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Australian Standard®
1653—1985

CALCIUM SILICATE BUILDING BRICKS

STANDARDS ASSOCIATION OF AUSTRALIA
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The following interests are represented on Committee BD/22:

Association of Consulting Engineers of Australia

Australian Institututc of Building Surveyors

Australian Uniform Building Regulations Coordinating Council

Calcium Silicate Brick Manufacturers

CSIRO, Division of Building Research

Master Builders Federation of Australia

National Building Technology Centre

Royal Australian Institute of Architects

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AUSTRALIAN STANDARD

CALCIUM SILICATE BUILDING BRICKS

AS 1653—1985

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PREFACE

This standard was prepared by the Association's Committee on Sand-lime Bricks to supersede AS 1653—1974, Calcium Silicate Bricks.

During the preparation of this standard, the committee kept in mind the need to ensure that it was technically compatible with other standards in the masonry group, particularly in view of the fact that the Association intends to prepare a single set of test methods for all masonry units.

This standard differs from the previous edition in the following respects:

(a) *Larger units.* In recognition of the trend in recent years towards increasingly larger units, the standard now includes them. The terms 'unit' and 'masonry unit' are introduced as generic terms for both 'bricks' and 'blocks'. No agreement about the distinction between the latter has been achieved in the industry.

(b) *Provision for hollow units.* Minimum face-shell and web thicknesses are included.

(c) *Compressive strength.* This is now specified as the characteristic unconfined compressive strength.

(d) *Additional test methods:*

(i) Potential to effloresce.

(ii) Lateral modulus of rupture.

(iii) Permeability to water.

No limits are given for these properties, but the test methods for the determination of these characteristics are given.

In preparing this standard, the committee took account of the practice of calling up Australian standards in building regulations. In such cases, the optional advisory and purchasing clauses not specific to the basic physical requirements of materials are not deemed to be acceptable in regulations. For this reason, advice on ordering, inspection and supply procedures and the liability of units to rejection have been presented as an appendix.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
CALCIUM SILICATE BUILDING BRICKS

1 SCOPE. This standard specifies requirements for calcium silicate building bricks. (hereafter referred to as 'masonry units' or 'units').

NOTE: The standard provides a basic level of quality and regularity in size and shape for all calcium silicate building bricks. Guidance is given in Appendix A on specification and ordering as a matter for agreement between purchaser and supplier.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1475	SAA Blockwork Code
AS 1640	SAA Brickwork Code
AS 2102	External Micrometers
AS 2103	Dial Gauges and Dial Test Indicators
AS 2193	Methods for Calibration and Grading of Force-measuring Systems of Testing Machines
JIS A5406	Hollow Concrete Blocks

3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

3.1 Brick—a manufactured unit of generally rectangular prismatic shape intended for use in bonded masonry construction.

3.2 Characteristic shrinkage—a measure of the maximum potential lineal drying shrinkage of a masonry unit.

NOTE: The characteristic shrinkage is a laboratory value determined for the purposes of design of masonry in accordance with AS 1475 and AS 1640. It is not directly indicative of the shrinkage of masonry in a building.

3.3 Efflorescence—the occurrence on the surface of a masonry unit (or on a wall) of a deposit (usually white and powdery) due to the crystallization and subsequent dehydration of soluble salts.

3.4 Lot—a group of masonry units of one type and of specified characteristics and dimensions, made by the same manufacturer, or obtained from the same source.

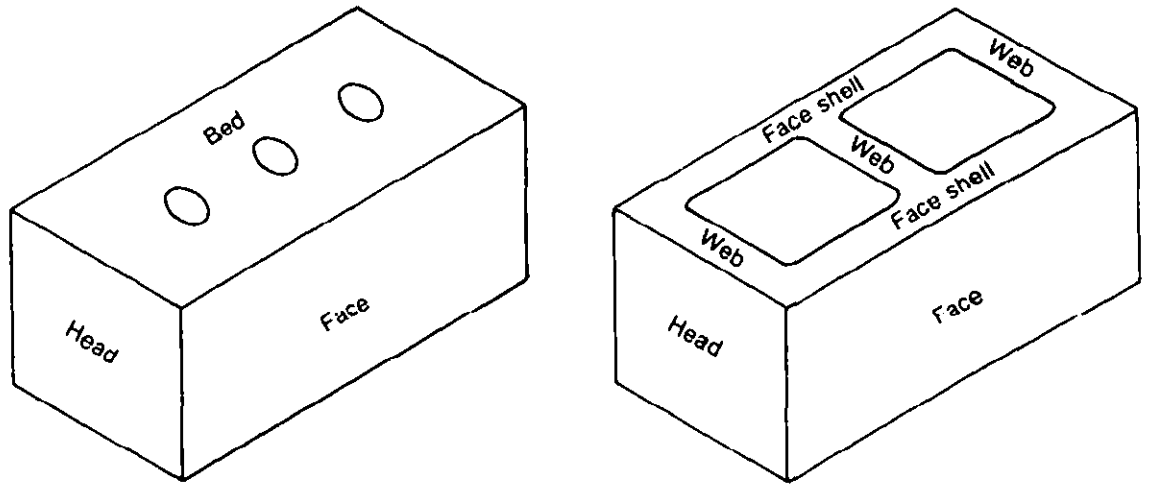
3.5 Manufacturing dimensions—the dimensions adopted for manufacture, to which the tolerances specified in Clause 5.3 apply.

4 MATERIALS. The units shall consist essentially of a uniform mixture of lime with sand, fine crushed rock and/or fine aggregates, including sufficient siliceous material to form a binder, mechanically pressed together and combined by the action of steam under pressure. Other suitable materials may be included, provided that the units comply with the requirements of this standard.

5 PHYSICAL PROPERTIES.

5.1 Form.

5.1.1 *General.* Masonry units may be solid, cored or hollow or perforated, provided that no perforation is within 15 mm of the faces or heads of a unit (see Fig. 1).



(a) Cored unit (b) Hollow unit

Fig. 1. TERMS APPLIED TO MASONRY UNITS