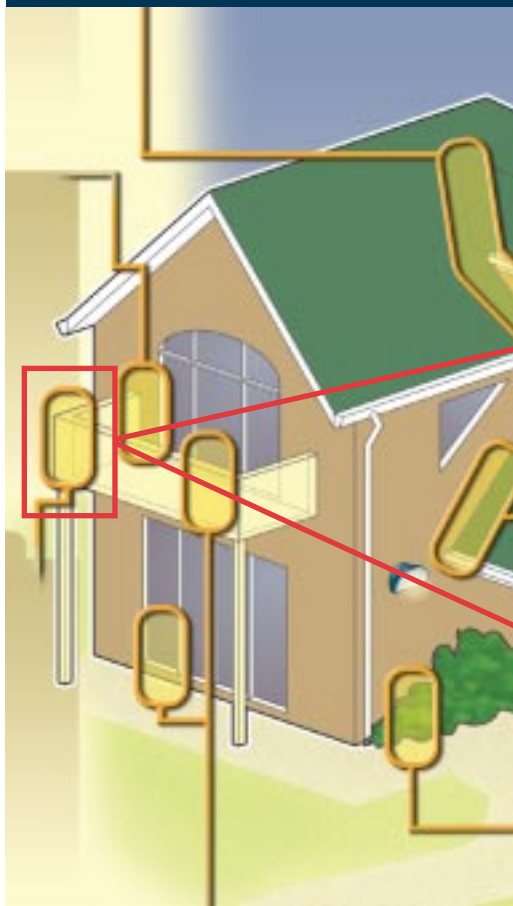


Figure 1: Parapet or balcony wall formed in EIFS.

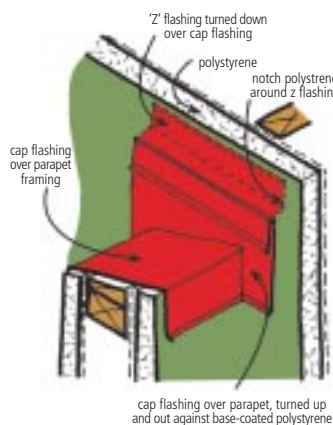


Figure 2: Back-flashed junction between a balcony or parapet wall and an adjacent wall.

Risk factors

Parapets and balconies are popular on modern apartments and town houses because of the need to step out into the fresh air and view the realm. City apartments with balconies command greater prices, even if the balcony only has enough space for two people on it.

A popular construction feature is the solid balcony wall with a feature handrail on top. This gives a very tactile topping that is considered to be more appealing than just the surface of the material being used to form the barrier. Often, polished stainless steel is used to give that expensive and functional look.

What to look for

To construct a good, safe balcony, there are three main points to be aware of.

First, the top surface of the balcony wall must not be flat. It must be sloped so it will never allow water to accumulate on it. Second, the top surface of the wall, even if sloped, must incorporate a cap flashing over

it with drip edges to clearly shed water. The cap flashing will need an apron end to it where it abuts other vertical surfaces. Just relying on the continuation of the wall cladding up over the top of the balcony wall is extremely risky construction and poor practice, as the ingress of water into framed walls will cause structural failure. This failure can occur very quickly where untreated timber has been used and BRANZ would recommend H3-treated framing members.

No penetrations

Third, in addition to having a cap flashing over the wall top, it is vital that the handrail brackets do not penetrate that top surface. There are many ways brackets can be detailed to be fixed on the side of the balcony wall. Where possible the brackets should be fixed on the sheltered side of the wall. The screw holes penetrating the cladding should be filled with suitable sealant and the flanges of the brackets themselves bedded on sealant.

Some examples of good detailing are shown in Figures 1 and 2 above.



Dribblings from the old Beezer

Welcome to Builder's Mate

G'day, welcome to the first issue of Builder's Mate, written specially for on-site builders. There's a free issue to be had once every two months. You'll find Builder's Mate packed full of good-practice building advice, tips and tricks, as well as news on what's happening in the industry.

This month we're concentrating on setting-out and banging home the importance of getting the basics right. But here at Builder's Mate we also want to get it right, so drop us a line and let us know what you think of our first issue – and what you'd like to see in forthcoming issues. Our address is on the back page.

Des Molloy, BRANZ Technical Writer

Product information

Got all the gears?

Want to keep up to date with the latest building and construction products? Info-Link magazine is full of product information covering everything from exterior claddings, paints and coatings, plumbing and draining, to heating, insulation and ventilation aids, roofing, windows, doors, glazing – and loads more. Info-Link is published four times a year and distributed to building professionals throughout New Zealand. Subscriptions cost \$19.80 incl gst. Email Claire Thompson (claire@agm.co.nz). For a free copy of a previous issue email Mark Lipman (mark@agm.co.nz), or call him on 09-846 2711 ext 311.



For a FREE copy of BRANZ weathertightness poster phone our customer services manager on 0800 80 80 85

Exercise your brain cells and *win!*

DeWalt is well known for its high-performance industrial tools and accessories. Now you have the chance to win this DeWalt cordless hammer drill worth \$850. This heavy-duty XRP (13mm) 18V cordless hammerdrill/drill/driver kit has a keyless chuck, automatic spindle lock and adjustable clutch.

Write your answer on the back of an envelope and post it before November 3 2003 to:

Builder's Mate
Freepost BRANZ
Private Bag 50 908
Porirua City.

The winner will be announced in the Dec/Jan 2004 edition of BUILD magazine out Nov 28. Subscribe today.



Clue: It's not a Bradawl

What is this tool called and what is it used for?

Be in to win this DeWalt hammer drill worth \$850



Terms and conditions: Entry is open to all New Zealand residents, except employees and immediate families of BRANZ Ltd., BRANZ Inc and DeWalt. The competition closes at 9am on Monday November 3, 2003. The prize is not transferable. The judge's decision is final. No correspondence will be entered into.

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with easy-to-understand diagrams, full-colour photographs and illustrations that will guide you through each step of the building process. There are more than 60 features on everything from building controls, LIMs and PIMs to weathertightness – advice you can't afford to be without.

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Blokes on the job



Nick Mitzi Building in Whitby

Favourite tool Block plane and chisels. Nick keeps his hand tools nice and sharp and in good condition. He likes doing the finishing work and his hand tools allow him to do a good job – and enjoy it, too.



Dean Talbot Building in Churton Park

Favourite tool 12-inch drop/compound-mitre draw saw because of its ability to mitre-cut 125mm posts. Favourite tip Always look through the timber off-cuts. Think before you automatically reach for a new stick.



Peter Wehrli Building in Whitby

Favourite tool Battery drill because of the huge improvements in speed and effort when compared with the old Yankee and Spiralux hand tools.

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