

Australian/New Zealand Standard™

**Thermal insulation materials for
buildings**

**Part 1: General criteria and technical
provisions**



AS/NZS 4859.1:2018

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee BD-058, Thermal Insulation. It was approved on behalf of the Council of Standards Australia on 8 October 2018 and by the New Zealand Standards Approval Board on 6 November 2018.

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The following are represented on Committee BD-058:

Aluminium Foil Insulation Association
Australian Building Codes Board
Australian Cellulose Insulation Manufacturers Association
Australian Institute of Refrigeration Air Conditioning and Heating
Australian Professional Thermography Association
AWTA Product Testing
Building Research Association of New Zealand
Consumers Federation of Australia
CSIRO
Engineers Australia
Housing Industry Association
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Master Builders Australia
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National Electrical and Communications Association
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Thermal insulation materials for buildings

Part 1: General criteria and technical provisions

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD-058, Thermal Insulation, to supersede, AS/NZS 4859.1:2002, *Materials for the thermal insulation of buildings, Part 1: General criteria and technical provisions*.

The objective of this revision is to restructure the Standard as a material properties and test methods Standard and include latest thermal insulation products testing not previously covered by the Standard.

The significant changes in this edition are as follows:

- (a) The relocation of all thermal insulation system design to a separate Part of this series (i.e. AS/NZS 4859.2).
- (b) The deletion of the references to the AS 1366 suite of Standards.
- (c) The inclusion of a wider range of thermal insulation materials and, in particular, rigid foam products.

Emphasis has been given to the development of clear and concise requirements for determination and labelling of thermal performance, a primary performance requirement for these materials. Another consideration is the effect of ageing of materials where there is a significant change in the insulation properties of those materials over time.

In this Standard, notes to the main text are for information and guidance only.

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.

If alternative tests to those prescribed in this Standard are to be used, they would need to be considered as part of the development of a Performance Solution to demonstrate compliance with the relevant Performance Requirements of the National Construction Code (NCC) and be accepted by the relevant building authority.

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Australian/New Zealand Standard
Thermal insulation materials for buildings

Part 1: General criteria and technical provisions

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard provides general criteria, technical provisions and methods of test for materials that are used for thermal insulation within buildings, including materials used for thermal insulation of ductwork and pipework.

Specific requirements for individual materials or insulation types are given in Sections 4 to 9.

This Standard does not address the following:

- (a) Materials for the insulation of windows or glazing.
- (b) Fire performance.
- (c) Installation requirements of thermal insulation.
- (d) Performance requirements of systems or materials that have some primary function other than providing thermal insulation.

1.2 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS

1134 Wool—Determination of wool base and vegetable matter base of core samples of raw wool

1595 Cold-rolled unalloyed, steel sheet and strip

2001 Methods of test for textiles

2001.6.1 Method 6.1: Miscellaneous tests—Determination of the resistance of textiles to certain insect pests

2001.7 Method 7: Quantitative analysis of fibre mixtures

4200 Pliable building membranes and underlays

4200.2 Part 2: Installation

AS/NZS

4200 Pliable building membranes and underlays

4200.1 Part 1: Materials

4201 Pliable building membranes and underlays—Methods of test

4201.1 Method 1: Resistance to dry delamination