AS 1366.2—1992
Reconfirmed 2018

Australian Standard®

Rigid cellular plastics sheets for thermal insulation

Part 2: Rigid cellular polyisocyanurate (RC/PIR)

This Australian Standard was prepared by Committee PL/16, Rigid Cellular Plastics for Thermal Insulation. It was approved on behalf of the Council of Standards Australia on 13 December 1991 and published on 16 March 1992.

The following interests are represented on Committee PL/16:

Board of Fire Commissioners, N.S.W.
Commercial Refrigeration Manufacturers Association of Australia
CSIRO, Division of Building, Construction and Engineering
Master Builders Construction and Housing Association
Metropolitan Fire Brigades Board, Melbourne
The Plastics Institute of Australia
Railways of Australia Committee

This Standard was issued in draft form for comment as DR 91196.

STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1366.2–1992
Rigid cellular plastics sheets for thermal insulation
Part 2: Rigid cellular polyisocyanurate (RC/PIR)

RECONFIRMATION NOTICE

Major stakeholders of this publication have reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 29 August 2018.

NOTES

Australian Standard®

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PREFACE

This Standard was prepared by the Standards Australia Committee for Rigid Cellular Plastics for Thermal Insulation under the direction of the Plastics Standards Board, to supersede AS 1366.2— 1981. AS 1366, *Rigid cellular plastics sheets for thermal insulation*, has four parts, the others being as follows:

Part 1: *Rigid cellular polyurethane (RC/PUR)*

Part 3: *Rigid cellular polystyrene—Moulded (RC/PS—M)*

Part 4: *Rigid cellular polystyrene—Extruded (RC/PS—E)*

The products covered by this Standard are mainly intermediate products used as insulants, either by their manufacturer or by another manufacturer, in the production of thermal insulation products (e.g. building panels, cool store panels, insulation for bulk containers).

Density has been used over a number of years as a means of classifying cellular plastics. Because of advances in technology, similar physical characteristics may be achieved by materials of different apparent density; for this reason the density of the material is not included in the list of specified physical properties.

The subsequent processing of the sheets is the determining factor in the fire hazard associated with the use of these materials (i.e. the potential for harm to life or property resulting from the occurrence of a fire). For example, when used in buildings, cellular plastics may need to be faced with lining materials in order to achieve adequate fire performance. Thus it is not relevant to include a fire performance test for the materials specified in this Standard. The users of these materials should apply suitable fire performance tests to products in their finished form. Purchasers of products fabricated from these materials should specify such tests in their purchasing agreements. For building structures and components, suitable tests are described in AS 1530, *Methods for fire tests on building materials, components and structures*, Part 3: *Simultaneous determination of ignitability, flame propagation, heat release and smoke release* and Part 4: *Fire resistance test of elements of building construction*.

A combustion characteristics test has been included; however, it must be emphasized that a combustion characteristics test gives no indication of the fire hazard associated with the use of the sheet, but is used to compare relative combustion properties of the material. The test has been included to ensure a specified minimum level of fire retardancy in the sheet.

Reference should be made to AS 2627, *Thermal insulation of dwellings—Design guide*, for installation of thermal insulation in domestic dwellings and for guidance on correct placing of vapour barriers for protection in situations where temperature differentials may occur. For industrial and commercial applications, expert advice should be sought.

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Part 2: Rigid cellular polyisocyanurate (RC/PIR)

1 SCOPE This Standard specifies requirements for rigid cellular polyisocyanurate (RC/PIR) in the form of sheets, board, blocks and cut shapes for thermal insulation purposes. These requirements are intended for use in quality control and material specification, and are not necessarily applicable for end use design requirements.

NOTE: Alternative methods for determining compliance with this Standard are given in Appendix A.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1199 Sampling procedures and tables for inspection by attributes
1399 Guide to AS 1199—Sampling procedures and tables for inspection by attributes
2122 Combustion propagation characteristics of plastics
2122.1 Part 1: Determination of flame propagation following surface ignition of vertically oriented specimens of cellular plastics
2464 Methods of testing thermal insulation
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2498.8 Method 8: Determination of water absorption
2900 Quantities, units, and symbols
2900.4 Part 4: Quantities and units of heat
3900 Quality systems—Guide to selection and use
3904 Quality management and quality system elements

SAA
HB 18 Guidelines for third-party certification and accreditation
HB 18.44 General rules for ISO or IEC international third-party certification schemes for products

ISO
7850 Cellular plastics, rigid—Determination of compressive creep

3 DEFINITIONS For the purposes of this Standard, the definitions below apply.

3.1 Rigid cellular plastics sheet—a rectangular flat slab of cellular plastics material of definite uniform thickness.

3.2 Rigid cellular polyisocyanurate (RC/PIR)—a cellular material produced under specific conditions by the trimerization of a polymeric di-isocyanate in the presence of a minor amount of a polyhydroxyl compound expanded with a blowing agent.

3.3 Thermal resistance*—a measure of the thermal properties of building materials, measured in square metre kelvin per watt (m²K)/W.

4 COLOUR The colour of rigid cellular polyisocyanurate (RC/PIR) should be orange.

NOTES:
1 This colour is intended to indicate that the RC/PIR complies with the requirements of this Standard, in particular those for flame propagation.
2 The purchaser may specify another colour.

5 APPEARANCE There are a number of properties such as uniformity of cell structure, homogeneity, splits, streaks and discoloration which cannot be sensibly quantified.

NOTE: Where any of these are considered to be important, arrangements should be made between purchaser and supplier.

6 DIMENSIONS AND FINISH

6.1 Rough shapes Rough shapes shall be finished to specified dimensions.

NOTE: Dimensions are a matter for agreement between the purchaser and the supplier.

6.2 Cut shapes Cut shapes shall be finished to the specified size and in accordance with the particular application.

NOTE: Size is a matter for agreement between the purchaser and the supplier.

* In AS 2900.4, 'thermal resistance' is called 'thermal insulance' with the symbol M.