
**Ceramic tiles — Definitions,
classification, characteristics and
marking**

*Carreaux et dalles céramiques — Définitions, classification,
caractéristiques et marquage*





COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification	4
4.1 Basis of classification	4
4.2 Methods of manufacture	4
4.3 Water absorption according to group	4
4.3.1 General	4
4.3.2 Subdivision of the three groups	4
5 Characteristics	5
6 Sampling and basis for acceptance	5
7 Requirements	5
8 Marking and specifications	5
8.1 Marking	5
8.2 Product literature	6
8.3 Specifications	6
9 Ordering	7
Annex A (normative) Extruded ceramic tiles with low water absorption $0,5 < E_v \leq 3 \%$	
Group AI_b	10
Annex B (normative) Extruded ceramic tiles $3 \% < E_v \leq 6 \%$ Group AII_a — Subgroup (Part) 1	13
Annex C (normative) Extruded ceramic tiles $3 \% < E_v \leq 6 \%$ Group AII_a — Subgroup (Part) 2	16
Annex D (normative) Extruded ceramic tiles $6 \% < E_v \leq 10 \%$ Group AII_b — Subgroup (Part) 1	19
Annex E (normative) Extruded ceramic tiles $6 \% < E_v \leq 10 \%$ Group AII_b — Subgroup (Part) 2	22
Annex F (normative) Extruded ceramic tiles $E_v > 10 \%$ Group AIII	25
Annex G (normative) Dry-pressed ceramic tiles with low water absorption $E_v \leq 0,5 \%$ Group BI_a	28
Annex H (normative) Dry-pressed ceramic tiles with low water absorption $0,5 \% < E_v \leq 3 \%$	
Group BI_b	32
Annex I (informative) Intentionally blank	35
Annex J (normative) Dry-pressed ceramic tiles $3 \% < E_v \leq 6 \%$ Group BII_a	36
Annex K (normative) Dry-pressed ceramic tiles $6 \% < E_v \leq 10 \%$ Group BII_b	39
Annex L (normative) Dry-pressed ceramic tiles $E_v > 10 \%$ Group BIII	42
Annex M (normative) Extruded ceramic tiles with low water absorption $E_v \leq 0,5 \%$ Group AI_a	45
Annex N (informative) Classification of glazed tiles for floors according to their abrasion resistance	48
Annex O (informative) Intentionally blank	49
Annex P (informative) Test methods	50
Annex Q (informative) Intentionally blank	51
Annex R (informative) Symbols recommended for use	52
Bibliography	53

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 of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see: www.iso.org/iso/foreword.html.

This document was prepared by ISO/TC 189, *Ceramic tile*.

This third edition cancels and replaces the second edition (ISO 13006:2012), which has been technically revised.

This main changes compared to the previous edition are as follows:

- The boiling method in ISO 10545-3 is no longer referenced for the determination of water absorption. The vacuum method is now referenced for the determination of water absorption.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Ceramic tiles — Definitions, classification, characteristics and marking

1 Scope

This document defines terms and establishes classifications, characteristics and marking requirements for ceramic tiles of the best commercial quality (first quality). This document is not applicable to tiles made by other than normal processes of extrusion or dry pressing. It is not applicable to decorative accessories or trim such as edges, corners, skirting, capping, coves, beads, steps, curved tiles and other accessory pieces or mosaics (i.e. any piece that can fit into a square, the side of which is less than 7 cm).

NOTE ISO 10545 (all parts) describes the test procedures required to determine the product characteristics listed in this document. ISO 10545 is a multi-part standard, each part describes a specific test procedure or related matter.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1006, *Building construction — Modular coordination — Basic module*

ISO 10545-1, *Ceramic tiles — Part 1: Sampling and basis for acceptance*

ISO 10545-2, *Ceramic tiles — Part 2: Determination of dimensions and surface quality*

ISO 10545-3, *Ceramic tiles — Part 3: Determination of water absorption, apparent porosity, apparent relative density and bulk density*

ISO 10545-4, *Ceramic tiles — Part 4: Determination of modulus of rupture and breaking strength*

ISO 10545-5, *Ceramic tiles — Part 5: Determination of impact resistance by measurement of coefficient of restitution*

ISO 10545-6, *Ceramic tiles — Part 6: Determination of resistance to deep abrasion for unglazed tiles*

ISO 10545-7, *Ceramic tiles — Part 7: Determination of resistance to surface abrasion for glazed tiles*

ISO 10545-8, *Ceramic tiles — Part 8: Determination of linear thermal expansion*

ISO 10545-9, *Ceramic tiles — Part 9: Determination of resistance to thermal shock*

ISO 10545-10, *Ceramic tiles — Part 10: Determination of moisture expansion*

ISO 10545-11, *Ceramic tiles — Part 11: Determination of crazing resistance for glazed tiles*

ISO 10545-12, *Ceramic tiles — Part 12: Determination of frost resistance*

ISO 10545-13, *Ceramic tiles — Part 13: Determination of chemical resistance*

ISO 10545-14, *Ceramic tiles — Part 14: Determination of resistance to stains*

ISO 10545-15, *Ceramic tiles — Part 15: Determination of lead and cadmium given off by glazed tiles*

ISO 10545-16, *Ceramic tiles — Part 16: Determination of small colour differences*