

NASH STANDARD

Residential and Low-rise Steel Framing

Part 1: Design Criteria 2005



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AMENDMENT A : December 2006

The 2005 edition of the NASH Standard Residential and Low-rise Steel Framing Part 1: Design Criteria 2005 is amended as follows, and the amendment should be inserted in the appropriate places.

SUMMARY: This amendment applies to Committee, Forward, Clauses 1.1, 1.2, 1.4, 1.7.1, 2.2.1, 2.2.2, 2.4.1, 2.4.2, 3.2.2.1 and Tables 2.2.1, 2.2.2(b), 2.3.1, 2.3.2(b), 3.2.2.1(a), 3.2.2.1(b), 3.2.2.2, 3.2.3.1(a), 3.2.3.1(b), 3.2.3.2, 3.5.4, 3.6.3, 4.2.3.

Page 2 Committee

Insert the following organisations

- University of Melbourne
- Australian Building Codes Board
- Rondo Building Services
- Swinburne University of Technology

Page 3 Forward

Insert the following prior to the last paragraph

'In this Standard, notes provide guidance only and are not normative. Appendices can be either informative or normative as indicated.'

Page 9 Clause 1.1 Scope and application

Insert the following paragraphs at the end of the section.

'For the design of houses (Class 1a) outside the geometric limits as shown in Fig 1.1(b), wind actions must be determined in accordance with AS/NZS 1170.2.

For design of low rise buildings other than houses within the geometric limits of Fig 1.1(b), the imposed actions must be determined in accordance with AS/NZS 1170.1. For buildings outside the geometric limits but not exceeding 8.5m in height as shown in Figure 1.1(b), the imposed actions must be determined in accordance with AS/NZS 1170.1 and the wind actions in accordance with AS/NZ 1170.2.'

Page 11 Clause 1.2 Referenced documents

Delete 'BCA Vol. 1 & 2'

And

Replace with 'Building Code of Australia Volume 1 & 2'



Insert

'AS 1170 Structural design actions Part 4 – 2006 Earthquake Actions in Australia'

Page 12 Clause 1.4 Design Actions

Insert sub heading before first paragraph

'1.4.1 General'

Insert following additional note

'5. Appendix E provides guidance for the determination of self weight for some systems.'

Insert following subsections

'1.4.2 Determination of imposed actions

For the design of houses the following imposed actions are applicable:

- (a) For Roofs not accessible except for normal maintenance -
 - Uniformly distributed action – 0.25 kPa (Q_1)
 - Concentrated action – 1.1 kN applied anywhere (Q_2)
- (b) For general floor areas
 - Uniformly distributed action – 1.5 kPa (Q_1)
 - Concentrated action - 1.8 kN (Q_2)
- (c) Balconies and roofs used for floor type activities less than 1 m above ground
 - Uniformly distributed action – 1.5 kPa (Q_1)
 - Concentrated action - 1.8 kN (Q_2)
 - Balcony edge action – 1.5kN/m run along edge
- (d) Balconies and roofs used for floor type activities 1 m or more above ground
 - Uniformly distributed action – 2.0 kPa (Q_1)
 - Concentrated action - 1.8 kN (Q_2)
 - Balcony edge action – 1.5kN/m run along edge

For floors of other occupancy the actions must be determined in accordance with AS/NZS 1170.1.

1.4.3 Determination of wind actions and reference pressures

1.4.3.1 Design wind speed and pressure for ultimate limit state

The designed wind speed V_u (in m/s) must be determined as follows:

- (a) For houses complying with geometric limits of Fig 1.1(b) $V_u = V_{h,u}$ as defined in AS 4055.
- (b) For other buildings $V_u = V_{des, \theta}$ as defined in AS/NZS 1170.2.
 $V_{des, \theta}$ is determined from regional wind speed (V_R) for the annual probability of exceedance as given in the Building Code of Australia

The reference pressure for the ultimate limit state must be determined as follows:

$$q_u = 0.6(V_u)^2/1000 \text{ kPa.}$$

1.4.3.2 Design wind speed and pressure for serviceability limit state

The designed wind speed V_s (in m/s) must be determined as follows:

- (a) For houses complying with geometric limits of Fig 1.1(b) $V_s = V_{h,s}$ as defined in AS 4055.
- (b) For other buildings $V_s = V_{des, \theta}$ as defined in AS/NZS 1170.2.



$V_{des, \theta}$ is determined from regional wind speed (V_R) for the annual probability of exceedance as given in the Building Code of Australia.

The reference pressure for the ultimate limit state must be determined as follows:

$$q_s = 0.6(V_s)^2/1000 \text{ kPa}$$

Page 14 Clause 1.7.1 Calculation

Replace '1.7.1' with '1.7.2'

In the last sentence replace 'shall be' with 'must be.'

Page 14 Clause 1.7.2 Testing

Replace '1.7.2' with '1.7.3'

Page 14 Clause 1.7.3 Combination of calculation and testing

Replace '1.7.3' with '1.7.4'

Page 16 Clause 2.2.1 Design for strength

Delete definition of V_u

Replace with

' V_u = as defined in 1.4.3.1'

Page 17 Clause 2.2.2 Design for serviceability

Delete definition of V_s

Replace with

' V_s = as defined in 1.4.3.2'

For Tables 2.2.1, 2.2.2(b), 2.3.1, 2.3.2(b), 3.2.2.1(a), 3.2.2.1(b), 3.2.3.1(a), 3.2.3.1(b)

Delete '(from AS 4055)' from the title

Page 20 Clause 2.4.1 Design for strength

Delete reference in definition of q_u

Replace with ' q_u = reference pressure, in kPa, for the ultimate limit state (see 1.4.3.1).'

Page 20 Clause 2.4.2 Design for serviceability

Delete last sentence of paragraph

Insert

'*Note - For plasterboard ceilings, these limits correspond to a Level 4 finish to AS/NZS 2589.*'

Page 24 Clause 3.2.2.1 Design for strength

Insert reference in definition of q_u

' q_u = reference pressure, in kPa, for the ultimate limit state (see 1.4.3.1).'



For Tables 3.2.2.2, 3.2.3.2, 3.5.4, 3.6.3, 4.2.3

Delete Table Heading

Replace with

Issue of concern	Serviceability Parameter	Action	Limit of Response	Application
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Page 30 Table 3.5.4

Delete comment in Application Column and replace with:

For single storey or upper storey top plate P_s arising from G_1 or $0.9 G_1 + W_{ur(up)}$

For lower storey top plate P_s arising from $G_1 + Q_2$

Page 32 Figure 3.6.2

Add following definition to legend

W = uniformly distributed load

Page 33 Table 3.6.3

Delete comments for application and replace with:

For sagging at mid span row

‘For single storey or upper storey lintel P_s or w_s arising from G_1

For lower storey lintel P_s or w_s arising from $G_1 + Q_2$ ”

For wind uplift

‘For upper storey lintel P_s or w_s arising from $0.9 G_1 + W_{ur(up)}$ ‘

