



# **Built-in components for masonry construction**

## **Part 1: Wall ties**



AS 2699.1:2020

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- Australian Steel Institute
- Bureau of Steel Manufacturers of Australia
- Concrete Masonry Association of Australia
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## **Part 1: Wall ties**

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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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## NOTES

# Australian Standard®

## Built-in components for masonry construction

### Part 1: Wall ties

#### 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 2331.1.4, *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*