

Australian/New Zealand Standard™

**Design and installation of sheet roof
and wall cladding**

**Part 2: Corrugated fibre-reinforced
cement**

AS/NZS 1562.2:1999

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Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Institute of Building
Federation of Wall and Ceiling Industries, Australia and New Zealand
Housing Industry Association, Australia
New Zealand Manufacturers Federation
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Australian/New Zealand Standard™

Design and installation of sheet roof and wall cladding

Part 2: Corrugated fibre-reinforced cement

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD/40, Fibre Cement Building Products, to supersede (in part) AS 1639 — 1990, *The design and installation of fibre-reinforced cement roofing and wall cladding*.

This Standard is the second part in a series on sheet roof and wall cladding Standards. To date the series comprises the following:

- AS 1562 Design and installation of sheet roof and wall cladding
- AS 1562.1 Part 1: Metal
- AS/NZS 1562.2 Part 2: Corrugated fibre-reinforced cement (this Standard)
- AS/NZS 1562.3 Part 3: Plastic

Additional part under consideration is as follows:

Part 4: Methods of testing sheet roof and wall cladding

The objective of this Standard is to provide the manufacturers, specifiers and installers of corrugated fibre-reinforced cement roof and wall cladding with the specifications covering the performance, application and installation of such corrugated products for use in domestic, commercial and industrial applications.

The main changes of this revision to the previous edition are as follows:

- (a) Develop it as a Joint Australian/New Zealand Standard.
- (b) Amalgamate AS 1639 — 1990 into the AS/NZS 1562 series.
- (c) Update the Standard to include newly developed technology and information.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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Australian/New Zealand Standard**Design and installation of sheet roof and wall cladding**

Part 2: Corrugated fibre-reinforced cement

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for the materials, design and installation of corrugated fibre-reinforced cement roof and wall cladding.

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

1.2 APPLICATION

This Standard will be referenced in the Building Code of Australia by way of BCA Amendment No. 6 to be published by 1 January 2000, thereby superseding the previous edition of AS 1639—1990, which will be withdrawn 12 months from the date of publication of this edition.

1.3 REFERENCED DOCUMENTS

A list of documents referred to in this Standard is given in Appendix B.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.4.1 Accessories

Gutters for rainwater, ridge capping, valley gutters, flashings, down pipes, gutter brackets and the like.

1.4.2 Loaded panel

An area bounded by adjacent purlins or battens in one direction and by lines of adjacent fastenings in the other.

1.4.3 Span

The distance between the centre-lines of sheet fastenings to adjacent purlins or battens measured normal to such centre-lines.

1.5 RESISTANCE TO WIND FORCES

The completed cladding shall be resistant to the following wind forces when tested in accordance with Appendix C:

- (a) *Working load test* When the roof or model is subjected for 15 min to a force derived from the combination of internal positive pressure and external negative pressure specified in AS 1170.2 or NZS 4203 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 1.4.3. 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, as specified in AS 1170.2 or NZS 4203 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.

SECTION 2 MATERIALS

2.1 FIBRE-REINFORCED CEMENT SHEETING

Corrugated fibre-reinforced cement sheeting shall comply with AS 2908.1.

2.2 OTHER MATERIALS

Corrugated sheeting complying with the dimensional requirements of AS 2908.1 but of composition different from that specified in AS 2908.1 may be used providing —

- (a) it complies with the strength requirements of AS 2908.1; and
- (b) its resistance to wind forces complies with the requirements of Clause 1.5 of this Standard.

2.3 FASTENINGS

Steel fastenings (bolts and nuts, screws and washers) used for securing fibre-reinforced cement sheeting and accessories shall be corrosion resistant.

Corrosion-resistant coatings, where used, shall be sufficiently robust to remain substantially undamaged by the fixing process.

Self-drilling screws shall comply with AS 3566.

Fastenings for safety mesh shall comply with AS 2334.

NOTE: See AS/NZS 4791 for testing the corrosion resistance of zinc coating applied by hot-dip galvanizing.

2.4 SEALANTS AND WASHERS

2.4.1 General

All sealants and washers, where used, shall be in accordance with the sheeting manufacturer's recommendations, and shall be applied as may be necessary to make the roof completely waterproof.

2.4.2 Diamond washers

Diamond washers shall be galvanized in accordance with AS 1397, and shall have the following dimensions:

- (a) Width 35 mm.
- (b) Thickness 1.2 mm.
- (c) Radius of curvature 38 mm.
- (d) Length 45 mm.
- (e) Diameter of hole 8 mm.

2.5 SAFETY MESH

2.5.1 Requirements

2.5.1.1 General

Safety mesh shall be constructed of steel wire with a minimum tensile strength of 450 MPa.

The wires forming the mesh shall be welded using electrical resistance techniques under pressure with a maximum mesh spacing of 300 mm.

The mesh shall be galvanized in accordance with AS/NZS 4791.