

Appendix D

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D1 CSIRO TESTS

The following load tables are based on CSIRO tests in 1994 and should be used only as indications of the connector capacities assuming adequate end/edge distance. In general three tests were carried out for each configuration and a sampling factor of 1.83 has been applied to the test data.

Table D1.1 10-16x16 screw shear capacities from test data

Connection details	Ultimate strength design capacity (kN)	Failure mode
Drill pt. screw 1.6 mm G300/1.6 mm G300	3.50	Screw sheared
Needle pt. screw 0.42 mm G300/0.42 mm G300	0.88	Tilt then plough
Drill pt. screw 1.0 mm G550/0.42 mm G300	1.00	Plough
Drill pt. screw 1.0 mm G550/1.0 mm G550	3.50	Screw sheared
Drill pt. screw 0.42 mm G300/0.42 mm G300	0.82	Tilt then plough
Needle pt. screw 1.0 mm G300/1.0 G300	2.90	Tilt then plough
Needle pt. screw 0.42 mm G550/0.42 mm G550	1.20	Tilt then plough
Drill pt. screw 1.0 mm G300/0.42 mm G550	1.30	Tilt then plough
Drill pt. screw 1.6 mm G450/1.6 mm G450	3.50	Screw sheared
Drill pt. screw 1.0 mm G300/1.0 mm G300	2.50	Tilt then plough
Drill pt. screw 0.42 mm G550/0.42 mm G550	1.25	Tilt then plough

Table D1.2 10-16x16 screw pull out capacities from test data

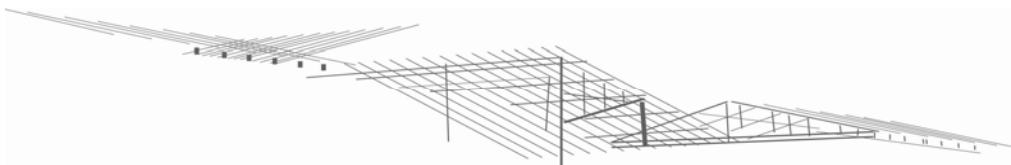
Connection details	Ultimate strength design capacity (kN)	Failure mode
Drill pt. screw 1.6 mm G300/1.6 mm G300	2.09	Thread pull out
Needle pt. screw 0.42 mm G300/0.42 mm G300	0.31	Thread pull out
Drill pt. screw 1.0 mm G550/0.42 mm G300	1.08	Head pull out
Drill pt. screw 1.0 mm G550/1.0 mm G550	1.46	Thread pull out
Drill pt. screw 0.42 mm G300/0.42 mm G300	0.27	Thread pull out
Needle pt. screw 0.42 mm G550/0.42 mm G550	0.63	Thread pull out
Drill pt. screw 1.0 mm G300/0.42 mm G550	0.95	Thread pull out
Drill pt. screw 1.6 mm G450/1.6 mm G450	2.50	Thread pull out
Drill pt. screw 1.0 mm G300/1.0 mm G300	1.20	Thread pull out
Drill pt. screw 0.42 mm G550/0.42 mm G550	0.53	Thread pull out



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NASH Handbook

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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

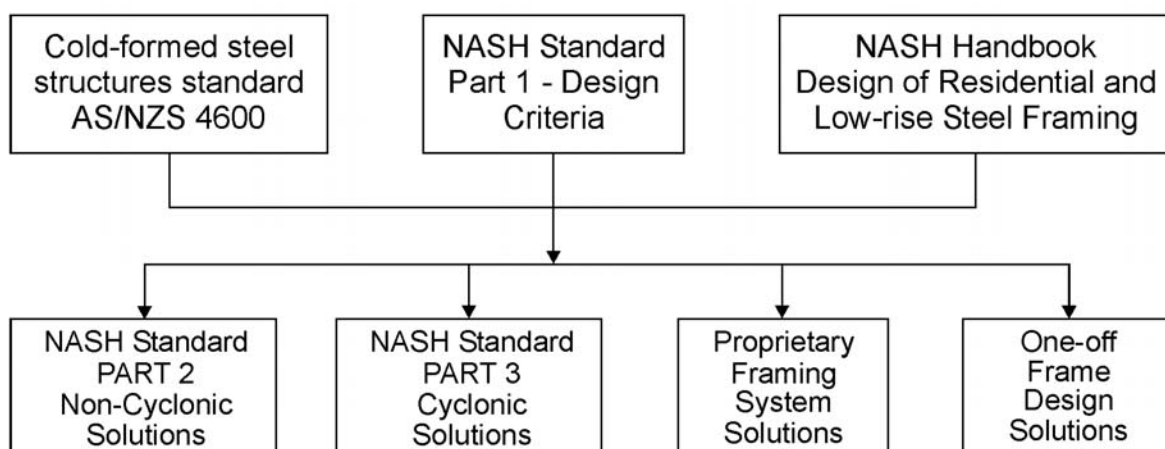
The NASH Standard – Residential and Low-rise Steel Framing Part 1: Design Criteria sets out the design criteria, in terms of structural adequacy and serviceability, for use in the design of low-rise steel framing. This includes houses as well as other low-rise residential and commercial buildings.

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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