



MALAYSIAN STANDARD

MS ISO 10545-8:2018

**Ceramic tiles - Part 8: Determination of linear
thermal expansion
(First revision)
(ISO 10545-8:2014, IDT)**

ICS: 91.100.23

Descriptors: ceramics, tiles, determination, thermal expansion

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Committee representation

The Industry Standards Committee on Building, Construction and Civil Engineering (ISC D) under whose authority this Malaysian Standard was adopted, comprises representatives from the following organisations:

Association of Consulting Engineers Malaysia
Construction Industry Development Board Malaysia
Department of Irrigation and Drainage Malaysia
Department of Standards Malaysia
Federation of Malaysian Manufacturers
Jabatan Bomba dan Penyelamat Malaysia
Jabatan Kerajaan Tempatan
Jabatan Kerja Raya
Malaysian Iron and Steel Industry Federation
Malaysian Timber Industry Board
Master Builders Association Malaysia
Pertubuhan Akitek Malaysia
Pertubuhan Perancang Malaysia
Projek Lebuhraya Utara-Selatan Berhad
Real Estate and Housing Developers' Association Malaysia
SIRIM Berhad (Secretariat)
Suruhanjaya Perkhidmatan Air Negara
The Cement and Concrete Association of Malaysia
The Institution of Engineers, Malaysia
Universiti Putra Malaysia
Universiti Sains Malaysia
Universiti Teknologi Malaysia

The Technical Committee on Ceramic Materials and Sanitary Fittings which supervised the adoption of the ISO Standard as Malaysian Standard consists of representatives from the following organisations:

Building Materials Distributors Association of Malaysia
Construction Industry Development Board Malaysia
FMM Malaysian Ceramic Industry Group
IKRAM QA Services Sdn Bhd
Jabatan Kerja Raya
Kementerian Kesejahteraan Bandar, Perumahan dan Kerajaan Tempatan
Master Builders Association Malaysia
Pertubuhan Akitek Malaysia
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd (Product Certification and Inspection Department)
SIRIM QAS International Sdn Bhd (Testing Services Department)
Universiti Teknologi MARA

Committee representation *(continued)*

The Working Group on Ceramic Tiles which recommended the adoption of the ISO Standard as Malaysian Standard consists of representatives from the following organisations:

Building Materials Distributors Association of Malaysia
Ceramic Research Company Sdn Bhd
Construction Industry Development Board Malaysia
Ezi Motartech Sdn Bhd
FMM Malaysian Ceramic Industry Group
Jabatan Kerja Raya
Kementerian Kesejahteraan Bandar, Perumahan dan Kerajaan Tempatan
Kolej Kemahiran Tinggi MARA
Malaysian Mosaics Berhad
Manewtech Belle Sdn Bhd
Mapei (M) Sdn Bhd
Master Builders Association Malaysia
Parex Group Sdn Bhd
Pertubuhan Akitek Malaysia
SIRIM Berhad (Advanced Polymer and Composites Programme)
SIRIM Berhad (Secretariat)
SIRIM QAS International Sdn Bhd (Product Certification and Inspection Department)
SIRIM QAS International Sdn Bhd (Testing Services Department)
Universiti Teknologi MARA

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National foreword

The adoption of the ISO Standard as a Malaysian Standard was recommended by the Working Group on Ceramic Tiles under the authority of the Industry Standards Committee on Building, Construction and Civil Engineering.

This Malaysian Standard is identical with ISO 10545-8:2014, *Ceramic tiles - Part 8: Determination of linear thermal expansion*, published by the International Organization for Standardization (ISO). However, for the purposes of this Malaysian Standard, the following apply:

- a) in the source text, "this International Standard" should read "this Malaysian Standard"; and
- b) the comma which is used as a decimal sign (if any), to read as a point.

This Malaysian Standard consists of the following parts, under the general title *Ceramic tiles*:

Part 1: Sampling and basis for acceptance

Part 2: Determination of dimensions and surface quality

Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density

Part 4: Determination of modulus of rupture and breaking strength

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

Part 6: Determination of resistance to deep abrasion for unglazed tiles

Part 7: Determination of resistance to surface abrasion for glazed tiles

Part 8: Determination of linear thermal expansion

Part 9: Determination of resistance to thermal shock

Part 10: Determination of moisture expansion

Part 11: Determination of crazing resistance for glazed tiles

Part 12: Determination of frost resistance

Part 13: Determination of chemical resistance

Part 14: Determination of resistance to stains

Part 15: Determination of lead and cadmium given off by glazed tiles

National foreword *(continued)*

Part 16: Determination of small colour differences

This Malaysian Standard cancels and replaces MS ISO 10545-8:2001, *Ceramic tiles - Part 8: Determination of linear thermal expansion*.

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, and wording (or is an identical translation) of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and structure although it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21-1.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 189, *Ceramic tile*.

This second edition cancels and replaces the first edition (ISO 10545-8:1994), which has been technically revised.

ISO 10545 consists of the following parts, under the general title *Ceramic tiles*:

- *Part 1: Sampling and basis for acceptance*
- *Part 2: Determination of dimensions and surface quality*
- *Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density*
- *Part 4: Determination of modulus of rupture and breaking strength*
- *Part 5: Determination of impact resistance by measurement of coefficient of restitution*
- *Part 6: Determination of resistance to deep abrasion for unglazed tiles*
- *Part 7: Determination of resistance to surface abrasion for glazed tiles*
- *Part 8: Determination of linear thermal expansion*
- *Part 9: Determination of resistance to thermal shock*
- *Part 10: Determination of moisture expansion*
- *Part 11: Determination of crazing resistance for glazed tiles*
- *Part 12: Determination of frost resistance*
- *Part 13: Determination of chemical resistance*
- *Part 14: Determination of resistance to stains*