STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 4459.5—1999
Methods of sampling and testing ceramic tiles
Method 5: Determination of impact resistance by measurement of coefficient of restitution

RECONFIRMATION NOTICE

Technical Committee BD-044 has 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 21 January 2016.

The following are represented on Technical Committee BD-044:

Australian Industry Group
Australian Stone Advisory Association
Australian Tile Council
Ceramic Tile Manufacturers Association of Australia
Institute of Building Consultants
Master Builders Australia
Master Glazed Wall & Floor Tile Layers Association of SA
Plastics and Chemicals Industries Association
Property Council of Australia
Surface Coatings Association Australia

NOTES

AS 4459.5—1999
ISO 10545-5:1996
ISO 10545-5:1996/Cor.1:1997
Reconfirmed 2017

Australian Standard™

Methods of sampling and testing ceramic tiles

Method 5: Determination of impact resistance by measurement of coefficient of restitution

[ISO title: Ceramic tiles, Part 5: Determination of impact resistance by measurement of coefficient of restitution]

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee BD/44, Fixing of Ceramic Tiles.

This Standard is technically equivalent to and is reproduced from ISO 10545-5:1996, *Ceramic tiles* Part 5: *Determination of impact resistance by measurement of coefficient of restitution*, and Technical Corrigendum No.1:1996.

This Standard is the result of a consensus among the representatives on the joint Committee that it be produced as an Australian Standard.

Appendix ZA details a variation to ISO 10545-5:1996 for Australian conditions. Explanation for the basis of this variation is as follows:

A note has been added to Clause 1 to reflect the fact that the test method is inappropriate for some tiles that have an uneven surface.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

The variations to ISO 10545-5:1996 are indicated as follows:

(a) Technical Corrigendum No.1—by a single marginal bar.

(b) Appendix ZA—by a double marginal bar.

The marginal bars are set adjacent to the clause, table, figure, or part thereof.

For the purpose of this Joint Standard, the ISO/IEC text should be modified as follows:

(a) *Terminology* The words ‘Australian Standard’ should replace the words ‘International Standard’ wherever they appear.

(b) *Decimal marker* A full point should be substituted for a comma where it appears as a decimal marker.

METHOD

1 Scope

This part of ISO 10545 specifies a test method for determining the impact resistance of ceramic tiles by measuring the coefficient of restitution.

2 Definition

For the purpose of this part of ISO 10545, the following definition applies.

2.1 coefficient of restitution between two impacting bodies, e: Relative velocity of departure divided by the relative velocity of approach.

3 Principle

Determination of the coefficient of restitution by dropping a steel ball from a fixed height onto the test specimen and measuring the height of rebound.

4 Apparatus

4.1 Chrome steel ball, of diameter (19 ± 0,05) mm.

4.2 Ball-release apparatus, (see figure 1), consisting of a heavy steel base set on levelling screws with a vertical steel bar to which is attached an electromagnet, a guide tube and a test unit support.

The test unit is clamped firmly in a position so that when the steel ball drops it impinges on the centre of the horizontal tile surface. A clamping device is shown in figure 1, but any suitable system may be used.

4.3 Electronic timing device (optional), which, by means of a microphone, measures the time interval between the first and second impacts when the ball is dropped onto the test specimen.

5 Test specimens

5.1 Number of test specimens

A minimum of five pieces in dimensions 75 mm × 75 mm cut from five tiles. Tiles with facial dimensions less than 75 mm may be used.

5.2 Brief description of test units

The test units consist of test specimens fixed to mature concrete blocks by means of rigid epoxide resin adhesive.