

In this issue we have articles on:

- Civil Defence Local Welfare Centres – Locations of Welfare Centres
- Weathertightness
 - New guidance documents from the Department of Building and Housing
- DBH – Building Control Update No 114
 - Immediate changes to seismicity and foundation details for Christchurch
- Glass in Furniture and Similar Applications
- Quiz on articles in this newsletter

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



Welfare Centres

Southland Civil Defence Emergency Management Group



FACTSHEET

A number of Welfare Centres are located in the community and can be opened as required to people who are affected by a Civil Defence Emergency. You will need to listen to your local radio station at the time of the emergency to find out which Welfare Centres are open and operating.

The Welfare Centres can be found at the following locations:

INVERCARGILL CITY WELFARE CENTRES

- Ascot Community School: 580 Tay St, phone 03-217 5196.
- Aurora College: 234 Regent St, phone 03-211 6040.
- Donovan Primary School: 200 Drury Lane, phone 03-215 9664.
- James Hargest College (Senior Campus): 288 Layard St, phone 03-217 6129.
- New River Primary School: 117 Elizabeth St, phone 03-218 6720.
- Southland Girls' High School, east wing: 350 Tweed St, phone 03-216 8149.
- St John's Girls' Primary School: 349 Dee St, phone 03-218 7759.

SOUTHLAND REGION WELFARE CENTRES

- Bluff Community School: 39 Bradshaw St, phone 03-212 8523.
- Calvin Church Hall: 25 Robertson St, Gore.
- East Gore School: 3 Wentworth St, Gore, phone 03-208 5331.
- Edendale School: 24 Salford St, Edendale, phone 03-206 6959
- Fiordland Community College: 2 Howden St, Te Anau, phone 03-249 7819
- Kennington Public Hall: 21 Rimu Rd, Kennington.
- Knapdale School: Knapdale Rd, Knapdale, phone 03-208 9473.
- Makarewa Primary School: 56 Flora Rd East, phone 03-235 8556.
- Mandeville Hall: 11 Waimea Valley Rd, Mandeville.
- Maitauru Presbyterian Church Hall: 60 Kana St, Maitauru.

Welfare Centres

Southland Civil Defence Emergency Management Group



FACTSHEET

- Matura Community Centre, Matura
- Milford Sound Visitor Terminal: 1 Milford Sound Highway, Milford, phone 03-249 7416
- Mossburn Community Facilities: 9 Holmes St, Mossburn.
- Myross Bush School: 288-290 Mill Rd North, phone 03-230 4817.
- Northern Southland College: 51 Maria St, Lumsden, phone 03-248 7121.
- Otama Hall: 719 Otama Road, Otama.
- Otatara Primary School: 140-146 Dunns Rd, phone 03-213 1009.
- Otautau Golf Course: 55 Slaughterhouse Rd, Otautau.
- Otautau Primary School: 17 Elles Rd, Otautau, phone 03-225 8320.
- Pukerau School: Pukerau, phone 03-205 3857.
- Riversdale Community Centre: 73 Newcastle St, Riversdale.
- Riverton Racecourse: 2236 State Highway 99, Riverton.
- St Andrew's Church Hall: 2 Devon St, Gore.
- Stewart Island Community Centre: 8 Ayr St, Halfmoon Bay, phone 03-219 1477.
- Takitimu Primary School: 15 Evan St, Nightcaps, phone 03-225 7725.
- Tuatapere Community College: 47 Orawia Rd, Tuatapere, phone 03-226 6285.
- Waikaia School: 22 Leamington St, Waikaia, phone 03-202 7729.
- Waikaka School: 22 Matheson Rd, Waikaka, phone 03-207 2887.
- Waimumu Hall: 849 Glendhu Rd, Waimumu.
- Wallacetown Community Centre: 57 Dunlop St, Wallacetown.
- Willowbank School: 24 East Chatton Rd, Willowbank, phone 03-207 1876.
- Winton Presbyterian Church Hall: 11 Meldrum St, Winton.
- Wyndham Community Centre: 44 Balaclava St, Wyndham.

**WEATHERTIGHTNESS
NEW GUIDANCE DOCUMENTS FROM THE DEPARTMENT OF BUILDING
AND HOUSING**



The Department of Building and Housing have produced two new guides.

The guides are:

- Weathertightness – guide to the diagnosis of leaky buildings
- Weathertightness – guide to remediation design

Both guides are produced by the Department of Building and Housing under section 175 of the Building Act 2004 as guidance information.

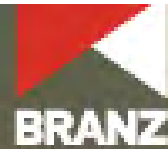
Both guidance documents are available on the Department of Building and housing website by following the link <http://www.dbh.govt.nz/weathertight-eneews-11>.

The weathertight enews issue 11 also has information on the financial assistance package.

The front covers of the two guides, along with the Department of Building and Housing press release are shown on the following pages.



Department of
Building and Housing
Te Tari Kaupapa Whare



Weathertightness: Guide to Remediation Design





Weathertightness: Guide to the Diagnosis of Leaky Buildings



TWO NEW GUIDES TO ASSESS AND REPAIR LEAKY HOMES

The Minister for Building and Construction Maurice Williamson has welcomed the publication of two new guides for diagnosing and fixing leaky homes.

The documents – Weathertightness: Guide to the Diagnosis of Leaky Buildings and Weathertightness: Guide to Remediation Design, provide clear, authoritative and practical advice that assessors and designers can refer to when they are undertaking design of weathertightness remediation solutions.

The new Guides provide clear, reliable information for assessing and designing repairs to leaky homes in a cost-effective way, benefiting homeowners and taxpayers.

Assessors used by the Department will be familiar with the content of the Guide to the Diagnosis of Leaky Buildings as they have completed training covering the equipment and methodologies described in the Guide.

Weathertightness: Guide to Remediation Design provides useful information for designers who are unfamiliar with remediation design. It covers issues associated with remediation and focuses on the differences between designing repairs to leaky houses and designing new houses. These include; understanding the condition and constraints of the building, dealing with moulds and decay; and managing associated risks; to develop a solution that works for each homeowner.

The Guide aims to ensure designers undertaking remediation design work understand the important issues and risks and can manage these to produce a successful outcome for the owner.

The Remediation Guide has been published in partnership with BRANZ. The Guides are available from the Department of Building and Housing which developed them with extensive input from designers and other experts from the building sector.



The Department of Building and Housing is making immediate changes to the Building Code's supporting documents for Structure, to increase the seismic hazard factor for Christchurch and to require stronger foundations for buildings in that area.

The changes take effect on 19 May 2011, so that Christchurch building owners can rebuild or repair with certainty as quickly as possible.

Why make the changes?

The 2010 / 11 Canterbury earthquakes have increased the seismic risk for Christchurch over the next few decades. Based on new knowledge about this risk, seismologists and structural engineers who reported to the Department, agree that the seismic hazard factor for Christchurch should be raised from 0.22 to 0.3.

What are the changes?

The documents being changed are the Structure Verification Method B1 / VM1 and the Structure Acceptable Solutions, B1 / AS1 and B1 / AS3. The immediate changes will:

- increase the seismic hazard factor for Christchurch from 0.22 to 0.3
- strengthen the definition of 'good ground' and require concrete-slab foundations to have reinforcing
- clarify that foundations on ground that is prone either to liquefaction or lateral spread should be specially designed.

What areas are affected by the changes?

The changes take effect in the local Councils areas of Christchurch City, Waimakariri and Selwyn. However, for those parts of Waimakariri and Selwyn District Councils that already have a seismic hazard factor greater than 0.3, there is no reduction to that hazard factor.

Where can I obtain further information on the changes?

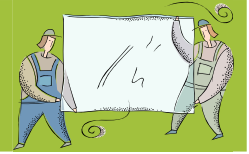
The new B1 Compliance Document, containing the amended Verification Method and Acceptable Solutions, will be available from Thursday, 19 May, at: www.dbh.govt.nz/compliance-documents.

The Department has produced an information sheet on the changes which is also available on the Department's website from Thursday, 19 May. Please note that designers will need to consult the Building Code documents.

Proposals to change the New Zealand Building Code

The Department plans to consult on proposals to make the New Zealand Building Code clearer and more specific about risk management for earthquakes and other structural hazards in June / July 2011. At the same time, the Department will consult on these immediate changes already made to the Building Code's supporting documents for Structure, in accordance with section 30 of the Building Act 2004.

GLASS IN FURNITURE AND SIMILAR APPLICATIONS



Council recently received a question over what type of glass can be used in an office fit out situation. Glass shelving was proposed to be used for display purposes of retail goods.

The Building Code clause that should address this subject would be F2 Hazardous Building Material.

Clause F2 is reproduced below in full.

NZBC CLAUSE F2 HAZARDOUS BUILDING MATERIALS

This Clause is extracted from the New Zealand Building Code contained in the First Schedule of the Building Regulations 1992.

Provisions	Limits on application
<p>OBJECTIVE</p> <p>F2.1 The objective of this provision is to safeguard people from injury and illness caused by exposure to hazardous building materials.</p>	
<p>FUNCTIONAL REQUIREMENT</p> <p>F2.2 Building materials which are potentially hazardous, shall be used in ways that avoid undue risk to people.</p>	
<p>PERFORMANCE</p> <p>F2.3.1 The quantities of gas, liquid, radiation or solid particles emitted by materials used in the construction of buildings, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space.</p>	
<p>F2.3.2 Transparent panels capable of being mistaken for an unimpeded path of travel shall be marked to make them visible.</p>	Performance F2.3.2 does not apply to Housing.
<p>F2.3.3 Glass or other brittle materials with which people are likely to come into contact shall:</p> <ol style="list-style-type: none">if broken on impact, break in a way which is unlikely to cause injury, orresist a reasonably foreseeable impact without breaking, orbe protected from impact.	

The acceptable solution F2 / AS1 is reproduced in full below.

1.0 Glazing

1.1 Human impact safety

1.1.1 Glazing likely to be subject to human impact shall comply with NZS 4223: Part 3 as modified by Paragraph 1.2. Requirements for wind loading might exceed those for human impact.

1.2 Modifications to NZS 4223: Part 3

1.2.1 NZS 4223: Part 3 is modified as follows:

Clause 301.1 Delete the second sentence and replace with:

“Only glazing within 2000 mm of the floor level is normally likely to be subject to human impact. Part 3 of this Standard therefore is concerned only with glazing in this zone.”

Clause 303.5 Add the words:

“Alternatively, safety glazing material may be used in accordance with the relevant tables for Grade A and B safety glazing.”

Clause 308.1(a) Add the word “and” after “bath enclosures;”

Clause 308.1(b) Substitute the words:

“All glazing less than 1500 mm above the abutting finished floor level or standing area of a bath or shower in bathrooms and enclosures containing spa pools, except where a vanity unit or a bench of a minimum height of 760 mm and a minimum width of 300 mm is located in front of the glazing.”

Figure 3.D4 Delete Figure 3.D4.

Table 3.D4 Replace this Table with the following:

Table 3.D4 Human Impact Safety Requirements for Glazed Panels and Windows in Bathrooms

Panel details	Human impact safety requirements
Framed shower screen and bath enclosures	Grade A safety glazing material in accordance with Table 3.1 (308.1(a))
Panels and doors with one unframed edge	Toughened safety glass minimum thickness 5mm (308.2)
Frameless pivot or hinge doors	Toughened safety glass minimum thickness 6mm (308.4)
Glazing within 1500mm above the abutting finished floor level or standing area of a bath or shower	Grade A safety glazing material in accordance with Table 3.1 (308.1(b))
Glazing greater than 1500mm above the abutting finished floor level or standing area of a bath or shower	Annealed glass to NZS 4223:Part 4

2.0 Asbestos

2.0.1 Asbestos or materials containing asbestos are acceptable when the asbestos is bonded in a matrix, or encapsulated with an appropriate coating to ensure that no free particles can escape.

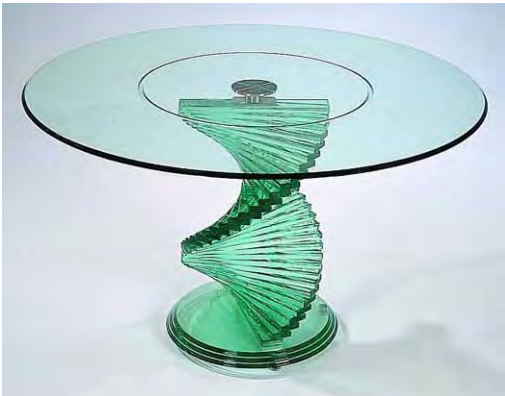
COMMENT:

Procedures for encapsulation can be obtained from the Occupational Safety and Health section of the Department of Labour, who can also advise on the special legislation covering asbestos and the handling of products containing asbestos.

As you will have read, neither the New Zealand Building Code nor the acceptable solution are much assistance for glass in furniture.

However, there is a publication that can be used for guidance or compliance purposes. This publication is the GANZ Code of Practice – GF1.

This publication has been reproduced in full with the permission of the Glass Association.



Glass adds special appeal to furnishings with its alluring transparency and sparkle.

Whether it's furniture glass, such as the table illustrated, or vanities, basins or hygienic work surfaces - glass offers stunning aesthetics and a wide range of design possibilities.

However, glass can be dangerous, and especially so when it is not properly designed for the job it has to do.

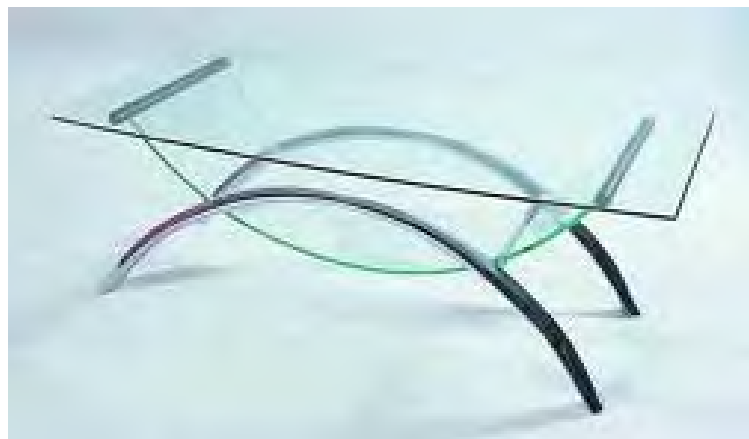
The attached Glass Association of New Zealand Code of Practice for Glass in Furniture and Similar Applications provides guidance for selecting appropriate glass for these applications. It has been written to support the ACC advertising and Department of Labour OS&H initiatives to reduce serious harm accidents.

The Code of Practice also provides retailers and their customers with an independent resource they can use to check that their suppliers are providing goods that are fit for purpose.

The Standard also covers:

Trolleys, cabinets (including refrigeration display cabinets), shelving, splashbacks and wall claddings, mirrors (wall hung, fixed or other mirrors not covered by the NZS4223 Part 3), and internal glass fitments.

The Code of Practice is available free of charge from <http://www.wanz.org.nz/glass-furniture>, but it is reproduced in full in this news sheet for your information.



Glass in Furniture and Similar Applications

GANZ Code of Practice - GF1



Glass Association of New Zealand

WWW.GANZ.CO.NZ



GANZ Code of Practice for Furniture Glass and Similar Applications GF 1

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FOREWORD & DISCLAIMER

This Code of Practice has been developed to address the lack of availability of any similar New Zealand documents for the selection of glass for use in furniture and similar applications. Whereas the New Zealand Building Code specifies how glass must be used and the Land Transport regulations govern the use of glass in vehicles, there are no specific laws governing the use of glass in furniture and similar applications.

The practical issues associated with furniture glass are often different to those relating to window glass, and this document reflects the collective view of a wide range of industry experts, both from within New Zealand and abroad.

The guidance offered is both conservative and practical - a difficult balance to achieve when the overall aim is safety of the user. It must always be remembered that glass is a hazardous material which can inflict very serious personal injury. Selecting appropriate thicknesses and choosing safety glasses, such as laminated and toughened glass, reduce the risk but does not eliminate it entirely. Similarly, using the furniture glass in a manner it was not designed for (such as using a glass table top to stand upon) is strongly discouraged.

This guidance document is offered in good faith, but the wide range of circumstances that can contribute to personal injury necessitate the Glass Association of New Zealand, and the Window Association of New Zealand (Incorporated), its officers and members disclaiming all liability in respect to any action that might arise as a result of reliance on this publication.

Cover Picture

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GANZ Code of Practice for Furniture Glass and Similar Applications GF 1

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GANZ Code of Practice for Furniture Glass and Similar Applications GF 1

REFERENCES & RELATED DOCUMENTS

Reference is made in this document to the following:

NEW ZEALAND STANDARDS

- NZS 4223 Glazing in buildings
- Part 1:2008 Glass Selection and Glazing
- Part 3:1999 Human Impact Safety requirements
- NZS 5261 The installation of gas burning appliances and equipment

AUSTRALIAN STANDARDS

- AS/NZS 2208 Safety glazing materials in buildings
- AS/NZS 4667 Quality requirements for cut to size and processed glass
- AS/NZS 4668 Glossary of terms used in the glass and glazing industry

BRITISH STANDARDS

- BS 3193 Thermally toughened glass for use in domestic appliances
- BS 4875 Strength and stability of furniture
- Part 5: Methods for determination of strength of tables and trolleys
- Part 6: Methods for determination of stability of tables and trolleys
- Part 8: Methods for determination of stability of storage furniture
- BS 5459 Specification for performance requirements and tests for office furniture
- Part 3: Storage furniture
- BS 7376 Inclusion of glass in the construction of tables or trolleys
- BS 7449 Inclusion of glass in the construction of furniture, other than tables or trolleys, including cabinets, shelving system and wall hung or free standing mirrors
- BS EN 1730 Domestic furniture - Tables - Test methods for determination of strength, durability and stability

ISO STANDARDS

- ISO 15717 Kitchen equipment - Safety requirements and tests methods for kitchen cabinets and worktops

GANZ Code of Practice for Furniture Glass and Similar Applications GF 1

1 SCOPE

1.1

This code specifies minimum requirements for the selection of glass, greater than 0.06m², to be used in all parts of all buildings, including kitchens and bathrooms, as follows:

- Furniture
- Tables and worktops
- Trolleys
- Cabinets (including refrigeration display cabinets)
- Shelving
- Vanities & Basins
- Splash-backs and wall cladding
- Wall hung, fixed or other mirrors (not covered by NZS 4223 Part 3)
- Internal Glass fitments (not defined above)

1.2

Thermally toughened glass panels for use in domestic appliances are excluded and covered in BS 3193 (NZS 7841)

1.3

Curved or bent glass are excluded

Note. Due the complex nature of the strength of curved glass, tables can not be provided. However, as a conservative approach the maximum areas for flat glass can be applied to curved glass.

1.4

Risk - The application of the requirements of this code will reduce the risk of injury caused by exposure to glass in buildings as required by NZBC Clause F2. Hazardous Building Materials

The use of Grade A safety glazing material in any application in accordance with the relevant table will also meet the requirements of Clause F2 (refer F2.3.3 (a)) but may exceed the requirements of this Code.

Note. The requirements of NZBC Clause F2 may not apply to furniture

1.4

Glazing Materials
Glass thickness determined from this Code apply only to glass conforming to NZS 4223, AS/NZS 4667 and AS/NZS 2208

GANZ Code of Practice for Furniture Glass and Similar Applications GF1

2 DEFINITIONS

2.1

The definitions set in NZS 4223 and AS/NZS 4668 shall apply to this Code and in addition the following shall apply:

SPLASH BACK. Backing panel to a cooking or washing area to protect the walls from splashes and enable easy cleaning.

Note. The panel may also be required to protect the wall from burning and may require compliance with other standards such as NZS 5261: The installation of gas burning appliances and equipment.

FITMENT. Piece of fixed furniture

UNBACKED GLASS. Glass, which either has no backing immediately behind its entire area or has a backing that does not retain its integrity or is cracked or broken when tested as described in Appendix A of BS 7449

ENCLOSED SHELF

A shelf that is completely enclosed within the cabinet when the cabinet doors are closed

FILM BACKED GLASS OR MIRROR.

Glass backed with an adhesive plastic film to protect the surface and/or make it a safety organic glazing material in accordance with AS/NZS 2208

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3 GENERAL

3.1 Edge Finish

Exposed edges of glass shall be edge worked mitred or bevelled. (Refer AS/NZS 4668 Appendix B). The most common edgework for furniture is a Flat Polish (FP) edge

Note. It is recommended that the edges of mirrors, laminated glass and/or film-backed glass be protected from moisture.

3.2 Holes

Holes drilled in glass for the use of fixings must make allowance for grommets and washers to ensure no glass to metal contact.

3.3 Material contact

There shall be no metal to glass, stone to glass, or glass to glass contact and the materials shall be separated by at least a 0.5 mm suitable gasket material, bump-on, or a suitable UV or similar glue.

Note. Allowance shall be made for any difference in thermal expansion of glass and the surrounding material having regard for the manufacturing tolerances.

3.4 Glass Support

Glass can be considered supported if it complies with the following

- (a) Edge support with a minimum 6mm overlap
- (b) Point support of 36 mm² horizontal area (includes bump-ons)
- (c) Clamp support with mechanical clamp fixing through the glass that has a bearing area around one or both sides of the hole of 30mm diameter or 900 mm².
- (d) Adhesive support provided by adhesive tape and sealant or UV glue, provided the products have been tested and approved for use by the manufacturer.
- (e) Hole fixing support with proprietary fixings to the manufacturer's specification.
- (f) Channel support for static or sliding glass contained in a rebate or groove shall have edge cover at least equal to the glass thickness with a minimum of 5mm

3.5 Film backed glass

When film is used on the back of glass to protect it or make it a safety glazing material, the film must not be used as the adhesive surface unless manufacturers test results show it is fit for purpose.

3.6 Substitution

Grade A or B safety glass may be directly substituted in circumstances where ordinary annealed glass is permitted to the same limits of the annealed glass or to the alternative allowance of the type of safety glass selected.

GANZ Code of Practice for Furniture Glass and Similar Applications GF1

4 HORIZONTAL GLASS SUPPORTED OVER ITS ENTIRE AREA

4.1

Glass which has an area no greater than 3.5m² shall comply with Table 1

4.2

Glass which has an area greater than 3.5m², shall comply with Table 1 except annealed glass that shall be subject to specific design

5 HORIZONTAL GLASS NOT SUPPORTED OVER ITS ENTIRE AREA

5.1

Annealed glass continuously supported on all four edges shall comply with Table 3.

5.2

Annealed glass, other than that covered in 5.1, shall comply with Table 2.

5.3

Toughened and laminated safety glass shall comply with Table 2.

6 NON HORIZONTAL GLASS SUPPORTED OVER ITS ENTIRE AREA

6.1

Glass and mirror that is fully backed by and completely adhered to a solid material or wall, by screws or adhesive tapes, compounds or sealants, shall be Grade A or B Safety Glazing Material or annealed glass in accordance with Table 1.

7 NON HORIZONTAL GLASS NOT SUPPORTED OVER ITS ENTIRE AREA

7.1

Unbacked glass or mirror, which has a maximum dimension of 1000mm, shall be Grade A or B safety glazing material or annealed glass in accordance with Table 1 subject to the following:

- (a) Fully framed. Annealed glass not less than 4mm thickness
- (b) Partly framed or unframed. Annealed glass not less than 5mm thickness

7.2

Unbacked glass or mirror, which has a maximum dimension greater than 1000mm, shall be Grade A or B safety glazing material, and specific design shall apply to the application.

Note. If the specific design criteria are unknown use a design pressure of 0.45KPa ULS.

GANZ Code of Practice for Furniture Glass and Similar Applications GF1

8 HINGED DOORS, SLIDING DOORS, LIDS OR FLAPS

8.1

For fully framed glass components Table 2 shall be used.

8.2

For unframed or partly framed glass components toughened safety glass in accordance with Table 2 shall be used.

8.3

For proprietary systems the glass type and thickness shall be in accordance with the manufacturer's recommendations for the application.

Note. For hinged glass components with notches or holes, toughened safety glass is recommended.

9 SHELVES

9.1 Maximum safe load

The maximum evenly distributed safe load of a glass shelf shall be determined in accordance with Appendix A.

Note The safe load should be marked on the label (see clause 12)

9.2 Shelves subject to human impact

Shelves that are subject to human impact shall be Safety Glazing Material in accordance with Appendix A.

Note. Glass subject to human impact is that within 2m of the floor level and not protected from impact by a barrier or other means.

9.3 Other shelves

Shelves that are enclosed, or not subject to human impact, can be annealed glass or safety glass in accordance with Appendix A.

9.4 Support of glass shelves

9.4.1

The glass supports shall overlap the edges of the glass simultaneously by at equal the glass thickness.

9.4.2

A shelf shall be retained if the furniture or shelving system of which it is part can be tilted in any direction by 30 degrees to the horizontal.

9.4.3

A shelf shall not tip and the supports shall remain intact when a load, equivalent to 50% of the maximum evenly distributed safe load and covering an area of 75mm x 75mm, is placed at any position on it for at least 10 seconds.

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10 VANITIES & BASINS

- 10.3 Vanity glass without basin cut outs, notches and holes must comply with Table 1 or Table 2
- 10.4 Vanity glass with basin cut outs, notches and holes are subject to specific design by the manufacturer but must no be less than 12mm annealed or laminated safety glass or 8mm toughened safety glass.
- 10.5 Vanity glass with basins cast or slumped in one piece must be heat treated glass. (i.e. heat strengthened or toughened)

Note Vanity glass may be subject to thermal stress due to hot and cold water or items placed on the glass and toughened safety glass is recommended for such applications.

11 SPLASH BACKS & WALL CLADDING

- 11.1 Splash blacks and wall cladding must comply with clause 4,5,6,&7

Note 1 The glass may be subject to thermal stress due to hot and cold water or items placed on the glass and toughened safety glass is recommended for such applications.

Note 2 The glass will often have notches and holes for switches, plugs and other protrusions. These can cause weak points in the glass and lead to breakage, so toughened glass is recommended for such applications

Note 3 Glass used behind or adjacent to gas appliances may require special fire resistant backings and/or other gas fitting rules may apply (refer NZS 5261)

GANZ Code of Practice for Furniture Glass and Similar Applications GF1

12 MARKING

This section is optional but is recommended by GANZ

12.1

Each panel of glass and mirror should be legibly marked to certify it's compliance with this Code of Practice.

12.2

All glass and mirror should be clearly marked with the following information either permanently or with an adhesive label, which cannot be removed without destroying the label:

- (a) The name, registered trademark or code of the manufacturer or supplier
- (b) The type of glazing material used. This may in the form of a code, such as A for Annealed T for Toughened or L for Laminated, OC for organic coated (film backed) as indicated by the relevant compliance Standard (AS/NZS 2208)
- (c) The Standard or Code of Practice in which the glass complies with if applicable (e.g. GANZ "Code GF1, AS/NZS 2208, BS 7449, BS 7376)
- (d) If applicable the classification relating to the test behavior. (e.g. A for Grade A, B for Grade B)

Note

The label should be applied by the manufacturer and removed by the retailer or by persons receiving the finished product.

12.3 Other Marking

Manufacturers can give additional information concerning the use and care of the glass if applicable

This information can include but not be limited to the following

- (a) The safe load in kilograms for each shelf
- (b) Do not place very hot or very cold items against, on or in close proximity to the glass surface unless an adequate insulating material is used.
- (c) Do not strike the glass with hard or pointed items
- (d) Use only proprietary glass cleaners or warm soapy water and squeegee dry
- (e) Do not sit or stand on any glass surfaces
- (f) Do not use the glass surface as a chopping surface
- (g) It is essential the product is fixed with the fixings provided

Such marking should be in the form of a removable label or sticker

GANZ Code of Practice for Furniture Glass and Similar Applications GF1

Furniture Glass Selection Tables

Table 1. Minimum nominal thickness for horizontal glass supported over its entire area

Glass Area M2	Annealed Glass	Toughened Safety Glass	Laminated Safety Glass	Film Backed Safety Glass
Less than 0.50	4 mm	4 mm	6 mm	4 mm
0.50 to 1.0	5 mm	4 mm	6 mm	4 mm
1.1 to 1.5	5 mm	4 mm	6 mm	5 mm
1.6 to 2.0	6 mm	5 mm	6 mm	5mm
2.1 to 2.5	8 mm	5 mm	6 mm	6 mm
2.6 to 3.0	10 mm	6 mm	8 mm	8 mm
3.1 to 3.5	12 mm	8 mm	10 mm	10 mm
Over 3.5	SD	10 mm Min	12 mm Min	12 mm Min

SD = Specific Design

Laminated glass thickness excludes the interlayer thickness (6 mm =2x3mm)

Table 2. Minimum nominal thickness for horizontal glass not supported over its entire area

Glass Area m2	Annealed Glass	Toughened Glass	Laminated Glass
Less than 0.25	10 mm	4 mm	6 mm
0.25 to 0.50	10 mm	5 mm	6 mm
0.51 to 0.75	12 mm	6 mm	6 mm
0.76 to 1.0	15 mm	8 mm	8 mm
1.1 to 1.5	15 mm	8 mm	8 mm
1.5+	19 mm	10 mm	10 mm
Over 3.5	SD	SD	SD

SD = Specific Design

Glass must be supported for not less than 50% of the perimeter. The support shall be in at least two non-adjacent regions and shall not be more than 100 from the edges of the glass.

Laminated glass thickness excludes the interlayer thickness (6 mm =2x3mm)

An adjustment of 1.5 times the m2 area above will apply for double glazing.

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Table 3.

**Annealed Glass
4 EDGE SUPPORT TABLE TOPS**

2.00								15	15	15	15	15	15	15
1.75								15	15	15	15	15	15	15
1.50							15	15	15	15	15	15	15	15
1.25						12	15	15	15	15	15	15	15	15
1.00				12	12	12	12	15	15	15	15	15	15	15
0.75			12	12	12	12	12	12	12	12	12	12	12	12
0.50		10	10	12	12	12	12	12	12	12	12	12	12	12
0.25	8	8	8	8	8	8	8	8	8	8	8	8	8	8
0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50

LONG SIDE m MAX

Based on medium term design load of 1KN central point load
 Calculation based on Strand 7 FEA computer software
 Maximum Design Stresses taken from NZS 4223:Part1:2008

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Appendix A - Determination of maximum distributed safe load of a glass shelf

Maximum evenly distributed safe loading kg/m ² for the following unsupported lengths														
Type of Glass	Nominal thickness (mm)	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
Annealed	4	153	86	55	38	28	21	17	14	11	10	8	7	6
	5	244	137	88	61	45	34	27	22	18	15	13	11	10
	6	356	200	128	89	65	50	40	32	26	22	19	16	14
	8	627	353	226	157	115	88	70	56	47	39	33	29	25
	10	995	559	358	249	183	140	111	90	74	62	53	46	40
	12	1447	814	521	362	266	203	161	130	108	90	77	66	58
Laminated	4	69	39	25	17	13	10	8	6	5	4	4	3	3
	6	166	93	60	41	30	23	18	15	12	10	9	8	7
	8	305	172	110	76	56	43	34	27	23	19	16	14	12
	10	487	274	175	122	89	69	54	44	36	30	26	22	19
	12	711	400	256	178	131	100	79	64	53	44	38	33	28
Toughened	4	988	417	213	123	78	52	37	27	20	15	12	10	8
	5	1991	840	430	249	157	105	74	54	40	31	24	20	16
	6	2997	1482	759	439	276	185	130	95	71	55	43	35	28
	8	5283	2972	1775	1027	647	433	304	222	167	128	101	81	66
	10	8383	4716	3018	2054	1293	866	608	444	333	257	202	162	131
	12	12197	6861	4391	3049	2240	1520	1068	778	585	450	354	284	231
Cast	4	129	73	47	32	24	18	14	12	10	8	7	6	5
	6	320	180	115	80	59	45	36	29	24	20	17	15	13
	10	895	503	322	224	164	126	99	81	67	56	48	41	36

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APPENDIX B (informative)

PERFORMANCE REFERENCE SPECIFICATIONS

Glass in furniture and similar applications may be required to comply with the performance requirements of a relevant international standard, such as those listed in the related documents.

The following sections give a guide to the performance requirements of some of these standards

A1

Furniture that is not office furniture, and which incorporates glass, shall either pass the tests described in BS EN 1730 or BS 4875: Part 8 or shall be supplied with wall fixings

A2

Furniture that is office furniture, and which incorporates glass, shall either comply with the over balancing requirements in 4.2 of BS 5459 at test level G or be supplied with wall fixing

A3

When glass is unsupported at its edge, for example in a pedestal table, the table or trolley shall pass the vertical and horizontal static load tests given in BS 4875:Part 5 at test level 2 and the stability tests described in BS 4875:Part 6

A4

Tables and trolleys with Grade A or B safety glass shall pass the vertical static load test and vertical impact test given in BS 4875: Part 5 at test level 2. In addition the vertical impact test rectangular tops shall also be impacted 10 times at test level 2 as close as possible to the corner and 10 times at test level 2 at the geometric corner. When the longest span does not exist, for example as in a round table, the "center of the edge of the longest span" shall be a point on the periphery as far away from point's supports as possible.

A5

Tables and trolleys without safety glass shall pass the vertical static load test and vertical impact test given in BS 4875: Part 5 at test level 5 and the stability tests in BS4875: Part 6. In addition the vertical impact test rectangular tops shall also be impacted 10 times at test level 5 as close as possible to the corner and 10 times at test level 5 at the geometric corner. When the longest span does not exist, for example as in a round table, the "center of the edge of the longest span" shall be a point on the periphery as far away from point supports as possible.

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A6

When a hinged component incorporating glass is tested by the methods described in BS 5459: Part 3, there shall be no damage to the glass and the component shall not become wholly or partially detached from the unit either by structural failure of the hinge or slippage in a hinge mounting.

A7

Kitchen Cabinets and worktops shall comply with the test methods defined in ISO 15717.

QUIZ ON ARTICLES IN THIS NEWS SHEET



1. What building code clause deals with hazardous building materials?
 - a. A1
 - b. B1
 - c. C1
 - d. F2

2. The objective of NZBC hazardous building material is to safeguard **buildings** from exposure to hazardous building materials.
 - a. True
 - b. False

3. The functional requirements under NZBC F2 hazardous building material is that building materials which are potentially hazardous shall be used in ways that avoid undue risk to people.
 - a. True
 - b. False

4. All glazing in **all** buildings shall be marked to make the glass visible (where the glass could be mistaken for an unimpeded path of travel).
 - a. True
 - b. False

5. Under the acceptable solution F2 / AS1, glazing within 1500mm above the abutting finished floor level or standing area of a bath or shower shall be:
 - a. Annealed glass 4mm
 - b. Grade A safety glazing
 - c. Toughened safety glass 6mm minimum thickness

6. Glazing likely to be subject to human impact shall comply with NZS _____ and as modified by the acceptable solution requirements.
 - a. NZS 3613, 2005
 - b. NZS 4223, Part 3
 - c. NZS 3604, 2011

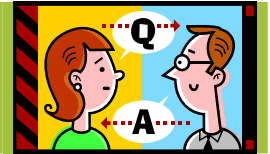
7. Glazing can be dangerous if not designed for the job it has to do.
 - a. True
 - b. False

The GANZ Code of Practice for furniture is used for the following question

8. A fitment is
- a light fixture
 - a piece of fixed furniture
 - a piece of a table
9. A splash back is
- a backing panel to a cooking or washing area
 - a shower enclosure
 - the area behind the taps on a bath
10. The edge finish of exposed edges of glass shall be edge worked, mitred or bevelled.
- True
 - False
11. There shall be no metal to glass stone to glass, glass to glass contact and the materials shall be separated by at least a _____mm suitable gasket material, bump or on a suitable UV or similar glue.
- 0.1mm
 - 0.5mm
 - 1.0mm
12. Glass can be considered supported if it has edge support with a minimum _____mm overlap.
- 1mm
 - 6mm
 - 10mm
13. Holes drilled in glazing for the use of fixings must make allowances for grommets or washers.
- True
 - False
14. For hinged glass components with notches or holes toughened safety glass is recommended.
- True
 - False
15. Shelves that are enclosed or not subject to human impact can be annealed glass or safety glazing.
- True
 - False

16. Vanity glass with basins cast or slumped in one piece must be heat treated glass, i.e. heat strengthened or toughened.
- a. True
 - b. False
17. All glazing used in accordance with GANZ Code of Practice must be marked.
- a. True
 - b. False
18. The GANZ Code of Practice has a series of furniture glass selection tables.
- a. True
 - b. False
19. The GANZ Code of Practice includes tables on determining the maximum distributed safe load of a glass shelf.
- a. True
 - b. False
20. A glass shelf shall not tip and the supports shall remain intact when a load equivalent to 50% of the maximum evenly distributed safe load and levelling an area of _____mm x _____mm is placed at any position on it for at least _____ seconds.
- a. 50 x 50 – 30 seconds
 - b. 100 x 50 – 60 seconds
 - c. 75 x 75 – 10 seconds

ANSWERS TO QUIZ



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