



Built-in components for masonry construction

Part 1: Wall ties



AS 2699.1:2020

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- Australian Building Codes Board
- Australian Industry Group
- Australian Institute of Building Surveyors
- Australian Stainless Steel Development Association
- Australian Steel Institute
- Bureau of Steel Manufacturers of Australia
- Concrete Masonry Association of Australia
- Galvanizers Association of Australia
- Housing Industry Association
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Preface

This Standard was prepared by Standards Australia Committee BD-028, Masonry Wall Ties and Accessories, to supersede AS/NZS 2699.1:2000.

This Standard is the first part of a three-part series on masonry wall ties, connectors and accessories, and lintels and shelf angles. The series comprises the following:

AS 2699.1, *Built-in components for masonry construction, Part 1: Wall ties*

AS 2699.2, *Built-in components for masonry construction, Part 2: Connectors and accessories*

AS 2699.3, *Built-in components for masonry construction, Part 3: Lintels and shelf angles (durability requirements)*

The objective of this Standard is to provide manufacturers with requirements for the classification of wall ties into three duty ratings.

Changes to the previous edition include the following:

- (a) Type A cavity wall ties and veneer wall ties are classified according to mean strength only.
- (b) Previous editions of this Standard included Type B ties, which were specified in New Zealand only. These have been removed from this edition of the Standard.
- (c) All ties are classified for their corrosion resistance.
- (d) Provisions are also included for remedial (retrofitted) ties.
- (e) Test methods are given for determination of —
 - (i) resistance to water transfer;
 - (ii) mean strength; and
 - (iii) corrosion resistance.

The types and spacing of ties necessary to meet design requirements are specified in AS 3700, *Masonry structures*, and AS 4773.1, *Masonry in small buildings, Part 1: Design* and, AS 4773.2, *Masonry in small buildings, Part 2: Construction*.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

Notes to clauses in this Standard are for information and guidance only and conformance with them is not a requirement of the Standard.

This Standard includes a commentary on some of the clauses and tables. The commentary directly follows the relevant clause or table, is designated by “C” preceding the clause/table number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

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Section 1 Scope and general

1.1 Scope

This Standard specifies requirements for wall ties for use in tying together —

- (a) the leaves of cavity masonry walls;
- (b) masonry veneer walls and loadbearing frames; and
- (c) masonry veneer walls against a strong backing wall.

This Standard applies to wall ties used in masonry described in AS 3700, AS 4773.1, and AS 4773.2, including those used in thin-jointed masonry [for example autoclaved aerated concrete (AAC) blockwork].

NOTE 1 Type B wall ties are not used in this Standard. For Type B wall ties, refer to AS/NZS 2699.1:2000, which provides definitions, embedment, movement and tolerance requirements, marking, and methods of testing.

NOTE 2 AS 2699.2 specifies the durability performance and test procedures for structural performance of connectors and accessories used in masonry construction.

NOTE 3 AS 2699.3 specifies the requirements for durability of lintels and shelf angles.

NOTE 4 This Standard gives categories of wall ties, and classifies wall ties by mean strength and durability.

NOTE 5 The durability classifications employed in this Standard are compatible with the environments specified in ISO 9223, AS 4312—2008, AS 3700, AS 4773.1 and AS 4773.2.

NOTE 6 Design and installation of wall ties are specified in AS 3700 and AS 4773.1 (design) and AS 4773.2 (construction).

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1397, *Continuous hot-dip metallic coated steel sheet and strip—Coatings of zinc and zinc alloyed with aluminium and magnesium*

AS 2193, *Calibration and classification of force-measuring systems*

AS 2511.1.4, *Methods of test for metallic and related coatings, Method 1.4: Local thickness tests—Magnetic induction and eddy current methods*

AS 3700, *Masonry structures*

AS 3894.3, *Site testing of protective coatings, Method 3: Determination of dry film thickness*

AS 4773.1, *Masonry in small buildings Part 1: Design*

AS 4773.2, *Masonry in small buildings Part 2: Construction*

AS/NZS 4455, *Masonry units and segmental pavers*