Australian/New Zealand Standard™

Materials for the thermal insulation of buildings

Part 1: General criteria and technical provisions
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Australian/New Zealand Standard™

Materials for the thermal insulation of 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 Performance and Insulation of Dwellings, to supersed the following standards:

AS
2352—1980 Glossary of terms for thermal insulation of buildings
2461—1981 Mineral wool thermal insulation—Loose fill
2462—1981 Cellulosic fibre thermal insulation
2463—1981 Sea grass bulk thermal insulation
2464.1—1981 Methods of testing thermal insulation, Part 1: Corrosiveness of thermal insulation
2464.2—1981 Methods of testing thermal insulation, Part 2: Bulk density of blown fibrous loose-fill thermal insulation
2464.3—1983 Methods of testing thermal insulation, Part 3: Thermal resistance of low-density fibrous loose-fill thermal insulation
2464.4—1981 Methods of testing thermal insulation, Part 4: Length, width and thickness of batt or blanket type thermal insulation
2464.5—1985 Methods of testing thermal insulation, Part 5: Steady-state thermal transmission properties by means of the heat flow meter
2464.6—1983 Methods of testing thermal insulation, Part 6: Steady-state thermal transmission properties by means of the guarded hotplate
2464.7—1990 Methods of testing thermal insulation, Part 7: Determination of the average thermal resistance of low-density mineral wool thermal insulation—Batt and blanket
3742—1990 Mineral wool thermal insulation—Batt and blanket

NZS
4222:1992 Materials for the thermal insulation of buildings

This Standard incorporates Amendment No. 1 (December 2006). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to address the standardization and performance verification requirements of all thermal insulation materials that may be used in buildings. Insulation materials or assemblies are broadly classified into groups, having different testing requirements over a number of aspects of performance. These classifications may be applied to all unspecified products and materials according to definable characteristics. This Standard also provides specific requirements for individual types of insulation materials.

Particular 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 durability.

Standards Australia draws attention to the fact that this is not an installation Standard. Installation requirements can be obtained from other sources, including AS 3999. The sections of this Standard that relate to individual types of insulation materials may make some reference to installation matters where these are closely linked to the specification and performance requirements of the material or assembly.

This Standard does not deal with performance requirements for systems or materials that have some primary function other than providing thermal insulation. Where some other primary purpose is to be served by the material or system (e.g., sarking, structural panels etc.) compliance with this Standard alone shall not be seen as sufficient. In those cases reference to other appropriate Standards shall be made.
In this Standard, notes are for information and guidance only and compliance with them is not a requirement of the Standard.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

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.
CONTENTS

SECTION 1 SCOPE AND GENERAL
1.1 SCOPE ..................................................................................................................... 6
1.2 APPLICATION ........................................................................................................... 6
1.3 UNSPECIFIED MATERIALS AND SYSTEMS......................................................... 7
1.4 REFERENCED DOCUMENTS .................................................................................. 7
1.5 DEFINITIONS ............................................................................................................ 7

SECTION 2 CRITERIA AND TECHNICAL PROVISIONS
2.1 GENERAL .................................................................................................................. 9
2.2 VALIDITY OF TEST RESULTS................................................................................ 9
2.3 THERMAL RESISTANCE ....................................................................................... 9
2.4 INFRA-RED EMITTANCE ....................................................................................... 15
2.5 SOLAR REFLECTANCE ......................................................................................... 15
2.6 CORROSIVENESS ................................................................................................... 16

SECTION 3 PACKAGING AND LABELLING
3.1 GENERAL ................................................................................................................ 17
3.2 SAFETY INSTRUCTIONS....................................................................................... 18

SECTION 4 DEMONSTRATION OF COMPLIANCE
4.1 GENERAL ................................................................................................................ 21
4.2 ACCEPTANCE OF TESTING .................................................................................. 21
4.3 ACCEPTANCE OF CALCULATIONS .................................................................... 21
4.4 DEMONSTRATION OF COMPLIANCE ................................................................. 21

SECTION 5 CELLULOSE FIBRE INSULATION
5.1 GENERAL ................................................................................................................ 23
5.2 PERFORMANCE CRITERIA AND TECHNICAL PROVISIONS........................... 23

SECTION 6 INSULATION CONTAINING WOOL
6.1 GENERAL ................................................................................................................ 24
6.2 PERFORMANCE CRITERIA AND TECHNICAL PROVISIONS........................... 24
6.3 LABELLING............................................................................................................. 25

SECTION 7 LOW DENSITY POLYESTER FIBRE INSULATION
7.1 GENERAL ................................................................................................................ 26
7.2 PERFORMANCE CRITERIA AND TECHNICAL PROVISIONS........................... 26

SECTION 8 LOW DENSITY MINERAL WOOL INSULATION
8.1 GENERAL ................................................................................................................ 27
8.2 PERFORMANCE CRITERIA AND TECHNICAL PROVISIONS........................... 27
8.3 LABELLING............................................................................................................. 27

SECTION 9 REFLECTIVE INSULATION
9.1 GENERAL ................................................................................................................ 28
9.2 PRODUCT GROUPS................................................................................................. 28
9.3 PERFORMANCE CRITERIA AND TECHNICAL PROVISIONS........................... 28
9.4 LABELLING............................................................................................................. 29
9.5 PACKAGING............................................................................................................ 29
APPENDICES
A  MEANS FOR DEMONSTRATING COMPLIANCE WITH THIS STANDARD ..... 30
B  REFERENCED DOCUMENTS ........................................................................... 32
C  GUIDANCE ON THERMAL RESISTANCE MEASUREMENT ......................... 34
D  DETERMINATION OF THE THERMAL RESISTANCE OF LOW-DENSITY
   FIBROUS INSULATION USING ASTM C653 WITH VARIATIONS .................. 37
E  DETERMINATION OF THE THERMAL RESISTANCE OF LOOSE FILL
   INSULATION USING ASTM C687 WITH VARIATIONS .............................. 39
F  GUIDANCE ON INFRA-RED EMITTANCE ..................................................... 41
G  INFORMATION ON SOLAR REFLECTANCE ............................................... 42
H  DETERMINATION OF CORROSIVENESS .................................................... 43
I  RESISTANCE TO SURFACE CORROSION AND WET DELAMINATION AT
   ELEVATED AMBIENT TEMPERATURES (REFLECTIVE INSULATIONS) ....... 47
J  DEPTH GAUGES FOR THICKNESS MEASUREMENTS .............................. 49
K  STANDARD ASSUMPTIONS FOR THE CALCULATION OF SYSTEM AND
   TOTAL THERMAL RESISTANCE OF INSULATION PRODUCTS FOR
   LABELLING ...................................................................................................... 51
L  SAMPLE CALCULATION .............................................................................. 58
M  BIBLIOGRAPHY ............................................................................................ 61
SECTION 1  SCOPE AND GENERAL

1.1  SCOPE

This Standard specifies requirements and methods of test for materials that are added to, or incorporated in, opaque envelopes of buildings and building services, including ductwork and pipework, to provide thermal insulation by moderating the flow of heat through these envelopes and building services.

This Standard does not cover materials for the insulation of windows or other glazing. Although this Standard covers thermal performance of insulation, there may be requirements in the Building Code of Australia, or elsewhere, for the same material to have other properties such as for acoustic isolation or fire properties. Further, in a regulatory situation, a requirement for thermal performance cannot compromise any other required performance.

Specific requirements for individual materials or insulation types are given in Sections 5 to 9 of this Standard and in the following Standards:

(a) Rigid cellular polyurethane (RC/PUR) ..................................................... AS 1366.1.
(b) Rigid cellular polyisocyanurate (RC/PIR) ................................................. AS 1366.2.
(c) Rigid cellular polystyrene Moulded (RC/PS-M) ........................................ AS 1366.3.
(d) Rigid cellular polystyrene Extruded (RC/PS-E) ........................................ AS 1366.4.
(e) Urea-formaldehyde foam thermal insulation—In situ set foam ..................... AS 4073.

The scope of this Standard does not cover requirements for fire performance.

1.2  APPLICATION

This Standard is applicable to the full range of climatic and environmental conditions that exist under normal circumstances. It is intended for use by regulatory and specifying authorities, insulation manufacturers, developers, architects, builders, building engineers, property managers and commercial and residential building owners.

In order to comply with this Standard, a material or assembly that falls within the scope of AS 1366.1, AS 1366.2, AS 1366.3, AS 1366.4 or AS 4073 shall, apart from fire performance, comply with the requirements of that standard unless overridden by this Standard.

Materials or assemblies that do not fall within the scope of one of the above Standards or Sections 5 to 9 of this Standard, need only comply with Sections 1 to 4 of this Standard.

NOTE: Alternative means for demonstrating compliance with this Standard are given in Appendix A.