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- Quiz on articles in this newsletter

For any enquiries regarding this news sheet, please contact Simon Tonkin on **(03) 211 1777**

EARTHQUAKE PREPAREDNESS

The series of earthquakes in the country should be a wake up call to all New Zealanders.

Every person should look at their home or place of business and develop a plan about the risks and what you need to do to be prepared.

If you are in a Neighbourhood Watch organisation, you should be discussing scenarios and what is expected of you and what you expect from others.

Remember that in an emergency you may need to be self sufficient for up to three days.

The October 2010 issue of the Building Sector News had information on what you require in an emergency survival kit, radio station information and protecting your health in an emergency.

Please reread these articles and have your survival kit up to date and in a place where all family members know where it is. The next Building Sector News April Supplementary will have more useful information on being prepared.

For your own home you should identify any high risk parts of the buildings on your property and if any of your neighbours' buildings could potentially cause you harm. This might include large trees, outbuildings, overhead glazing, etc.

After identifying high risk parts of the building, you should then decide to strengthen / upgrade or demolish these parts to make your property safer.

Remember the old saying "plan for the worst, but hope for the best".

And lastly, my apologies for putting the wrong date of the Christchurch earthquake on the March Supplementary. It should have read 22 February and not 28 as was stated.

Simon Tonkin
EDITOR



Liquifaction - the drain must have ruptured and sand has come up through the drain into the building via the waste pipes.

*Photo courtesy of Mr Richard Paulin
Cunningham Lindsay Loss Adjusters*



The following MultiProof Approvals have been issued in January 2011.

Certificate Number A1004 – International Housing Solutions Limited

The approved design is a **HABODE – single storey two / three bedroom dwelling**

Certificate Number A1005 – Polybreeze International Limited

The approved Polybreeze design is a **Breezepod – 5 x 8 bungalow with permitted variations to the floor plan.**

The scope of the permitted variations and the conditions of the approvals can be viewed at the Department's website where the Certificates and Schedules are published. BCAs may also view the drawings and specifications that comprise the MultiProof Approvals. For details about obtaining access, see <http://www.dbh.govt.nz/multiproof-public-register>.

The other MultiProof Approvals are:

• International Housing Solutions Limited	A1004	13 January 2011
• Modular Housing Solutions (NZ) Limited	A1003	14 September 2010
• Little Buildings Limited	A1002	18 June 2010
• Spanbild NZ Limited	A1001	18 June 2010

WHAT IS A MULTIPROOF?

MultiProofs are issued by the National Multiple-Use Approval Service of the Department of Building and Housing.

A MultiProof is a statement by the Department that a specific set of building plans and specifications complies with the New Zealand Building Code. Under the Building Act 2004 (as amended in 2009), BCAs must accept a MultiProof as evidence of Building Code compliance.

MultiProofs aim to deliver greater certainty of BCA consenting where standardised designs are being replicated several times. They should also lead to faster processing times at the local level, reduced duplication for volume builders, and lower consenting costs.

A MultiProof is not, and does not replace, a building consent. The holder of a MultiProof must obtain a building consent each time they wish to construct the design to which the MultiProof relates. This is to enable the BCA to:

- assess the Building Code compliance of site-specific features, such as foundations (if excluded from the MultiProof) and drainage
- ensure that every condition attached to the MultiProof matches the proposed site (for example, wind or snow loading limitations, or good ground condition)
- undertake normal inspections during construction
- issue a code compliance certificate
- take enforcement action, if appropriate
- retain public records of the building work that has been undertaken.

However, because the BCA will only need to assess the Building Code compliance of site-specific features that are excluded from the MultiProof, the statutory timeframe for the BCA to issue a building consent for applications that rely on a MultiProof is 10 working days (instead of the usual 20).

A MultiProof should be regarded as a tool for demonstrating Building Code compliance, similar to a Compliance Document, but relating to a specific building design.

Details of issued MultiProofs will be posted on the Department's website on a public register. BCAs will have password-protected access to copies of approved plans and specifications in a separate section of the website. This is to enable independent comparison of the plans submitted by the building consent applicant to those approved by the Department (if this is desired by the BCA).

The online public register will be updated promptly when a MultiProof is issued, suspended or revoked. BCAs may rely on the register for establishing the validity of approvals.

HOW AND WHY WERE MULTIPROOFS ESTABLISHED?

MultiProofs were established as a new concept by the Building Amendment Act 2009. They are intended to allow volume builders who replicate the same or substantially similar buildings several times to benefit from a streamlined building consent process.

Where a building design is intended to be replicated several times, a volume builder can apply to have the design pre-approved for Building Code compliance by the Department of Building and Housing. This will avoid the need for the design to be assessed and re-approved by individual BCAs each time it is proposed to be built on a different site. For volume builders, this should bring time and cost savings through more efficient and predictable consent processes.

Feedback from volume builders indicates that there is considerable scope for National Multiple-Use Approvals to streamline building consent processes, especially at the highly standardised end of the market.

MultiProofs are likely to be used by a limited number of larger, generally well-established volume building companies that operate regionally or nationally. They are not intended for, and will not be available to, building consent applicants who wish to engage in one-off projects. Initially, simple buildings (outbuildings and simple houses) will be eligible for MultiProofs. Over time, the scope of approvals is expected to grow to include other buildings where increased standardisation can provide similar benefits.

WHAT HAPPENS ONCE THE BUILDING CONSENT HAS BEEN ISSUED AND WORK HAS BEGUN?

When the building consent has been issued and work has begun, the BCA fulfils its normal functions under the Building Act 2004. These include:

- ensuring that the building work complies with the building consent
- undertaking any inspections necessary to be satisfied the work is being carried out in accordance with the building consent
- assessing and, if appropriate, approving any proposed amendments to the building consent, including material substitutions and design changes
- issuing a code compliance certificate, when satisfied the Building Code compliance has been achieved
- if appropriate, taking enforcement action
- provide feedback to the Department if non-compliant details have been included in the MultiProof.

HOW SHOULD BCAS HANDLE AMENDMENTS TO BUILDING CONSENTS BASED ON A MULTIPROOF, ONCE BUILDING WORK HAS BEGUN?

Where the applicant wishes to make an amendment to the building consent issued based on a MultiProof (for example, a material substitution or a design change), the BCA will need to assess the proposed change to determine whether it:

- complies with the Building Code
- is a minor variation (as defined in regulations) or otherwise.

Where the change is minor or its effect is localised to a particular building component, the BCA will have to assess (using its normal amendment processes) whether the change complies with the Building Code and whether it needs to be formally amended. There should be no need to reassess the remainder of the building for Building Code compliance.

However, where a change is significant (for example, a cladding type change), the BCA may need to re-assess the majority of the building, or indeed the whole design, for Building Code compliance, including the part already assessed and approved by the Department.

Any information needed to undertake this reassessment, if needed, may be sought from both the building consent holder and the Department.

BCAs should refer to guidance published by the Department on minor variations to building consents.

WHAT IS THE BCA'S RESPONSIBILITY IN DEALING WITH MULTIPROOFS?

In simple terms, the BCA is not **responsible** for:

- checking the Building Code compliance of those parts of the design approved by the Department
- the effect on Building Code compliance of any customisations approved by the Department.

However, the BCA is **responsible** for:

- being reasonably satisfied that the building consent application, including any customisations, complies with attached MultiProof (including through the declaration supplied by the applicant)
- ensuring that all conditions of the MultiProof (for example, wind zone or snow loading limitations) will be met in the proposed site
- assessing the Building Code compliance of any site-specific features that have not been approved by the Department (for example, foundations or site drainage)
- ensuring that the building work is carried out in accordance with the building consent
- assessing and approving any amendments sought by the applicant once building work has begun
- issuing a code compliance certificate, once satisfied compliance has been achieved
- informing the Department of any non-compliances contained in the MultiProof
- keeping all necessary records and information.

PLUMBERS, GASFITTERS AND DRAINLAYERS NEW AUTHORISATION CARDS



Under the Plumbers, Gasfitters and Drainlayers Act 2006, all persons carrying out sanitary plumbing, gasfitting and drainlaying work are required to be authorised by the Board to carry out this restricted work.

This year the Board is introducing a new look authorisation card (copy of proof enclosed). The card is designed to give greater clarity to industry, consumers and yourself about what tradespersons are licensed to do. The Board would be grateful if you could please familiarise yourself with the new card design as it will be a quick indicator as to whether the holder is authorised to carry out the work you may be inspected.

Any holder requiring a supervisor will have the word “Restricted” appear under the trade required. Supervision details for the trade will be found on the back of the card. In addition, the respective trades are colour coded with all trades included on one card.

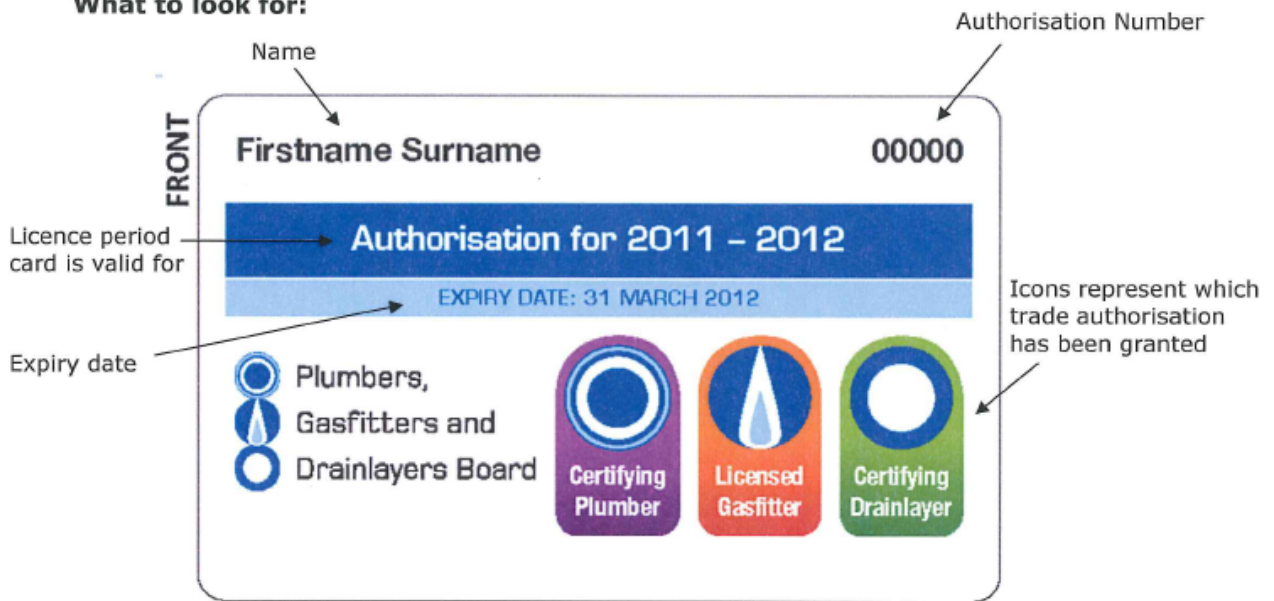
Please remember that you can also confirm the status of tradespeople by searching the Public Register on the Plumbers, Gasfitters and Drainlayers Board (“the Board”) website www.pgdb.co.nz. Alternatively, please feel free to contact the Board on 0800 743 262 should you have any queries.

The new license period for plumbers, gasfitters and drainlayers starts on 1 April 2011.

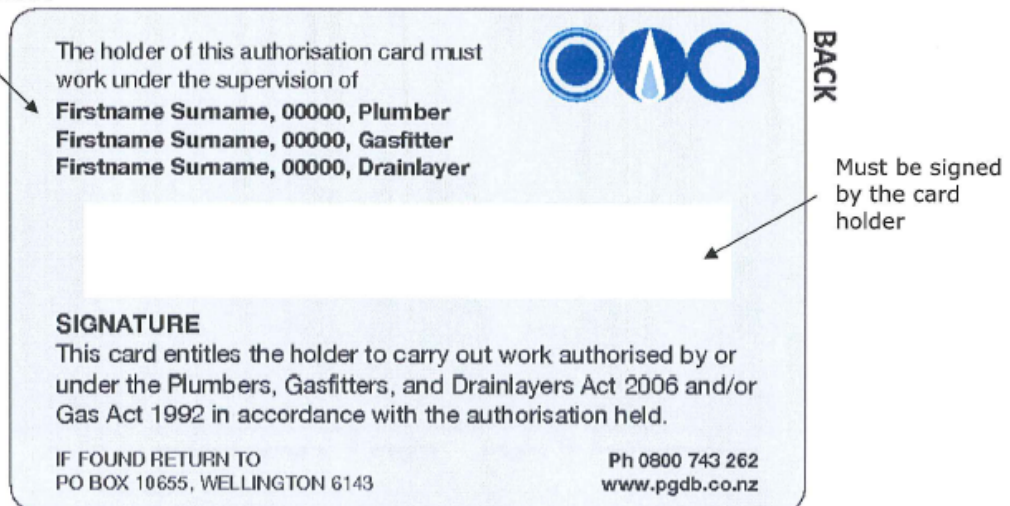
LOOK FOR THE LICENCE!

The Plumbers, Gasfitters and Drainlayers Board is introducing a new look authorisation card which is designed to give greater clarity to industry, consumers and Building consent Authority Officials about what tradespersons are licensed to do. It will also detail what that person's supervision requirements are, if any.

What to look for:



Supervisor details can be found here if required



SIMPLIFYING TIMBER TREATMENT



Simplifying Timber Treatment

Treatment to protect timber from decay and insects will be simpler from 4 April, Building and Construction Minister Maurice Williamson announced today.

“This will make it easier to build safe, durable homes cost effectively while maintaining, and in some aspects improving, protection against fungal decay for timber-framed homes. It follows extensive work with the timber and building industry over the past two years and submissions showed a high level of support for the proposals,” Mr Williamson said.

A transition period will let industry adjust to the change which becomes fully effective on 1 July.

The Minister said the key change is that there will be a single class of timber treatment, H1.2, for almost all enclosed timber framing.

“Currently there are as many as four different classes of timber, including untreated timber, used to frame a house. This is complex, costly and can lead to mistakes on site. For example, timber framing in the external walls of a house must be treated but framing for internal walls can be untreated as can roof trusses. Under the new system H1.2 will be used for internal walls and roof trusses too.”

Mr Williamson said untreated Douglas fir could be used, but only for houses of a defined low-risk design. “Untreated Douglas fir is more resistant to decay than untreated radiata pine, but less than H1.2 treated timber.”

The Minister said this was the first of a number of changes to the Building Code and associated documents that are likely to be rolled out this year.

“My goal is an efficient, productive sector that stands behind the quality of its work and ‘builds it right first time’. We need to simplify and clarify the Building Code to make it easier for everyone to understand how to comply and to design and construct buildings that are safe and durable for New Zealanders.”

The changes:

- Timber treatment class H1.2 can be used for almost all enclosed framing. Currently there are as many as four different classes of timber used within a house including untreated timber.
- People who don't want to use treated timber can use untreated Douglas Fir but only in low-risk houses of simple design. Untreated Douglas Fir is more resistant to decay than untreated radiata pine, but not as resistant as H1.2 treated timber.
- Timber treatment class H3.2 must be used for cantilevered deck joists and framing. This is a prudent safety precaution as cantilevered decks depend more critically on the strength of the timber to prevent collapse.

Why change?

- The current system is complex, costly and can lead to mistakes on site. The new system is: simpler and clearer; maintains and in some aspects improves protection against decay for consumers; reduces inventory costs; reduces the risk of mistakes on site.
- The Department of Building and Housing has worked closely with the timber and building industry to identify ways to simplify and clarify the system, improve quality assurance and maintain the current level of protection.
- There were 237 submissions on the proposals. Seventy-five percent supported a single hazard class for framing timber; more than 90% agreed that H1.2 provides adequate protection from decay for framing which is enclosed; about 75% supported the use of untreated Douglas Fir for simple designs in low risk situations.

Why allow the use of untreated Douglas Fir?

- Douglas Fir is more resistant to decay than untreated radiata pine and is suitable for low-risk houses of simple design. The Department of Building and Housing has defined what is considered a low-risk design.



NEW TIMBER TREATMENT SYSTEM

A simpler system for timber treatment will come into effect from 4 April 2011, through the Department's amendment of the [Acceptable Solution B2/AS1](#). The new timber treatment system retains and, in some aspects, improves the current level of consumer protection and may also reduce costs.

The changes follow public consultation by the Department in September and October last year. Submissions were overall strongly supportive of the proposals, which are adopted with little change but some clarification.

[A summary of key issues raised in the consultation is available on the Departments website.](#)

ONE TREATMENT CLASS FOR ENCLOSED FRAMING

The changes allow a single treatment class, H1.2, to be used for nearly all enclosed framing. The current system has as many as four different classes of timber, including untreated timber, used to frame a house. This is complex and can lead to mistakes on site.

Streamlining the use of treated timber is expected to reduce errors in the use of timber, and to simplify choice and supply inventories. It should also make the consent and inspection process more straightforward.

The H1.2 treatment class has a boron treatment. Recent scientific research has shown that, for framing timber, H1.2 boron provides comparable protection against fungal decay to LOSP H3.1. In some parts of buildings, such as internal walls, the level of protection will increase.

The changes apply only to radiata pine and Douglas fir; not to other species.

EXCEPTIONS

There are two exceptions to the single treatment class:

- Cantilevered deck joists and framing require a higher treatment class, H3.2, as cantilevered decks depend more critically on the strength of the timber to prevent collapse.
- Untreated Douglas fir can be used for houses of a defined low-risk design. Douglas fir is more resistant to decay than untreated radiata pine, but not as resistant as treated radiata pine.

TRANSITION PERIOD

A transition period of about three months will give industry time to adjust to the changes, which come into effect on 4 April. From that date until 30 June 2011, both the current and the new versions will apply as Acceptable Solutions for consenting purposes. From 1 July 2011 only the new B2/AS1 will apply as an Acceptable Solution.

The new system is being publicised in March, April and May through a nationwide series of BRANZ seminars. Building consent officials, architects and designers, and builders who wish to attend should register now at www.branz.co.nz.

The proposed changes are part of the Government's drive to make it easier for everyone to access, understand and comply with the Building Code and hence to 'build it right first time'.

WHAT ARE THE PROPOSED CHANGES?

The changes introduce a single treatment class for nearly all enclosed timber framing by amendment to the Acceptable Solution B2/AS1.

- H1.2 treatment is to be used for nearly all enclosed timber framing. This includes internal walls and roof framing. (The treatment option in the amendment is boron, but other treatment chemicals may be considered in future.)
- People who do not want to use treated timber can use Douglas fir, but only for houses of defined low-risk design.
- Cantilevered deck joists and framing require a higher level of treatment, H3.2.
- The changes apply only to radiata pine and Douglas fir; there is no change for other species.

WHAT WERE THE KEY ISSUES RAISED IN CONSULTATION?

The Department consulted on the changes in September and October last year and received 237 submissions. There was overall strong support for the proposals which are being introduced largely unchanged, but with some clarifications.

1. **About 75% supported a single treatment class for framing timber. Three key points were raised in consultation:**

Whether higher hazard classes should be allowed.

The Department encourages the use of H1.2, but acknowledges that designers may have particular reasons to use higher classes in certain situations. It is therefore continuing to allow higher treatments to be used (supported by sector education).

Whether roof trusses need to be treated.

In the interests of clarity, simplicity and inventory rationalisation, the Acceptable Solution specifies that roof trusses are to be treated to the same level as all other enclosed framing (apart from cantilevered deck joists and framing which require a higher treatment).

Whether all enclosed deck framing should be H3.2, rather than only cantilevered deck joists and framing as proposed.

The risk profile of other enclosed deck framing is not as high as that of cantilevered decks. Cantilevered decks depend more critically on the strength of the timber to prevent collapse. Therefore, only cantilevered deck joists and framing are specified as H3.2.

2. **More than 90% agreed that H1.2 provides adequate protection from decay for enclosed framing. Two key points were raised in consultation:**

Whether the H1.2 boron concentration should be higher.

The need for an increase in the concentration of boron (ie, the preservative involved) is not supported by the Department's research or specialist advice.

Whether solvent-based azoles should be included as H1.2.

The proposal in the discussion document to exclude solvent-based preservatives from H1.2, was arrived at after considerable discussions with the sector, and submissions did not raise anything new. Therefore, solvent-based azoles have not been included as H1.2.

3. **About 75% supported the use of untreated Douglas fir for houses of low-risk design. Three key points were raised in consultation:**

Whether untreated Douglas fir is fit for purpose.

The science and expert opinion support the use of untreated Douglas fir for low-risk buildings. The Acceptable Solution therefore allows the use of untreated Douglas fir for houses of defined low-risk design.

Whether allowing untreated Douglas fir creates unnecessary complexity.

The Department sought to balance simplicity, risk and the provision of a chemical-free option for consumers. Douglas fir is therefore allowed for houses of defined low-risk design.

Whether wider use of untreated Douglas fir should be allowed.

Given the support for simplification, the risk to internal framing from internal wet areas, and the risk of transferred moisture from external walls, the Acceptable Solution does not provide for untreated roof framing or internal framing in other than low-risk houses.

The untreated Douglas fir option does not apply to commercial buildings, because some uses for commercial buildings may have a higher moisture risk.

QUICK GUIDE TO TIMBER TREATMENT FOR ENCLOSED FRAMING

Pink is Tough

This guide is issued as guidance under section 175 of the Building Act 2004. While the Department has taken care in preparing the document, it should not be relied upon as establishing compliance with all relevant clauses of the Building Act or Building Code in all cases that may arise. The Document may be updated from time to time and the latest version is available from the Department's website at www.dbh.govt.nz.

Please ensure that you all visit Department of Building and Housing's website and download a copy or hard copies may be available from your local Council building consents counter.

The following extract from the guide is on untreated Douglas fir. Please note this is only part of the guide and you should read the full document.



Department of
Building and Housing
Te Tari Kaupapa Whare

A QUICK GUIDE TO Timber Treatment for Enclosed Framing

PINK IS

TOUGH



H1.2

**FRAMES IT
RIGHT**

UNTREATED DOUGLAS FIR

The new timber treatment system for Acceptable Solution B2/AS1 allows untreated Douglas fir to be used in houses of a defined low-risk design. Research shows that Douglas fir resists decay better than untreated radiata pine, but not as well as H1.2 treated timber.

Untreated solid Douglas fir framing can be used for a house of no more than two storeys (as defined in NZS 3604), that is designed and constructed to NZS 3604, if **ALL** the following low-risk conditions are met:

6





LOW-RISK HOUSE CONDITIONS



is a standalone, single household unit of no more than two storeys (as defined in NZS 3604), that is designed and constructed to NZS 3604

AND



is situated in wind zones no greater than 'high' as defined in NZS 3604

AND



has a building envelope complexity no greater than 'medium risk', and a deck design no greater than 'low risk', as defined by the risk matrix in the Acceptable Solution E2/AS1

AND



has drained and vented cavities complying with E2/AS1, behind all claddings

AND



uses roof and wall cladding systems and details meeting E2/AS1

AND



has a risk matrix score of no more than 6 on any external wall face, as defined in E2/AS1

AND



has a simple pitched roof with hips, valleys, gables, or mono pitches, all draining directly to external gutters*

AND



has a roof slope of 10° or more

AND



if it has a skillion roof, the roofing material is corrugated iron or concrete, metal or clay tiles for adequate ventilation

AND



has eaves 450mm-wide or more for single-storey houses, and eaves 600mm-wide or more for two-storey houses.

* The roof does not have internal or secret gutters, concealed gutters behind fascias, or any roof element finishing within the boundaries formed by exterior walls (eg, the lower ends of apron flashings, chimneys, dormers, clerestories, box windows).

TIMBER FRAMED BUILDINGS HANDBOOK



Public comment: DZ SNZ HB 3604, Timber Framed Buildings Handbook

During the development of the *Timber-framed buildings* Standard, NZS 3604:2011, the need for a Handbook containing a collection of figures and tables extracted from the Standard was identified. Standards New Zealand undertook four consultation meetings with various interested parties and the draft SNZ HB 3604:2011 *Timber-framed buildings Handbook: Excerpts from NZS 3604:2011* is the outcome of that consultation.

SNZ HB 3604:2011 will provide users with a collection of figures and tables extracted from NZS 3604 most frequently used on-site and directs them to the appropriate section of the Standard for the full information. The Handbook has been designed to contain a minimal amount of text, so that the full Standard does not need to be carried on-site. To ensure the Handbook aligns with NZS 3604, figures and tables have been numbered identically, and colour coding of the figures and tables replicates that of the Standard.

The Handbook brings together specific information often contained in scattered locations throughout NZS 3604 for elements of *framing* such as member sizes, spacings, spans, fixings, specific construction requirements and the effects that changes make to the design.

The working group for SNZ HB 3604 has stressed the Handbook has been designed to assist users on site, not replace the use of the Standard.

The closing date for comment on this draft handbook was Wednesday 16 March 2011.

In a future edition of the Invercargill City Council Building Sector News, we will inform you when this handbook is issued and where you may obtain a copy.



Standards New Zealand has just published NZS 3604:2011 *Timber-framed buildings*.

NZS 3604 provides builders, architects, engineers, designers, and students with methods and details for the design and construction of timber-framed structures not requiring specific engineering design. The Standard is a core resource for building consent authorities determining compliance with the New Zealand Building Code, and gives guidance to builders and other involved in the construction of light timber framed buildings.

A limited technical review of NZS 3604 commenced in 2009 with support and input from a leadership group and technical development committee including a range of stakeholders from various industry sectors. The user friendliness of the original Standard's format has been retained in the revised document, and improvements to the layout and presentation of figures and tables have also been made.

OVERVIEW OF THE CHANGES TO NZS 3604

In addition to updating NZS 3604 to reflect changes in building practices over the past 10 years, the limited technical review has encompassed the following:

- The AS/NZS 1170 *Structural design actions* Standards series is referenced in clause B1/VM1 under the New Zealand Building Code (NZBC). NZS 3604:2011 has been updated to reflect the provisions of the AS/NZS 1170 *Structural design actions* Standards series.
- Section 4 on durability has been brought into line with the NZBC. Text has been added on recent product development, durability of fixings, and adjustments made to the exposure zone maps.
- The coverage of bracing in section 5 has been reviewed to improve readability and to clarify requirements where our users have indicated value could be added.
- The Department of Building and Housing's Acceptable Solution E2/AS1 has superseded section 11 in the revised NZS 3604. With E2/AS1 being updated and extended in parallel with NZS 3604:2011, the original content of section 11 has been replaced by a small section addressing the interface between NZS 3604:2011 and E2/AS1. Accordingly, all design information on cladding has been removed from NZS 3604:2011.
- Requirements have been added on new building techniques and materials, in particular engineered timber products and trussed roof framing now commonly used in buildings.

REFERENCING IN NZBC INTENDED

The Department of Building and Housing has consulted on an amended B1/AS1, referencing NZS 3604:2011, and an amended E2/AS1.

These documents have been developed to work together and, subject to final decisions following consultation, the Department intends to issue them at the same time, in mid 2011. The amended documents are intended to take effect as soon as they are published. In the meantime, designers would need to present designs using NZS 3604:2011 as alternative solutions when seeking building consent.

YOU CAN CHOOSE FROM FOUR PURCHASING OPTIONS

1. **NZS 3604: 2011 – Hard Copy**

Folder with two hole punch level arch mechanisms, card section tabs, and inner pages

Purchase a hard copy version – retail: \$285.00 (ex GST)

or for Standards New Zealand members: \$228.00 (ex GST)

Bulk Hard Copy Orders

Orders of 30 or more hard copies of NZS 3604 can attract additional discounts. Please email marketing@standards.co.nz for a quotation.

2. **NZS 3604:2011 – Electronic Copy (PDF)**

Purchase an electronic copy and save 10% - retail: \$256.50 (ex GST)

or for Standards New Zealand members: \$205.20 (ex GST)

3. **Subscribe to NZS 3604:2011 or add it to your Online Library portfolio**

Subscribe to receive 24/7 access to NZS 3604:2011, and automatic updates for revisions and amendments. More information is available at our Online Library information page on our website www.standards.co.nz, and on the back of the enclosed order form.

4. **NZS 3604:2011 – CD-ROM – available from 1 March 2011**

Single PDF with in-document hyperlinks

To pre-order a copy of NZS 3604:2011 CD-ROM email enquiries@standards.co.nz or call our Customers Services and Sales Team on 0800 782 632 during business hours.

Please note: prices listed are subject to change

Purchasing is easy

- Order online from our webshop at www.standards.co.nz (keyword '3604')
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- Complete and return the enclosed order form

Become a member and save

Standards New Zealand members receive a 20% discount. For more information on Standards New Zealand membership, call us now on 0800 735 656.

<p>General</p>
<p>Engineering basis for the revision of NZS 3604 NZS 3604 needed to be updated to align with the AS/NZS 1170 <i>Structural design actions</i> Standards series which now sets the engineering basis for the Standard. The implications flowing on to NZS 3604 are summarised as:</p> <p>Dead and live loads Load factors have changed slightly with very minor effects on floor and roof members, which are incorporated into revised tables throughout the Standard.</p> <p>There is an increase in the concentrated live loads (higher allowances for the average weight of a person), which influences the smaller roof members (and reduces the impact of snow loads – see Section 15).</p>
<p>Consolidation of timber grading labels – Structural Grade (SG) Timber grade labels were consolidated to 'SG' for simplicity. A new definition has been added and the appropriate clauses in section 2 have been updated to reflect the changes and to align SG timber with NZS 3603 to avoid confusion.</p> <p>Timber is now referred to in NZS 3604 as 'Structural Grade (SG)'. The three grades are SG 6, SG 8, and SG 10.</p> <p>All timber for framing will be required to be verified according to NZS 3622.</p>
<p>Tables The table captions have been updated to reflect the change to SG grades. They have also been updated to align with the loadings requirements of AS/NZS 1170 and rationalised to reduce the number of tables in the Standard. An extra high wind zone has been added and multiplying factors have been included where appropriate.</p> <p>NOTE – SG 8 tables have been retained in the body of the Standard while the SG 6 and SG 10 tables are appended to the relevant section.</p>
<p>Figures All figures have been reviewed for clarity and consistency with their respective tables and clauses. While there have been several editorial adjustments and some new figures added, there have been no major changes to the figures.</p>
<p>Editorial A number of clauses in the Standard have had minor updates made to ensure they align with the main changes made throughout the revision of NZS 3604:2011. (Editorial changes are noted below as 'ED')</p>
<p>Foreword The foreword has been updated and includes new text arising from the Canterbury earthquake on liquefaction and lateral spread.</p> <p>Some building consent authorities publish maps of earthquake hazards (including liquefaction) and these maps may be considered as part of any requirement for further assessment or SED.</p> <p>There is currently not enough information and evidence-based research to decide if liquefaction should be addressed in the definition of 'good ground'. Several investigative and research projects have been initiated by the wider sector including the formation of a Strategic Advisory Group appointed by the Earthquake Commission to focus on the remedial work in Canterbury.</p> <p>It is expected that this research, while focusing initially on the remedial work in Canterbury, will inform the wider building and construction sector as a whole, as remedial work progresses and more information is made available. In the meantime the Department of Building and Housing has worked with other agencies on guidance information on liquefaction for remedial work in Canterbury. This guidance document was published in December 2010 and is</p>

available on the Department's website.

The Department of Building and Housing and Standards New Zealand have agreed to consider amendments to NZS 3604 or other documents when further information and evidence about liquefaction and lateral spread are available.

Definitions

Definitions have been aligned with NZBC definitions where possible for consistency.

BCA/TA process

All references to the BCA/TA process have been removed. It was agreed that it was not appropriate for NZS 3604 to provide guidance on the BCA/TA process.

Section 1 – Scope & interpretation

Construction requirements and buildings covered under NZS 3604 have been revised to align with the AS/NZS 1170 Standards series including revised tables 1.1 and 1.2. Flowcharts have been reviewed with minor changes, the interpretation section revised for better clarity, definitions revised and updated, and new figures added for better clarity on how to calculate loaded dimensions

Page No	Section clause, table, figure No.	Description	
1-3	Objective	Objective has been revised and moved to the Foreword	ED
1-3	1.1.2	Modified to align with general changes	ED
1-4	1.1.3	Added to cover buildings not covered in the Standard	ED
1-4	1.1.4	Added to cover structural elements not covered in the Standard	ED
1-5 1-6	Table 1.1 & 1.2	Tables replaced to align with AS/NZS 1170	
1-7	Figure 1.1	Revised to provide SED option in the definition of 'good ground'. The flow charts have also been updated to align with tables 1.1 & 1.2	ED
1-10	Figure 1.1	Last step in flowchart updated to reflect area limits and the last check box in the sequence provides for a recalculation process in the event something is not right	ED
1-12	1.2.1	Combined 'normative' and 'informative' text in 1.2.1 to get better clarity	ED
1-12	1.2.2	Further refined for better clarity	ED
1-12	1.2.7	New text for the use of the term 'mm'. Also many of the figures have had specific text added on the use of 'mm'	ED
1-12	1.2.8	New text added to provide clarity on SG grade timber and the introduction of appendices for SG6 and SG 10 tables	ED
1-15 1-16	Definitions	FOUNDATION BLOCK and SLEEPER have been removed from the definitions section. Note that a few other terms, although not used in NZS 3604:2011, have had definitions attached and have been retained as they are believed to be useful	ED
1-19	Definitions	New definition added for Structural Grade (SG) timber	ED
1-21	Figure 1.3	SED added to detail (A) for clarity on the use of trusses in NZS 3604	ED
1-22 to 1-26	Figure 1.3 G to N	New figures have been added to provide a simpler isometric representation of loaded dimensions	ED

Section 2 – General

Changes have been made to Section 2 to align with the change to single grade (SG) timber, parts of durability section retained from section 4, guidance provided on the use of gun nails and fixing types and capacities revised for consistency throughout the Standard and within all tables.

Page No	Section clause, table, figure No.	Description	
2-3	2.3	Heading changed to Timber and wood-based building components to align with changes to 4.3	ED
2-3	2.3.2	Clause revised for the consolidation to SG timber grades	
2-3	C2.3.2	New commentary added to provide guidance on the change to SG timber grades	
2-4	2.3.3 (c) & (d)	New heading added 'Separation' and (c) and (d) have been deleted	
2-4	C2.3.4	New Heading for 'Green and dry timber'. G8 has been removed from last paragraph to align change to 2.3.2	
New clauses			
2-5	2.3.6	Retained from 4.3.4.1	ED
2-5	2.3.7	Retained from 4.3.4.2	ED
2-5	2.3.8	Retained from 4.3.4.4	ED
2-5 2-6	2.3.9	New clause added for the inclusion of Glulam and LVL timber products in NZS 3604. These products are commonly used in building today	
2-6	2.4.4.1 & C2.4.4.1	Revised to align with the use of 90 x 3.15 power-driven nails which is now common practice	
2-8	Table 2.2	New reference table added to get consistency for fixing types and capacities. In addition to this all fixing types and capacities in the various tables throughout the document have been updated to align with table 2.2	
2-10	2.4.7	Removed reference to BCA/TA process in last paragraph	ED
2-11	2.6 2.7	New text added for concrete and concrete masonry	

Section 3 – Site requirements

Section 3 has been updated to align the soils classifications with AS/NZS 1170 *Structural design actions* series. Information surrounding soil bearing capacity and testing methods for the determination of good ground have been updated.

Section 4 – Durability

All clauses in Section 4 relating to weathertightness and the building envelope have been removed, pending the revision by the DBH of Acceptable Solution E2/AS1 for NZBC Clause E2. The corrosion/exposure zone maps have been updated to align the Standard with AS/NZS 2728 and C5 ISO 9223, and metal fasteners have been reviewed and updated.

Page No	Section clause, table, figure No.	Description	
4-3	Figure 4.1	A new flowchart for determining exposure zones was added for simplicity	
4-4 4-5	Figure 4.2	Exposure zone map revised to align with AS/NZS 2728	ED
4-9	Figure 4.3(b)	New figure added identifying closed, sheltered, and exposed environments	

Section 5 – Bracing design

The bracing demand requirements have been reviewed and updated to align with testing results from the Building Research Association New Zealand (BRANZ) research programme. Feedback from industry surveys identified that Section 5 was difficult to follow and open to interpretation. The technical committee has made this section easier to follow by changing the flow to a more logical approach while removing ambiguities where possible.

Wind loads

The means of determining site wind zones has changed. This has resulted in changed wind demand procedures in Section 5. The same wind zones and wind speeds from the 1999 version of NZS 3604 have been kept and an extra high wind zone has been added to accommodate the increasing numbers of buildings being built on exposed sites

There is a slight reduction in the means of applying wind loads to bracing demands, which is reflected in the new wind bracing demand tables in Section 5.

Earthquake loads

Earthquake hazard maps for New Zealand have changed substantially, and the range of intensity throughout the country (lowest to highest) has increased. An additional earthquake zone has been added in NZS 3604 to accommodate this.

Building designers are now required to consider the soil class (rock to very soft soils), which is influential in the intensity of shaking experienced at any site. The earthquake bracing demand tables in Sections 5 and 14 have been revised to provide factors to adjust the demand depending on the soil type beneath the site.

Section 6 – Foundation and subfloor framing

General changes have been made in Section 6 to align with E2/AS1. SG timber tables have been revised. Soil bearing capacities have been revised to align with the changes in Section 3. Stepped foundations have been reviewed and foundation wall details have been revised to align with current building practices.

Page No	Section clause, table, figure No.	Description	
6-20	6.8.3.3	Deleted (b) length not exceeding 4.5 m – not necessary, there is little difference between 4.5 and 5 m in (c)	
6-25	Table 6.3	Table renumbered and minor adjustment to some jack stud heights	ED
6-26	6.11.1.5	Revised – reference to 11.7.1 replaced with E2/AS1 (section 11 has been removed)	ED
6-26	6.11.2.1	Added text for ground clearances as required by E2/AS1	ED
6-26	6.11.2.2	Text modified to provide clarity for stepped foundation walls up to 2.6 m over a 1.5 m length	
6-26	6.11.2.3	Deleted original clause and added reference for durability requirements	ED
6-26	6.11.2.4	New clause retaining text from 6.11.2.2 top and bottom stepped surfaces	
6-27	Figure 6.11	Revised foundation details to align with current building practice	
	Table 6.4 & 6.5	Both tables were removed, they are no longer required because footing sizes and reinforcing laps are now provided for in figures 6.13, 6.14, 6.15, and 6.15(a)	
6-27	6.11.3	Revised for the removal of table 6.4 and to align with figures 6.13, 6.14, & 6.15	
6-28	Figure 6.12	Revised for better clarity	ED
6-28	6.11.4.2	Revised to align with figures 6.13, 6.14 & 6.15	
	6.11.4.3	Removed, concrete blinding details are clearly covered in figures 6.13, 6.14, & 6.15	ED
6-29	6.11.5	Revised to lateral support systems only	
6-29	6.11.6	Revised to include concrete and concrete masonry materials and workmanship	
6-29	6.11.7.1	Revised to align reinforcement requirements with figures 6.13, 6.14, & 6.15	
6-29	6.11.7.2	Revised to cover reinforcing laps and to align with the new figure 6.15(a)	
6-30 6-31 6-32	Figures 6.13, 6.14, & 6.15	Figures redrawn to reflect current building practice	
6-33	Figure 6.15(a)	New figure detailing lapping of horizontal reinforcing bars	
6-33	6.11.9.1	Revised for better clarity and to provide for proprietary wall plate fixing	
6-36	6.12.3	Revised – heading changed to built-up bearers, more specific to text	ED
6-37	Table 6.4	Renumbered and revised	ED
6-39	Figure 6.20	Revised – minor revision	ED
6-41	Table 6.6	Renumbered and revised	ED
6-41	Figure 6.21	Revised – correction to unprotected ground clearance to align with figure 7.11(A)	ED
6-38	Table 6.5	Renumbered	ED
6-42 to 6-46	Appendices	Corresponding Tables – for SG 6 & SG 10	

Section 7 – Floors

SG timber tables in Section 7 have been revised to align with AS/NZS 1170. Provision for cantilevered balustrade deck support has been added. Foundation details have been revised to align with current building practice, shrinkage control joints have been revised and bottom plate fixing has been revised and updated.

Page No	Section clause, table, figure No.	Description	
7-3	7.1.1.7	Revised to align with order of details in figure 7.1 and to provide for a nail plate with a fixing capacity of 6 kN	
7-4	Tables 7.1	90 x 35 timber removed and maximum spans revised	ED
7-5	Figure 7.1	Nail plate added to detail (C) to align with changes to 7.1.1.7	
7-5	7.1.5.1	Revised balcony/deck and balustrade mass limitations	
7-10	C7.1.5.1	Revised (a) removed (b) and (c) combined	ED
7-12	Table 7.2	Revised timber spans	ED
7-13	Figure 7.6	Revised for better clarity	ED
7-15	Figure 7.7	Revised – minor modifications for better clarity including housing detail in (C)	ED
7-20	7.3.1	Revised – diaphragm maximum length reduced to 12 m	
7-21	7.4.1.2	Revised – (f) removed	
7-21	7.4.1.3 C7.4.1.3	New clause and commentary added to provide support for cantilevered deck balustrade	
7-22 7-23 7-24	Figure 7.10(a) 7.10(b) & 7.10(c)	New figures added to provided support details for cantilevered balustrade including continuous channel, top fixed and face fixed balustrade	
7-25	7.4.4	Reference to BCA process removed	ED
7-27	Figure 7.12	Revised to get better clarity surrounding ground clearances to align with figure 7.11(a)	ED
7-28	Figure 7.13	Damp proof membrane details removed and NOTES revised	ED
7-29	Figure 7.14	Details revised to meet current building practice and NOTES revised	
7-30	7.5.3.2	Removed reference BCA process	ED
7-30	7.5.3.3	Removed reference BCA process	ED
7-31	Figure 7.15	Details revised to meet current building practice	
7-32	Figure 7.16	Details revised to meet current building practice	
7-33	7.5.7.1(b)	Removed reference BCA process	ED
7-34	7.5.8.3	Revised for reinforcing mesh which must now comply with AS/NZS 4671	ED
7-35	7.5.8.6.1	Guidance provided for shrinkage control joints cut on an angle and for preferential positioning of control joints	
7-35	7.5.8.6.2(a)	Revised to give more flexibility to panel sizes	
7-36	7.5.8.6.3	Revised to give more flexibility to panel sizes	
7-36	7.5.8.6.4	Revised to give more flexibility to panel sizes	
7-38	7.5.12	Revised heading changed to fixing of bottom plates and introductory text inserted	ED
7-39	7.5.12.1	Revised for cast-in anchors	
7-39	Figure 7.21	New figure added for better guidance for fixing of bottom plates to concrete slab	
7-39	7.5.12.2	Revised for proprietary post fixed anchors which are commonly used today	
7-39	7.5.12.3	Revised for external wall proprietary anchor minimum capacities	
7-39	7.5.12.4	Revised for internal wall proprietary anchor minimum capacities	
7-41 to 7-44	Appendices	Corresponding Tables – for SG 6 & SG 10	

Section 8 – Walls

General changes have been made in Section 8 to align with other changes throughout the Standard and all timber tables have been revised and updated to align with AS/NZS 1170.

Page No	Section clause, table, figure No.	Description	
8-5	8.3.1.4(a)	Revised for 2.4 m high elements to be rated as 2.4 m high	ED
8-9	8.5.1.2	Information put in a table for better clarity	
	Table 8.2 to 8.17	All tables including stud tables, lintels, and top and bottom plate tables have been revised and updated for all wind zones including extra high	
8-20	8.5.4(a)	Section 11 replaced with reference to E2/AS1	ED
8-39	8.7.4.1	Revised for better clarity	ED
8-42	Table 8.18	Added extra high wind zone and revised fixing types	
8-43	8.8.1	Revised for actual dwang and waling timber sizes	ED
8-45 to 8-66	Appendices	Corresponding Tables – for SG 6 & SG 10	

Section 9 – Posts

Post fixing capacities in Section 9 have been revised and additional details provided.

Page No	Section clause, table, figure No.	Description	
9-3	9	Added text to clarify section 9 is for roof support	
9-3	C9.2.1	Carport roofs removed, NZS 3604 does not cover carport roofs	
9-3 9-5	Table 9.1 & Table 9.2	Added extra high wind zone	
9-4	Figure 9.1	Revised to put information into proper figure format	
9-6	Figure 9.2	Fixing capacities were revised and updated	
9-7	Figure 9.3	Fixing capacities were revised and updated and new details were added for better clarity surrounding plates inserted between beams	
9-8	Figure 9.4	New figure added for alternative pile/footing connections	

Section 10 – Roof framing

Section 10 has been revised to provide clarity on the design of roof framing. Changes include rationalising the rafter span tables to reduce the total number of tables, reviewing the information on purlins and battens, and clarifying the use of manufactured trusses. Although trusses are a proprietary product requiring specific engineering design, the technical committee acknowledges they are a major part of timber-framed housing design and construction today and should be allowed for in the Standard.

In addition, previous industry feedback indicated there were issues surrounding Building Consent Authorities' (BCA) and Territorial Authorities' (TA) interpretation of parts of section 10 that can be in conflict with designers, architects, and builders' interpretations, causing potential confusion during the consent process. The technical committee agreed it was not the role of NZS 3604 to provide guidance on the BCA and TA process. To avoid future interpretation problems with Section 10 and other parts of the Standard, all references to BCATA process have been removed from NZS 3604.

Many clauses, tables, and figures have been revised and updated and table and figure numbers have been renumbered accordingly.

Page No	Section clause, table, figure No.	Description	
10-5	10.1.1(d)	Revised reference to E2/AS1 for minimum roof pitch	ED
10-5	10.1.4	Table 10.1 moved to 10.3 Systems to resist horizontal loads where it is more relevant	
10-7	10.2.1.3.1(d)	Revised, added veranda beam	ED
10-8	Figure 10.3	Revised – added truss span and clause reference to detail (F)	ED
10-9	Table 10.1 (a) and (b)	Light and heavy roof combined and rafter tables revised for extra high wind zone with multiplying factor added for calculating span lengths for lower wind zones. (b) valley rafters for light and heavy roofs	
10-12	10.2.1.3.7	Revised for top plate connections	
10-13	Figure 10.6	New figure added for top plate 7 kN connections which are commonly used today	
10-16	Table 10.2	Revised for ridge beams only for light and heavy roof in all wind zones including extra high. Fixing types also revised for base connections and ridge beam connections to built up studs	
10-17	Table 10.3	Revised ceiling joist spans	
10-18	Table 10.4	Revised ceiling runner spacing	
10-19	10.2.1.8	Deleted (b)	
10-20	Table 10.5	Underpurlin tables were separated, span and fixing types revised for all wind zones including extra high	
10-22	Table 10.6	New table added for underpurlin struts	
10-27	Table 10.7	Revised span and fixing types revised for all wind zones including extra high	
10-28	10.2.1.12	Revised for all wind zones including extra high	
10-29	Table 10.8	Revised span and fixing types revised for all wind zones including extra high	
10-32	10.2.1.14.1	Revised – to 40% maximum cantilever span	ED
10-32	10.2.1.15.2	Purlin backspan revised for better clarity	
10-33	10.2.1.15.3	Revised for clearer guidance on outrigger and fly rafter orientation	
10-33	Table 10.9	New table added for outriggers size and orientation	
10-34	Figure 10.16	Formerly figure 10.15 revised outriggers to align with current building practice	
10-35	Figure 10.16(a)	New figure added for fly rafter outrigger orientation	
		Figures 10.16 & 10.17 from 1999 version have been removed	ED
10-35	10.2.1.16.1	Revised for purlins on their flat and purlins on edge	
10-35	C10.2.1.16.1	Revised	ED
10-36	Table 10.10 & 10.11	New tables added for purlins on their flat and purlins on edge	
10-37	10.2.1.16.2	Revised for purlins on edge	

10-37	Figure 10.17	New figure for purlin blocking added	
10-39	10.2.1.16.3	Revised for purlins on their flat	
10-39	10.2.1.16.5	Revised to give guidance on purlin and tile batten fixing	ED
10-39	10.2.1.16.6	New clause for lateral blocking support for purlins on edge	
10-39	10.2.1.16.6.1	New text added for lateral blocking support	
10-39	10.2.1.16.6.2	New text added for blocking location	
10-39	10.2.1.16.7 & C10.2.1.16.7	Renumbered from 10.2.1.16.6 and revised	ED
10-40	10.2.1.17.1	Revised sheet sarking thickness to what is commonly used today	
10-40	Table 10.12	New table for tile battens for all wind zones added	
10-41	Figure 10.20	Deleted detail (C)	
10-41	Table 10.13	Formerly table 10.11 – Revised for extra high wind zone	
10-42 to 10-44	10.2.2	The truss section has been completely rewritten. The commentary section from the 1999 version has been revised as normative text with some modifications to give better guidance on the requirements for truss design and manufacture	
10-44	Tables 10.14 & 10.15	Formerly tables 10.12 & 10.13 revised for extra high wind zone	
10-45	Table 10.16	Formerly Table 10.1 revised for roof bracing systems	
10-45	10.3.1	Revised for better clarity on roof plane and space braces	
10-45	10.3.2	Revised for light pitched roofs	
10-45	10.3.3	Revised for heavy hip roofs	
10-45	10.3.4	Revised for monopitch roofs	
10-45	10.3.5	Revised for flat roofs	
10-46	10.4.1	General text revised for roof bracing	ED
10-46	10.4.2	Revised for distribution of braces and fixing	
10-47	10.4.3.2	Revised – deleted (b)	
10-47	Table 10.17	Revised for SG 8 timber only	
10-48	Figure 10.22	Removed plane bracing	
10-50	10.4.4.1	New text added for hit or miss sarking	
10-50	10.4.4.2	Text moved from 10.4.4.11	
10-54 to 10-72	Appendices	Corresponding Tables – for SG 6 & SG 10	

Section 11 – The building envelope

Section 11 has been removed pending the revision of E2/AS1 with the exception of some general guidance text for designers regarding the interface between NZS 3604 and E2/AS1.

Section 12 – Interior linings

Minor changes have been made to Section 12.

Section 13 – Ceilings

Minor changes have been made to Section 13.

Page No	Section clause, table, figure No.	Description
13-3	13.2.1(c)	Reference to NZS 3602 changed to NZS 3631 for ceiling battens
13-3	13.2.2(d)	Reference to NZS 3602 changed to NZS 3631 for ceiling battens
13-3	Table 13.1	Corrected ceiling batten sizes to what is commonly used
13-6	13.4.1	Revised for 300 litre water tank capacity to allow for the installation of bigger storage tanks such as solar water tanks
13-7	13.5.1	Revised for better clarity on structural ceiling diaphragms
13-8	Figure 13.3(a)	New figure added for ceiling diaphragm protrusions and cut-outs
13-8	13.5.2 (a)	Revised ceiling materials for ceiling diaphragms

Section 14 – 3 kPa floor loads

The SG timber tables in Section 14 have been revised to align with AS/NZS 1170.

Page No	Section clause, table, figure No.	Description
14-4 to 14-6	Tables 14.1 to 14.3	Revised earthquake bracing demand tables which now provide factors to adjust the demand depending on the soil type beneath the site
14-7	Table 14.4	Revised for 3 kPa bearers
14-8	Table 14.5	Revised for SG 8 subfloor jack studs
14-10	Table 14.8	90 x 35 timber removed and spans revised
14-11	Table 14.10	Revised stud spacing and sizes
14-14	Table 14.12	Revised lintel tables
14-15	Table 14.13 Table 14.14	
14-16	Table 14.15	Revised top & bottom plate table
14-18 to 14-32	Appendices	Corresponding Tables – for SG 6 & SG 10

Section 15 – Snow loads

Section 15 has been updated to align with Part 5 AS/NZS 1170

There are significant changes in the assessment of snow load, many stemming from the South Canterbury snowfall of 2006, and DBH's citing of AS 1170 in B1/VM1. The influence of roof slope on the magnitude of the roof load has also changed.

The net effect for NZS 3604 is that up to 1 kPa ground snow load there is almost no influence on member sizes, so for simplicity this was made the default situation for the whole country. There are member selection tables in Section 15 for up to 1.5 kPa ground snow load, and span adjustment factors for up to 2 kPa. The table in the snow zone map in Figure 15.1 has been updated to reflect this.

Page No	Section clause, table, figure No.	Description
15-3	15.1	Revised to cover change from 0.5 or 1.0 kPa to 1.5 and 2.0 kPa
15-3	15.2	Revised to give guidance on snow zone changes and for the calculation method for 2 kPa snow loads
15-3	2.0 kPa factor table	Revised for better clarity
15-4	Figure 15.1	Snow loadings revised and altitudes changed to align with AS/NZS 1170
15-5	15.3 C15.3	New clause added for guidance on roofs abutting an upper wall
15-6	Figure 15.2	New figure added for roof abutting an upper wall
15-7 to 15-14	SG8 Tables	All tables revised and updated for revised snow loads
15-15 to 15-34	Appendices	Corresponding Tables – for SG 6 & SG 10

Section 16 – Composite construction lintels

Minor changes have been made to Section 16.

Section 17 – Expansive soils

Minor changes have been made to Section 17.

Page No	Section clause, table, figure No.	Description
17-3	C17.1.4	New commentary added for further guidance on liquid limit testing
17-3	C17.2	Revised – reference to territorial authority replaced with the need to involve a geotechnical engineer of soils laboratory
17-3	17.4	Revised – reference to AS 1304 changed to AS/NZS 4761

Sections 18, 19 & 20

These Sections have been removed.

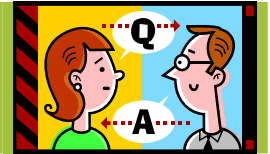
QUIZ ON ARTICLES IN THIS NEWS SHEET



1. The table in which Building Code acceptable solution has examples of durability requirements for building elements is
 - a. B1
 - b. B2
 - c. E2
2. Multiproof certificates are issued by
 - a. The Minister
 - b. The Local Council
 - c. The Department of Building and Housing
3. How many multiproof certificates have been issued up to 1 April 2011?
 - a. 4
 - b. 5
 - c. 10
4. A Building Consent Authority must accept a multiproof as evidence of building code compliance.
 - a. True
 - b. False
5. A multiproof certificate replaces both a building consent and a certificate of acceptance.
 - a. True
 - b. False
6. A multiproof certificate should be regarded as a tool for demonstrating Building Code compliance.
 - a. True
 - b. False
7. An applicant for a building consent that provides a multiproof certificate as evidence of Building Code compliance will also, as part of the building consent application provide site specific information.
 - a. True
 - b. False
8. Where a building consent has been issued using multiproof as the means of compliance, no variations or amendments are permitted to the building consent.
 - a. True
 - b. False
9. From what date is the new timber treatment system come into effect?
 - a. 1 March 2011
 - b. 1 April 2011
 - c. 4 April 2011
10. The new timber treatment is for radiata pine and Douglas fir only.
 - a. True
 - b. False

11. The new timber treatment system is for:
 - a. H1.1
 - b. H1.2
 - c. H3.1
12. A transition period of approximately ____ months will give industry time to adjust to the changes.
 - a. one month
 - b. two months
 - c. three months
13. Cantilevered deck joists will require treatment to:
 - a. H1.2
 - b. H3.2
 - c. H5.1
14. Untreated Douglas fir can be used for houses of a defined low-risk design.
 - a. True
 - b. False
15. Roof trusses are required to be treated to H1.2 under the new scheme.
 - a. True
 - b. False
16. Untreated Douglas fir does not apply to commercial buildings.
 - a. True
 - b. False
17. A new handbook for NZS 3604:2011 is under development.
 - a. True
 - b. False
18. The new NZS 3604:2011 could be used as an alternative solution prior to it replace the 1999 3604 version.
 - a. True
 - b. False
19. NZS 3604 needed to be updated to align with AS / NZS _____ structural design.
 - a. 3604
 - b. 1170
 - c. 4121
20. Timber in NZS 3604:2011 is now referred to as SG – structural grade. The three grades are SG6, SG8 and SG_____.
 - a. 9
 - b. 10
 - c. 12

ANSWERS TO QUIZ



- | | |
|-------|-------|
| 1. b | 11. b |
| 2. c | 12. c |
| 3. b | 13. b |
| 4. a | 14. a |
| 5. b | 15. a |
| 6. a | 16. a |
| 7. a | 17. a |
| 8. b | 18. a |
| 9. c | 19. b |
| 10. a | 20. b |