

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 2498.3—1993

Methods of testing rigid cellular plastics

Method 3: Determination of compressive stress

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

Methods of testing rigid cellular plastics

Method 3: Determination of compressive stress

METHOD

1 SCOPE This Standard sets out a method for determining the compressive stress at 10% relative deformation of rigid cellular plastics.

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

AS

2193 Methods for calibration and grading of force-measuring systems of testing machines

2498 Methods of testing rigid cellular plastics

2498.1 Method 1: Sampling and conditioning

2498.2 Method 2: Determination of linear dimensions

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

3.1 Compressive strength (δ_M)—quotient of the maximum compressive force F_M , reached when the relative deformation ε is $<10\%$, by the initial surface area of the right cross-section of the test specimen. The relative deformation corresponding to δ_M is noted as ε_M .

3.2 Compressive stress at 10% relative deformation (σ_{10})—quotient of the compressive force F_{10} corresponding to a relative deformation $\varepsilon_{10} = 10\%$, by the initial surface area of the right cross-section of the test specimen.

3.3 Relative deformation (ε)—quotient of the variation (in relation to its initial value) of the thickness of the test specimen by its initial thickness. It is expressed as a percentage.

4 PRINCIPLE A compressive force is applied at constant speed, in an axial direction to the faces of a rectangular parallelepiped test specimen. The maximum stress supported by the test specimen is calculated.

If the value of the maximum stress corresponds to a relative deformation of less than 10%, it is noted as the 'compressive strength' (or 'critical compressive stress'). Otherwise, the stress corresponding to a relative deformation of 10% is calculated and its value noted as the 'compressive stress for a relative deformation of 10%'.