

Australian Standard<sup>®</sup>

**Wind loads for housing**



This Australian Standard® was prepared by Committee BD-099, Wind Loads for Housing. It was approved on behalf of the Council of Standards Australia on 7 November 2005. This Standard was published on 6 January 2006.

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The following are represented on Committee BD-099:

- Australian Building Codes Board
  - Australian Glass and Glazing Association
  - Australian Institute of Building Surveyors
  - Australian Windows Association
  - Building Designers Association of Australia
  - Clay Brick and Paver Institute
  - Concrete Masonry Association of Australia
  - Cyclone Testing Station (JCU)
  - Housing Industry Association
  - Master Builders Australia
  - National Timber Development Council
  - Roofing Tile Association of Australia
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This Standard was issued in draft form for comment as DR 04347.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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## Wind loads for housing

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## PREFACE

This Standard was prepared by the Standards Australia Committee BD-099, *Wind loads for housing* to supersede AS 4055—1992.

*This Standard incorporates Amendment No. 1 (July 2008). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

This Standard will be referenced in the Building Code of Australia 2006 edition (BCA 2006), thereby superseding in part the previous edition, AS 4055—1992, which will be withdrawn 12 months from the date of publication of this edition.

The objective of this Standard is to provide designers, builders and manufacturers of building products that are affected by wind loading with a range of wind speed classes that can be used to design and specify such products for use in housing that are within the limitations in this Standard.

This edition differs from the previous edition as follows:

- (a) Wind speeds are specified for the serviceability and ultimate strength/stability limit states only. Permissible stress has been omitted.
- (b) The Standard has been updated to reflect the latest technical knowledge on wind forces as represented by the 2002 edition of AS/NZS 1170.2.
- (c) The table of classes for site conditions has been updated.
- (d) Pressure factors have been made normative and calculation methods given for determining pressures and forces.
- (e) New racking tables have been included in limit states format.
- (f) A more detailed commentary has been added (Appendix A) to clarify the relationship of this Standard to AS/NZS 1170.2 and to give background to some of the clauses.

The term 'informative' has been used in this Standard to define the application of the Appendix to which it applies. An 'informative' appendix is only for information and guidance.

Notes to the text contain information and guidance. They are not an integral part of the Standard.

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## STANDARDS AUSTRALIA

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**Australian Standard**  
**Wind loads for housing**

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## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard specifies site wind speed classes for determining design wind speeds and wind loads for housing within the geometric limits given in Clause 1.2. The classes are for use in the design of housing and for design, manufacturing and specifying of building products and systems used for housing.

Wind loads for houses not complying with the geometric limits given in Clause 1.2 are outside the scope of this Standard.

## NOTES:

- 1 Commentary on the clauses of this Standard is given in Appendix A.
- 2 A worked example for the determination of topography is given in Appendix B.
- 3 Worked examples for the determination of terrain category and shielding class are given in Appendix C.
- 4 A worked example for racking forces is given in Appendix D.
- 5 Where houses do not comply with the geometric and other limitations of this Standard, use AS/NZS 1170.0 and AS/NZS 1170.2.

**1.2 LIMITATIONS**

For the purpose of this Standard, the following conditions (geometric limits) shall apply (see Figure 1.1):

- (a) The distance from ground level to the underside of eaves shall not exceed 6.0 m from ground level to the highest point of the roof, neglecting chimneys shall not exceed 8.5 m.
- (b) The width ( $W$ ) including roofed verandas, excluding eaves, shall not exceed 16.0 m, and the length ( $L$ ) shall not exceed five times the width.
- (c) The roof pitch shall not exceed  $35^\circ$ .

The tables in Section 5 are based on floor to ceiling height of 2.4 m and a floor depth of 0.3 m (floor level down to ceiling below).

**1.3 NORMATIVE REFERENCES**

The following referenced documents are indispensable for the application of this Standard:

## AS/NZS

- |        |                            |
|--------|----------------------------|
| 1170   | Structural design actions  |
| 1170.0 | Part 0: General principles |
| 1170.2 | Part 2: Wind actions       |

## ABCB

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| BCA | Building Code of Australia |
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