



# **MALAYSIAN** MS ISO 10545-3 : 2001 **STANDARD**

## **CERAMIC TILES - PART 3 : DETERMINATION OF WATER ABSORPTION, APPARENT POROSITY, APPARENT RELATIVE DENSITY AND BULK DENSITY (ISO 10545-3 : 1995, IDT)**

**ICS : 99.100.20**

Descriptors : ceramic, tiles, tests, water absorption tests, determination, porosity, density (mass/volume), bulk density

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### Committee representation

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

Association of Consulting Engineers Malaysia  
Chartered Institute of Building Malaysia  
Construction Industry Development Board Malaysia  
Department of Standards Malaysia  
Jabatan Bekalan Elektrik dan Gas  
Jabatan Bomba dan Penyelamat Malaysia  
Master Builders Association Malaysia  
Ministry of Housing and Local Government  
Ministry of Works  
Pertubuhan Akitek Malaysia  
The Institution of Engineers, Malaysia  
Universiti Teknologi Malaysia

The Technical Committee on Ceramic Tiles which developed this Malaysian Standard consists of representatives from the following organisations :

Federation of Malaysian Manufacturers-Malaysian Ceramic Industry Group  
Jabatan Kerja Raya  
Jabatan Perumahan Negara  
Master Builders Association Malaysia  
Pertubuhan Akitek Malaysia  
SIRIM Berhad (Secretariat)  
SIRIM QAS Sdn Bhd

## **NATIONAL FOREWORD**

This Malaysian Standard was developed by the Technical Committee on Ceramic Tiles under the authority of the Building and Civil Engineering Industry Standards Committee.

This standard is identical with ISO 10545-3 : 1995, 'Ceramic tiles – Part 3 : Determination of water absorption, apparent porosity, apparent relative density and bulk density' published by the International Organization for Standardization (ISO), which has the same title. The text of the International Standard is recommended for publication as a Malaysian Standard without deviation. However, for the purpose of this 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 full point.

This Malaysian Standard cancels and replaces the first edition of MS 1091 : Part 2: 1987, 'Methods of test for ceramic tiles : Part 2 : Determination of water absorption'.

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, wording and presentation of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21.

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10545-3 was prepared by Technical Committee ISO/TC 189, *Ceramic tile*.

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*

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- *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*
- *Part 16: Determination of small colour differences*
- *Part 17: Determination of coefficient of friction*

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