STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2498.5—1993
Methods of testing rigid cellular plastics
Method 5: Determination of water vapour transmission rate

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 03 August 2020.

NOTES

AS 2498.5—1993
Reconfirmed 2020

Australian Standard®

Methods of testing rigid cellular plastics

Method 5: Determination of water vapour transmission rate

METHOD

1 SCOPE This Standard sets out a method for determining the water vapour transmission rate through a rigid cellular plastics material.

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

AS
2498 Methods of testing rigid cellular plastics
2498.1 Method 1: Sampling and conditioning
2498.2 Method 2: Determination of linear dimensions

ISO
483 Plastics—Small enclosures for conditioning and testing using aqueous solutions to maintain relative humidity at constant value

3 APPLICATION This test is applicable under the following conditions—

(a) at 38°C and a relative humidity gradient of 0 to 88.5%; or

(b) at 23°C and a relative humidity gradient of 0 to 85%.

The results obtained for different rigid cellular plastics, with these test methods, are only comparable if the results are determined under the same conditions of temperature and relative humidity and the same thickness of the examined specimen. Attention is drawn to the fact that water vapour pressure across both sides of the test specimen is different when tested at 23°C from that at 38°C.

Where cellular plastics with open cells are to be tested, the test at 38°C and a relative humidity gradient of 0 to 88.5%, as well as the test at 23°C with a relative humidity gradient of 0 to 85%, causes a rapid saturation of the calcium chloride absorbing agent. Therefore, any results obtained above 3000 $\mu g/m^2.s$ may not be valid.

4 DEFINITION For the purpose of this Standard, the following definition applies:

4.1 Water vapour transmission rate (of a flat slab of material)—the mass of water transmitted through 1 m^2 of the material per second under specified conditions of temperature, humidity and thickness. It shall be expressed in micrograms per square metre per second ($\mu g/m^2.s$).

5 APPARATUS

5.1 Beakers—250 mL, low-form, of glass or metal suitably resistant to calcium chloride, about 65 mm internal diameter, the tops being slightly belled out to admit the sealant (see Clause 5.8).

5.2 Measuring instruments—in accordance with AS 2498.2.