

# Builder's MATE



FREE TO ALL BUILDERS

The new Building Act and updates of the New Zealand Building Code (NZBC) has taken all the good bits, but strengthened the processes in the construction of a building.

The consent documentation has to be very detailed and complete. From March of this year the Building Control Authority (BCA), the new name for the Council department dealing with consents, is requiring the designer to demonstrate that a design meets all the clauses of the NZBC.



## Industry News

### A quality environment

2005 is the Year of the Built Environment. A collaborative effort between the Government, the New Zealand Institute of Architects and a consortium of smaller organisations will enable us Kiwis to celebrate the buildings, spaces, places and structures in which we live and work. The initiative reflects the Government's commitment to working towards quality built environments. Check out details of events at [www.ybe.org.nz](http://www.ybe.org.nz).

### Timber treatments

*Timber Treatment Requirements: Notes for Builders*, originally published by the BIA and Standards New Zealand, has been updated and reprinted by the Department of Building and Housing (DBH). It is a quick guide to the use of treated radiata pine and Douglas fir in buildings designed to the provisions of NZS 3602:2003 (cited in B2/AS1). The booklet summarises NZS 3602:2003 *Timber and wood-based products for use in building* and explains how to identify timber treatments and which type of treated timber should be used where. Copies are available directly from the DBH (tel: 04 494 0260).

## Building for a better future

The Building Act 2004 brings with it a new Building Code. Do not be afraid...

This bit will be tough if you're a builder who also does some design, based on what has worked in the past, and what you may have built before.

The good news is that because the initial design must now be complete and detailed, there'll be less on-site decision-making to be done, allowing builders to get on and do what they do best – build.

You'll have a nice clear path to follow instead of trying to hack a track through a jungle.

The whole point of the NZBC is to create better buildings for New Zealanders. The Consumer Guarantees Act (formerly the Sale of Goods Act), does not fully cover building work, so at times the home owner has struggled to get satisfaction when the building or plans were shoddy. Now the home owner is protected by mandatory warranties, applicable since November 2004, for work done. These warranties can't be opted out of or avoided, and make it clear that the consumer is entitled to:

- work that meets the NZBC
- work that's done with reasonable care and skill
- work that's suited to its intended purpose
- materials that are new and suitable
- have the job completed in accordance with the consented documents.

These are now a contractual reality, and they cover all building work on household units and the sale of these.

The new Act makes it clear that "substitutions" are discouraged and will have to be linked back to the consent documentation. When the job is changed, this documentation must also be amended. This means that you are always building to the consent documentation. Not only that, but the inspector is inspecting to these documents.

When the final inspections are done, the Code Compliance Certificate (CCC) is issued to confirm the consent documents have been followed. *contd. on p2*



Inside: Win this lightweight Hitachi sabre saw worth nearly \$600!





This means that details or products can't be substituted, at least not without having the change approved by the consenting authority as an amendment to the consent documents.

Though these changes are already with us, the big change is still to come: licensing builders as building practitioners. This part of the plan is still being developed but in the future only licensed building practitioners will be able to do "restricted work", that is, work that requires a building consent:

- because it's structural, or
- it's part of the building envelope which, if done poorly, could be a health risk.

Clients will be pleased to know that the important parts of their construction projects will be done by people who have shown they have the skills to do the job. The licensing will be mandatory from November 2009.

That is still some time away, but maybe it's time to start thinking about what sort of licence you'd be suited to. Not every site worker will need a licence, but those taking responsibility for the work will need one. Keep an eye out for developments and have a browse on [www.building.govt.nz](http://www.building.govt.nz) to find out more.



## Round in circles

These are templates which can be cut out and used to check that your bends are coming out the right size. They should fit right into the bend. It's okay if your bend is of a bigger diameter but it must not be smaller than your template.

**80 mm dia circle**  
for 16 mm plain and deformed bars, and 20 mm deformed stirrups

**60 mm dia circle**  
for 12 mm plain and deformed bars

**40 mm dia circle**  
for 10 mm deformed stirrups, and 16 mm and 20 mm plain stirrups

**20 mm dia circle**  
for 6 mm and 10 mm plain stirrups

**70 mm dia circle**  
for 16 mm deformed stirrups

**50 mm dia circle**  
for 10 mm plain and deformed bars, and 12 mm deformed stirrups

**30 mm dia circle**  
for 6 mm plain bars, deformed bars and deformed stirrups, 12 mm plain stirrups

*Need a hand? If you've got a building problem that needs fixing, get on the blower to Eddie Bruce at BRANZ advisory helpline!*

Builders call **0800 80 80 85**. Home owners call **0900 5 90 90**

(0900 calls cost \$1.99 per minute, plus GST)

**Next issue** The inside story on cavities

Builder's Mate out September 1. Don't miss it!

# Bending: the rules

Electric and hydraulic benders can make the on-site bending and cutting of reinforcing steel much easier. The appropriate Standards must be followed though to ensure compliance with the New Zealand Building Code.

Traditionally, if reinforcing steel was fabricated on site it would be bent using manually powered benders with long handles to get the required leverage. These benders would usually be capable of bending bars up to 16 mm in diameter, although 12 mm bars were often the largest that could be bent comfortably. Electric and hydraulic models now make on-site bending and cutting much easier.



**This reo has the right bend diameter but the main bars should never be tied below the stirrups.**

bars, so that building inspectors can readily check compliance on-site.

Table 3.1 of NZS 3109:1997 *Concrete construction* stipulates the minimum diameter of bends for particular grades of steel bars, types (e.g. stirrups and ties or others), diameters and whether the bars are plain or deformed.

## Circular templates

For instance, a 12 mm diameter deformed bar being used as a stirrup must be bent around a minimum-sized 4d former pin. (Note: d = diameter of bar.) That is, a former pin with a diameter that's four times bigger than the bar being bent (i.e. a 48 mm diameter former pin). The same bar being used as general reinforcing must be bent around a larger 5d (i.e. a 5 x 12 = 60 mm diameter) former pin.

Some block-layers like sharp bends in reinforcing bars because they're easier to insert into the cells of the blocks. Structural engineers and local authority inspectors are likely to reject such work because it doesn't comply with the NZ Standard.

The DBH is aware of the problem of bars that have been incorrectly bent. The Department intends to produce circular templates for various sizes of steel

## Important points to remember

It is important to remember that micro-alloyed grade 500E or grade 500N deformed bars must be bent cold and straightened or re-bent at a temperature of 750 +/- 75°C – in accordance with NZS 3109. (Note: grade 300 deformed bars can be re-bent cold in accordance with NZS 3109.) Any welded splices must be at the designer's request and done in accordance with AS/NZS 1554.3 and NZS 3109. (Note that NZS 3604 does not allow the use of welded splices.)

**Note:** more information on bending and re-bending of steel reinforcing bars is available from the Cement and Concrete Association of New Zealand's Information Bulletin IB 79 *Recommended industry practice on bending and re-bending of reinforcing bars*.

| REBAR TYPE                      | Bar Diameter (d) |    |    |    |     |     |     |     |     |
|---------------------------------|------------------|----|----|----|-----|-----|-----|-----|-----|
|                                 | 6                | 10 | 12 | 16 | 20  | 25  | 28  | 32  | 40  |
| Plain Bars                      | 30               | 50 | 60 | 80 | 100 | 150 | 170 | 200 | 240 |
| Deformed Bars                   | 30               | 50 | 60 | 80 | 100 | 150 | 170 | 200 | 240 |
| Plain Bars (Stirrups & Ties)    | 20               | 20 | 30 | 40 | 40  | 80  | -   | -   | -   |
| Deformed Bars (Stirrups & Ties) | 30               | 40 | 50 | 70 | 80  | 150 | -   | -   | -   |



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## Dribblings from the old geezer

Occupational Safety and Health (OSH) gets a lot of flack from site guys – and it's often undeserved. Because of the (usually) deserved tellings-off we've had, lots of site foremen are wary of OSH. Combining this with a little ignorance, I can confidently say that a lot of "notifiable work" isn't being notified.

OSH has a list of work deemed dangerous that must be notified before you do it. There is nothing scary or sinister about this: there are simple forms that you fill out and forward on to them. You can get these from their regional offices or the website at [www.osh.dol.govt.nz](http://www.osh.dol.govt.nz).

OSH decides whether or not it'll visit the site, but either way there will be no impact on what you are doing as long as you are following the rules and doing the work safely. This is, of course, how we all should be working.

If you have any doubts, call OSH (tel: 0800 20 90 20). You'll be surprised how helpful OSH can be, as they want you to be safe.

Let's be careful out there and follow the rules to make that possible.

Des Molloy, BRANZ technical writer

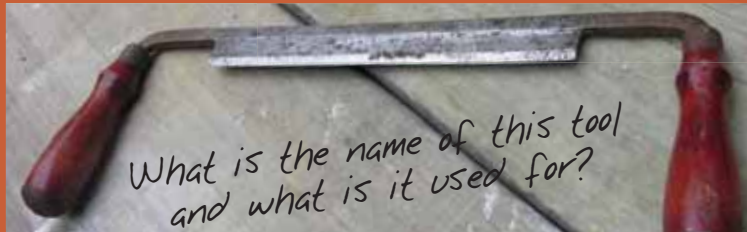
## Product Information

### Designed to plan

A low cost project planning tool that is specifically for the building and construction industry has been introduced to New Zealand by Project Systems Solutions Limited. It is an award winning computer software programme from Primavera which enables projects to be planned and monitored simply and effectively. It can generate schedules, the project's construction critical path, produce PERT and GANTT charts, update progress, monitor budgets and much more. For more information email: [john@project-solutions.co.nz](mailto:john@project-solutions.co.nz).

win!

## A Hitachi sabre saw worth nearly \$600!



It's every builder's dream – the Hitachi sabre saw punches way above its exceptionally light weight, cutting through 300 mm timber, 10 mm mild steel plate and 155 mm dia steel pipe.

We're giving one away absolutely free to the person who can tell us the name of the mystery tool, pictured, and what it's used for.

It's easy to enter! All you have to do is write your answer on the back of an envelope (don't forget to

tell us where you picked up your copy of Builder's Mate) and post it (you don't need a stamp) to:

Builder's Mate Issue 12, Mystery Tool Competition,  
FREEPOST BRANZ, Private Bag 50908, Porirua City.

The winner's name will be the first correct entry drawn at 9am on Friday 5 August 2005.

Details will be posted on BRANZ website [www.branz.co.nz](http://www.branz.co.nz) and in the 1 November 2005 edition – don't miss it!"

Terms and conditions: Entry is open to all New Zealand residents, except employees and immediate families of BRANZ Ltd., BRANZ Inc, BRANZ Pty and the product manufacturer. The competition will close at 9am on Friday 5 August 2005. The prize is not transferable for cash. The judge's decision is final. No correspondence will be entered into. BRANZ may, from time to time, send you information about our products. You can contact us at any time if you do not wish to receive this information.

## Another winner!

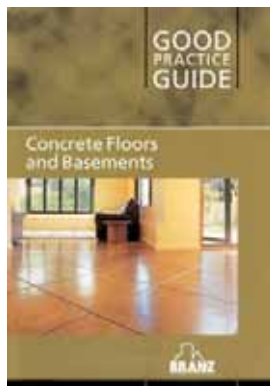
Our BM10 competition caught a lot of you out! Many thought our mystery tool was a right-angle screwdriver, but Tom Logan of Christchurch and Dave Pope of Ashhurst were both right in saying it was a drawer lock chisel used for cutting the housing for locks in confined spaces. Tom and Dave each win a laser plumb bob worth \$200 and supplied to us by The Tool Shed. Well done guys!

## Good Practice Guide - Concrete Floors and Basements - the secrets to good concrete floors and dry basements.

Offers guidance and straightforward advice on how to design, detail, specify and construct trouble-free ground floor slabs and basements for residential-type buildings.

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Standards referred to can be purchased from Standards New Zealand.  
Tel: 04 498 5991 or [www.standards.co.nz](http://www.standards.co.nz).

## Blokes on the job



**Hamish McNabb**, a junior woodchuck building in Albany.

**Favourite tool:** he likes all the power tools, especially the Makita skilly and nail gun.



**Pasa Fiapito**, building a steel-framed building in Three Kings.

**Favourite tool:** his "shades", as they offer protection against glare and the strong reflections you get with steel framing.



**Garth LeRoy**, at a BRANZ seminar in Timaru.

**Favourite tool:** the sabre saw.

**Favourite tip:** get the foundations right.

Know a bloke on the job? Send us details of his or her favourite tip and tool and you could win \$50-worth of BRANZ books.