

**NZS 4211:2008**  
Incorporating Amendment No. 1



New Zealand Standard

# Specification for performance of windows

Superseding NZS 4211:1985

**NZS 4211:2008**

**COMMITTEE REPRESENTATION**

This Standard was prepared under the supervision of the P 4211 Committee the Standards Council established under the Standards Act 1988.

The committee consisted of representatives of the following:

BRANZ Ltd

Connell Wagner Ltd

Department of Building and Housing

Glass Association of New Zealand

Institution of Professional Engineers New Zealand (IPENZ)

New Zealand Safety Glass Association

Window Association of New Zealand

**ACKNOWLEDGEMENT**

Standards New Zealand gratefully acknowledges the contribution of time and expertise from all those involved in developing this Standard.

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*AMENDMENTS*

<i>No.</i>	<i>Date of issue</i>	<i>Description</i>	<i>Entered by, and date</i>
1	May 2014	Align the wind zones in NZS 4211:2008 <i>Specification for performance of windows</i> to those zones specified in NZS 3604:2011 <i>Timber-framed buildings</i> .	Incorporated in this issue

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## REFERENCED DOCUMENTS

Reference is made in this document to the following:

### NEW ZEALAND STANDARDS

NZS 3604:1999	Timber framed buildings
NZS 4223:- - - -	Glazing in buildings
Part 1:2008	Glass selection and glazing
Part 3:1993	Human impact safety requirements
Part 4:2008	Wind, dead, snow, and live actions
NZS 4229:1999	Concrete masonry buildings not requiring specific engineering design
NZS 4299:1998	Earth buildings not requiring specific design
NZS ISO/IEC 17025:2005	General requirements for the competence of testing and calibration laboratories

### JOINT AUSTRALIAN/NEW ZEALAND STANDARDS

AS/NZS 1170 set	Structural design actions
AS/NZS 4284:2008	Testing of building façades

### AUSTRALIAN STANDARDS

AS 2047:1999	Windows in buildings – Selection and installation
AS 4420:- - - -	Windows – Methods of test
Part 2:1996	Deflection test
Part 3:1996	Operating force test
Part 4:1996	Air infiltration test
Part 5:1996	Water penetration resistance test
Part 6:1996	Ultimate strength test
Part 7:xxxx	Torsional strength test (in preparation)

### NEW ZEALAND LEGISLATION

New Zealand Building Code (NZBC) and Compliance Documents

### WEBSITES

[www.legislation.govt.nz](http://www.legislation.govt.nz)  
[www.building.dbh.govt.nz](http://www.building.dbh.govt.nz)

## LATEST REVISIONS

The users of this Standard should ensure that their copies of the above-mentioned New Zealand Standards are the latest revisions. Amendments to referenced New Zealand and Joint Australian/New Zealand Standards can be found on <http://www.standards.co.nz>.

## REVIEW OF STANDARDS

Suggestions for improvement of this Standard are welcomed. They should be sent to the Chief Executive, Standards New Zealand, Private Bag 2439, Wellington 6140.

## OUTCOME STATEMENT

This Standard will provide specifications to achieve a means of compliance with the New Zealand Building Code, and will ensure specifiers and consumers are provided with robust and effective window systems.

## FOREWORD

NZE 4211 *Specification for performance of windows* is a Standard for the performance testing of individual windows and doors for exterior use, that may be manufactured from various materials or combinations of materials. Windows and doors, including the glazing system and seismic subframes if any, shall be tested in the same condition as they would be supplied ex-factory to the site.

NZE 4211 is a specification for testing so that windows can be labelled or certified as complying with one or other of defined wind zones. NZE 4211 is also aimed at providing guidance for both specifiers and consumers who should:

- (a) Establish the appropriate wind zone in accordance with NZE 3604 section 5;
- (b) If the wind zone is beyond that given in NZE 3604 see section 10 of NZE 4211;
- (c) Select a window that has been tested to NZE 4211 and is labelled as suitable for the relevant wind zone.

This amendment to NZE 4211 incorporates the Extra High wind zone for more exposed building sites, as introduced in NZE 3604:2011. As this now covers part of the previous specific design region between the Very High and the 'Extreme' wind zones, the 'Extreme' zone is accordingly reduced in range but is still limited up to the maximum Ultimate Limit State (ULS) 2500 Pa. The 'Extreme' zone allows windows to be tested to NZE 4211 procedures, without consideration of the installation details even though they are being installed into buildings that are generally covered by NZE 3604 but may require some specific design related to higher wind speeds. Establishing that the specific ULS pressure is above the Extra High wind zone of NZE 3604 and within the nominal 'Extreme' zone becomes the responsibility of the building design engineer using calculations in accordance with AS/NZE 1170.

This latest revision of NZE 4211 is particularly related to buildings not requiring specific design (for example, those buildings that are covered by NZE 3604) and the wind zones used are derived from NZE 3604 except that a new nominal 'Extreme' wind zone, up to Ultimate Limit State (ULS) 2500 Pa, is now provided for excessively exposed building sites. Establishing that the ULS pressure is above the Very High wind zone of NZE 3604 and within the nominal 'Extreme' zone becomes the responsibility of the building design engineer using calculations in accordance with AS/NZE 1170.

The windows of buildings that are not the subject of specific design will usually be for sites that do not have accurately determined wind speeds, and may be required to comply with the local building consent authority's assessment of the appropriate wind zone. Because of this they may not be as accurately related to the site as when specific engineering design to AS/NZE 1170 is required. Nonetheless microclimate should always be taken into account and windows selected on the basis of local knowledge.

This Standard excludes building façades and curtain walls, and does not provide a test for the weathertightness of the installation details at the window perimeter or the interface between the window and surrounding façade elements in an external wall. It does not ensure that the framing system is fit for purpose for glazing insulating glass units and other processed glass products. When complete building façades, overall system performance, and interaction of various façade components require assessment, then AS/NZE 4284 *Testing of building façades* shall be cited as the test method.

New Zealand Standard

# Specification for performance of windows

## 1 GENERAL

### 1.1 Scope

This Standard specifies requirements for the performance of windows to be installed in exterior walls within the wind pressure limitations of the wind zones defined in table 5 and table 6. The properties covered are strength, stiffness, operating facility, air infiltration, and water penetration.

This Standard specifically excludes:

- (a) Skylights or roof windows;
- (b) Interior windows;
- (c) Fixed louvres;
- (d) Acoustics, thermal, and security performance;
- (e) The weathertightness of the window perimeter in the external wall or façade;
- (f) The fire rating;
- (g) Building façades (including curtain walls);
- (h) Durability.

### 1.2 Interpretation

For the purposes of this Standard, the word 'shall' refers to requirements that are essential for compliance with the Standard, while the word 'should' refers to practices that are advised or recommended.

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of the Standard and contains requirements.

#### 1.2.1 Commentary clauses

Clauses prefixed by 'C' and printed in italic type are intended as comments on the corresponding mandatory clauses. They are not to be taken as the only or complete interpretation of the corresponding clause, nor should they be used for determining in any way the mandatory requirements of compliance within this Standard.



## **NZS 4211:2008 Specification for performance of windows**

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