

INTERNATIONAL STANDARD

ISO
10545-13

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Ceramic tiles —

Part 13: Determination of chemical resistance

Carreaux et dalles céramiques —

Partie 13: Détermination de la résistance chimique



Reference number
ISO 10545-13:1995(E)

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 10545-13 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*

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

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Ceramic tiles —

Part 13: Determination of chemical resistance

1 Scope

This part of ISO 10545 specifies a test method for determining the chemical resistance of ceramic tiles at room temperature. The method is applicable to all types of ceramic tiles.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 10545. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 10545 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3585:1991, *Borosilicate glass 3.3 — Properties*.

3 Principle

Subjection of the test specimens to the action of the test solutions and visual determination of attack after a defined period.

4 Aqueous test solutions

4.1 Household chemicals

Ammonium chloride solution, 100 g/l.

4.2 Swimming pool salts

Sodium hypochlorite solution, 20 mg/l, prepared from technical grade sodium hypochlorite with about 13 % (m/m) of active chloride.

4.3 Acids and alkalis

4.3.1 Low concentrations (L)

- a) Hydrochloric acid solution, 3 % (V/V), prepared from concentrated hydrochloric acid ($\rho = 1,19$ g/ml).
- b) Citric acid solution, 100 g/l.
- c) Potassium hydroxide solution, 30 g/l.

4.3.2 High concentrations (H)

- a) Hydrochloric acid solution, 18 % (V/V), prepared from concentrated hydrochloric acid ($\rho = 1,19$ g/ml).
- b) Lactic acid solution, 5 % (V/V).
- c) Potassium hydroxide solution, 100 g/l.

5 Apparatus

5.1 Vessel with a lid, made of borosilicate glass 3.3 (ISO 3585), or any other suitable material.

5.2 Cylinder of borosilicate glass 3.3 (ISO 3585), or any other suitable material having a lid or an opening for filling.