

NASH STANDARD

Residential and Low-rise Steel Framing

Part 1: Design Criteria 2005



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AMENDMENT B: November 2009

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

SUMMARY: This amendment applies to Clause 1.2, Clause 1.5.2, Appendix E Table E3 and E4 and introduces a new Appendix F.

Page 11 Clause 1.2 Referenced Documents

Delete

- AS 1170 Minimum design loads on structures
 - Part 1 – 1989 Dead and live loads and load combinations
 - Part 2 – 1989 Wind loads
 - Part 3 – 1990 Snow loads
 - Part 4 – 1993 Earthquake actions

And

Insert

- AS 1170 Structural design actions
 - Part 4 – 2007 Earthquake actions in Australia

Page 13 Clause 1.5.2 Section properties

Add the following at the end of the paragraph: 'Service holes in members must be taken into consideration in design (see Appendix F).'

Page 56 & 57 Appendix E – Tables E3 and E4

Delete Tables E3 and E4 and replace with following amended tables E3 and E4

(The typical value for self-weight of lightweight insulation has been increased for R5 insulation)



E3. TYPICAL ROOF CONSTRUCTION

Roof type	Self-weight (kN/m ²)
Steel sheet roofing 0.48 mm thick and 0.55 mm thick roof battens @ 900 mm	0.06
Steel sheet roofing 0.48 mm thick, 0.55 mm thick steel roof battens @ 900 mm, 10 mm plaster ceiling and 0.55 mm thick steel ceiling battens @ 450 mm, sarking and lightweight insulation	0.20
Concrete or Terracotta roof tiles, 0.55 mm thick steel roof battens @ 330 mm and sarking	0.61
Concrete or Terracotta roof tiles and 0.55 mm thick steel roof battens @ 330 mm, 10 mm plaster ceiling and 0.55 mm thick steel ceiling battens @ 450 mm, sarking and lightweight insulation	0.75



E4. TYPICAL SELF-WEIGHTS OF ROOF COMPONENTS

COMPONENT		Self-weight (kN/m ²)
ROOFING		
Steel Sheet	- 0.42 mm	0.044
	- 0.60 mm	0.060
Aluminium Sheet	- 1.2 mm	0.050
Tiles	- Terracotta	0.580
	- Concrete	0.540
	- Metal sheet	0.075
CEILING LINING		
Plasterboard	- 10 mm	0.075
	- 13 mm	0.100
Timber lining board	- 12 mm softwood	0.065
	- 19 mm softwood	0.105
Plywood	- 12 mm softwood	0.065
	- 8 mm hardwood	0.050
Hardboard	- 4.8 mm	0.050
	- 5.5 mm	0.055
Fibreboard	- 50 mm low density	0.100
	- 50 mm high density	0.200
Fibre cement sheet	- 4.5 mm	0.070
	- 6.0 mm	0.090
Lightweight insulation plus sarking		0.060
Heavyweight insulation		0.06 to 0.15
BATTENS OR PURLINS		
Z or C section 100mm x 1.5mm	@ 1200 mm	0.021
Z or C section 150mm x 1.5mm	@ 1200 mm	0.029
Z or C section 200mm x 1.9mm	@ 1500 mm	0.038
Z or C section 250mm x 2.4mm	@ 1500 mm	0.053
Z or C section 300mm x 3.0mm	@ 1800 mm	0.070
Z or C section 350mm x 3.0mm	@ 1800 mm	0.083
Ceiling batten 0.55mm	@ 450 mm	0.010
	@ 600 mm	0.007
Roof batten 0.55 mm	@ 330 mm (for tile roof)	0.020
	@ 900 mm (for sheet roof)	0.007
Roof batten 0.75 mm	@ 1200 mm	0.010
Roof batten 0.9 mm	@ 1200 mm	0.022



Insert Appendix F as follows:

Appendix F

SERVICE HOLES IN FRAME MEMBERS

(Normative)

1. Holes in frame members intended for electrical, communication or data services must be:
 - a. Flared with no sharp angles or projecting edges that would be likely to damage a conductor or the insulation, braiding or sheathing of a cable, or
 - b. Capable of being fitted with plastic grommets or bushes to protect the cable.
2. Holes in frame members intended for plumbing services must be capable of being fitted with plastic grommets or other effective means of isolation of the plumbing service from the frame members.

Notes:

1. Plumbing services can be copper, brass, stainless steel or plastic.
2. Plumbing, electrical, data and communications services may be installed when a building is first built, or when it is renovated, modified or extended.
3. Plumbing services use a variety of fasteners, clips, grommets and other accessories to support and isolate pipes and fittings. Where galvanic corrosion is likely to occur, isolation should be employed.
4. Effective support and isolation assists in preventing corrosion, heat loss, water hammer and physical abrasion of pipes due to thermal movement. These effects can be undesirable for the structural frame as well as the plumbing service.
5. Electrical, data and communications cables are frequently protected by conduit and accessories during installation and operation. In particular where there is a change in direction, either vertically or horizontally, of electrical, data or communication cable that is not enclosed in a conduit or the holes are not flared, plastic grommets or bushes should be fitted to protect the cable.

