

Australian Standard<sup>®</sup>

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**WALL TIES FOR MASONRY  
CONSTRUCTION**

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This Australian standard was prepared by Committee BD/28, Masonry Reinforcement and Wall Ties. It was approved on behalf of the Council of the standards Association of Australia on February 1984 and published on 11 May 1984.

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The following interests are represented on Committee BD/28:

Acceptable Standards of Construction Committee, N.S.W.  
Association of Consulting Engineers, Australia  
Brick Development Research Institute  
Concrete Masonry Association of Australia  
Confederation of Australian Industry  
Experimental Building Station  
Housing Commission of New South Wales  
Master Builders Federation of Australia  
Metal Trades Industry Association

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## PREFACE

This standard was prepared by the Association's Committee on Masonry Reinforcement and Wall Ties to replace SAA Int. 324 (1953) metal Wall Ties for Brickwork. SAA Int. 324 will be withdrawn on 1 October 1984.

This standard classifies wall ties into four duty ratings. Cavity wall ties are classified according to characteristic strength and stiffness. Masonry veneer ties are classified according to characteristic strength only.

Test methods have been included for the determination of resistance to water transfer and for determination of characteristic strength and stiffness.

The type and spacing of ties necessary to meet design requirements are specified in AS 1475, SAA Blockwork Code or AS 1640, SAA Brickwork Code.

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## STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard**  
**for**  
**WALL TIES FOR MASONRY CONSTRUCTION**

**1 SCOPE.** This Standard specifies the requirements for wall ties for use in tying together—

- (a) the leaves of cavity brick or cavity block walls; and
- (b) masonry veneer walls of brick or block and load-bearing frames.

**NOTES:**

1. This standard gives categories of wall ties, and classifies wall ties by characteristic strength and, where applicable, characteristic stiffness.
2. The use of wall ties is covered by AS 1475 and AS 1640. To satisfy the requirements of those Standards, the wall ties must be capable of transferring lateral forces—
  - (a) from one masonry leaf to the other in a cavity wall; and
  - (b) from masonry veneer leaf to load-bearing frame.

**2 CLASSIFICATION AND CATEGORY.**

**2.1 Classification.** Wall ties shall be classified in accordance with their characteristic strength and stiffness as shown in Table 1. The classifications are as follows:

- (a) Light duty.
- (b) Medium duty.
- (c) Heavy duty.
- (d) Extra-heavy duty.

**2.2 Category.** There are two categories of wall ties, as follows:

- (a) Cavity tie. A cavity tie is a wall tie designed to tie together two leaves of masonry that are separated by a clear cavity of any width.
- (b) Masonry veneer tie. A masonry veneer tie is a wall tie designed to tie a single leaf of masonry to a load-bearing frame. There are three types of masonry veneer tie, as follows:
  - (i) Face-fixed type—designed for fixing to the outer face of the load-bearing member.
  - (ii) Flange-fixed type—designed for fixing to the flange of the load-bearing member.
  - (iii) Side-fixed type—designed for fixing to the side of the load-bearing member.

**3 NEW MATERIALS AND METHODS.** This Standard shall not be interpreted as preventing the use of materials or methods of manufacture not specifically referred to herein.

If it is desired to use materials or methods not covered by this standard, details may be submitted to the SAA Committee on Masonry Reinforcement and Wall Ties for an expression of opinion as to their compliance with the intention of this Standard.

NOTE: It will be necessary to seek approval from the appropriate Building Authority for the use of new materials or products.

**4 REFERENCED DOCUMENTS.** The following Standards are referred to in this Standard:

AS 1279 Copper Refinery Shapes

AS 1397 Hot-dipped Zinc-coated or Aluminium/Zinc-coated Steel Sheet in Coil and Cut Lengths

AS 1449 Wrought Alloy Steels—Stainless and Heat-resisting Steel Plate, Sheet and Strip

AS 1475 SAA Blockwork Code  
Part 1—Unreinforced Blockwork  
Part 2—Reinforced Blockwork

AS 1566 Copper and Copper Alloy Plate, Colled Bar, Sheet Strip and Foil for General Engineering Purposes

AS 1640 SAA Brickwork Code

AS 1650 Galvanized Coatings

AS 1789 Electroplated Coatings—Zinc on Iron or Steel

AS 1790 Electroplated Coatings—Cadmium on Iron or Steel

AS 2193 Methods for Calibration and Grading of Force-measuring Systems of Testing Machines

**5 DEFINITIONS.** For the purposes of this Standard, the following definitions apply:

**5.1 Characteristic strength**—that strength which has a 95 percent probability of being exceeded.

**5.2 Characteristic stiffness**—that stiffness which has a 95 percent probability of being exceeded.

**5.3 Lateral loads**—the loads applied normal to the face of the wall that impose either compressive or tensile forces on the ties.

**6 MATERIALS.**

**6.1 General.** Materials for manufacture of masonry accessories shall be either corrosion-resistant in themselves or shall be suitably plated or coated to impart corrosion resistance.

Accessories shall be classified as either normally or highly corrosion resistant depending upon the corrosion resistance of the material of manufacture.

**NOTES:**

1. AS XXXX, SAA Masonry Code, specifies the circumstances where accessories of each category should be used.
2. Materials selected should provide a satisfactory performance for at least the expected life of the building.

**6.2 Manufacturing materials.** Masonry accessories shall be deemed to comply with the requirements for normal or high corrosion resistance when they are manufactured from the following materials:

- (a) Normal corrosion resistance.

	<i>Material</i>	<i>Standard</i>
(i)	Copper 110 or 122	AS 1279
(ii)	Copper Alloys	AS 1566
(iii)	Sheet Steel	AS 1397