

Australian Standard<sup>®</sup>

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**The design and installation of  
corrugated fibre-reinforced  
cement roofing and wall cladding**

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This Australian Standard was prepared by Committee BD/40, Fibre Cement Building Products. It was approved on behalf of the Council of Standards Australia on 14 August 1989 and published on 19 January 1990.

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The following interests are represented on Committee BD/40:

Australian Institute of Building Surveyors  
Australian Uniform Building Regulations Co-ordinating Council  
Confederation of Australian Industry  
Department of Administrative Services—Australian Construction Services

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## PREFACE

This Standard was prepared by the Standards Australia Committee on Fibre Cement Building Products to supersede AS 1639—1974, *Code of practice for design and installation of corrugated asbestos cement roofing*.

All references to asbestos have been deleted, and the scope has been extended to include cladding for walls and test requirements for resistance to wind loads.

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## STANDARDS AUSTRALIA

## Australian Standard

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cement roofing and wall cladding

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This Standard sets out requirements and recommendations for materials, design and installation of corrugated fibre reinforced cement roofing and wall cladding.

NOTE: Advice on the provision of roof ventilation is included in Appendix A.

**1.2 REFERENCED DOCUMENTS.** The documents below are referred to in this Standard:

AS	
1170	SAA Loading Code
1170.1	Part 1: Dead and live loads
1170.2	Part 2: Wind forces
1250	SAA Steel Structures Code
1397	Steel sheet and strip—Hot-dipped zinc-coated or aluminium/zinc coated
1481	SAA Prestressed Concrete Code
1538	SAA Cold-formed Steel Structures Code
1554	SAA Structural Steel Welding Code
1554.1	Part 1: Welding of steel structures
1562	Design and installation of metal roofing
1650	Galvanized coatings
1657	SAA Code for Fixed Platforms, Walkways, Stairways and Ladders
1664	SAA Aluminium Structures Code
1684	SAA Timber Framing Code
1720	SAA Timber Structures Code
2179	Metal rainwater goods—Specification
2180	Metal rainwater goods—Selection and installation
2334	Steel nails—Metric series
2908	Cellulose cement products—Corrugated sheets for roofing and cladding
3566	Screws—Self-drilling—For the building and construction industries
3600	Concrete structures
3700	SAA Masonry Code

**1.3 DEFINITIONS.** For the purpose of this Standard the definitions below apply.

**1.3.1 Preformed sheet**—a fibre-reinforced cement roofing sheet with longitudinal corrugated ribs which increase its resistance to vertical loads.

**1.3.2 Accessories**—gutters for rainwater, ridge capping, valley gutters, flashings, down pipes, gutter brackets and the like.

**1.3.3 Span**—the distance between the centrelines of sheet fastenings to adjacent purlins or battens, measured normal to such centre lines.

**1.3.4 Loaded panel**—an area bounded by adjacent purlins or battens in one direction and by lines of adjacent fastenings in the other.

**1.4 RESISTANCE TO WIND FORCES.** The completed cladding shall be resistant to the following wind forces when tested in accordance with Appendix B:

(a) *Working load test.* When the roof or model is subjected for 15 min to force derived from the combination of internal positive pressure and external negative pressure specified in AS 1170.2 for the particular part of the roof being tested, no pull-through of fixings, no permanent local deformation, or no fracture or failure of any part of the sheeting or of the fastenings shall occur. The maximum deflection between adjacent purlins or battens of the sheeting and fastening system shall not exceed  $S/90$ , where  $S$  is the span as defined in Clause 1.3.3. The residual deflection 5 min after the removal of the force shall not exceed  $S/900$ .

If a model is tested in an inverted position, the test force shall be equal to the wind forces as specified in the preceding paragraph, less forces equal to twice the dead load of the sheeting.

(b) *Ultimate load test.* When the roof or model is subjected for not less than 1 min to a force 1.8 times that derived from the combination of internal positive pressure and external negative pressure specified in AS 1170.2 for the particular part of the roof being tested, all parts of the sheeting shall remain substantially in position notwithstanding any permanent distortion that might occur in the sheeting and fastenings.

If a model is tested in an inverted position, the test force shall be 1.8 times the wind force as specified in the preceding paragraph, less forces equal to twice the dead load of the sheeting.

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