

Chapter 10

ADDITIONAL CONSIDERATIONS

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10.1. SCOPE AND GENERAL

Steel components have known, predictable and consistent properties which are readily verified by testing. Steel framed floor, wall and roof framing systems are widely used in domestic and commercial applications in Australia and internationally. Applications in which fire, acoustic and thermal comfort considerations apply are readily designed and specified using manufacturers' product recommendations.

10.2. BUILDING FIRES

The objectives for fire safety as given in the BCA are to:

- Alert the occupants so that they safely evacuate;
- Avoid the spread of fire; and
- Protect a building from the effects of a bushfire.

For Class 1 buildings (detached houses, town houses, row houses, etc.) a smoke alarm should be installed so that the occupants are warned of the fire in sufficient time to safely evacuate. For detached houses, no fire protection of the structure is required unless the walls are close to the allotment boundary (eg. 900 mm). In this case, masonry veneer construction or a wall with an external fire rating should be provided.

For separating or common walls between Class 1 buildings (eg. common walls between townhouses) a fire rated wall is required. This can be constructed using steel framing together with fire rated plasterboard. Common methods of achieving the required rating are illustrated in Figure 10.1. See also Appendix E for further details [4.12].

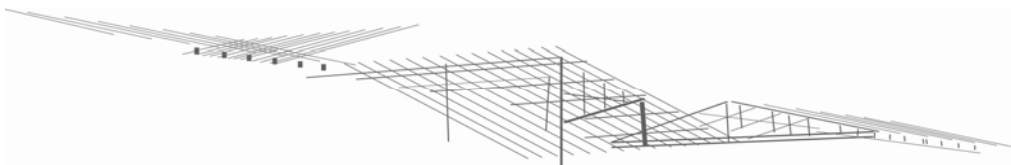
For single storey buildings of Class 2 & 3, eg. apartments, hotels, motels, and public buildings (Class 9), the fire rating requirements are similar to those described above. For two storey and above buildings the walls and floors are generally required to have a fire rating.



P.O. Box 1085 Hartwell
Victoria Australia 3124
ABN: 74 798 162 591
Phone: 03 9809 1333
Toll-free: 1800 656 986
Fax: 03 9809 1399
enquiries@nash.asn.au
www.nash.asn.au

NASH Handbook

Design of Residential and Low-rise Steel Framing



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In particular, and to avoid doubt, the use of the Handbook does not:

- Guarantee acceptance or accreditation of a design, material or building solution by any entity authorised to do so under any law;
- Mean that a design, material or building solution complies with the Building Code of Australia (BCA);
- Absolve the user from complying with any Local, State, Territory or Australian Government legal requirements.

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Preface

Steel framing is commonly chosen for houses and other forms of low-rise construction as it is:

- Cost effective
- Dimensionally stable
- Non combustible
- Termite and borer proof
- Durable
- Strong but lightweight
- 100 percent recyclable
- Consistent in its properties and performance

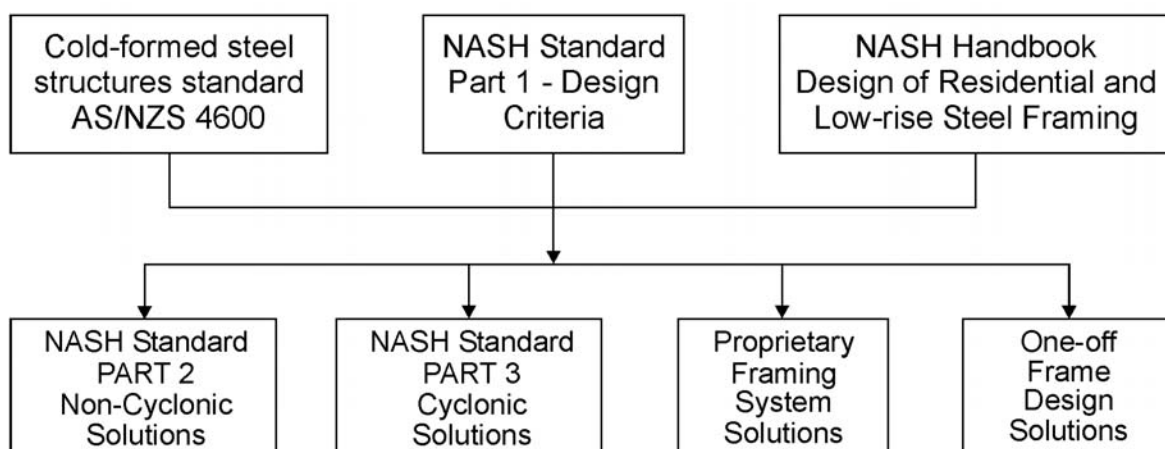
The NASH Standard – Residential and Low-rise Steel Framing Part 1: Design Criteria sets out the design criteria, in terms of structural adequacy and serviceability, for use in the design of low-rise steel framing. This includes houses as well as other low-rise residential and commercial buildings.

This Handbook aims to assist the steel framing designer in the application of the NASH Standard Part 1. However, it does not purport to provide a detailed guide on the use of the Cold-formed steel structures standard AS/NZS 4600 or replace engineering judgement.

The Handbook contains performance data for a number of proprietary components such as screws, rivets, bolts and anchors. This information has been reproduced in Appendices in good faith from information provided by the relevant manufacturers. It has been included to assist the use of the Handbook as a reference for users, but is not exhaustive. Handbook users should contact relevant manufacturers directly for additional performance information.

Two separate Standards (Part 2 & 3) are being developed to provide steel framing span tables and related information and these will be published in due course. The relationship between the Standards and this Handbook is illustrated below.

The NASH web site www.nash.asn.au is regularly updated and provides supplementary information to this Handbook.



National Association of Steel-Framed Housing Inc

NASH is an active industry association centred on light structural framing systems for residential and similar construction. NASH represents the interests of suppliers, fabricators and customers – all those involved in steel framing systems.

NASH's key objectives are to:

- Support the long term growth and sustainability of the steel frame industry.
- Maximise awareness of the steel frame industry in the market place.
- Promote the advantages of steel frames to the building industry and homeowners.

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Australian contributors

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