TECHNICAL REPORT

ISO/TR 17870-1

First edition
2015-08-15

Ceramic tiles — Guidelines for installation —

Part 1: Installation of ceramic wall and floor tiles

Carreaux et dalles céramiques — Lignes directrices pour l'installation —

Partie 1: Installation des carreaux et dalles céramiques au sol et aux murs

Reference number
ISO/TR 17870-1:2015(E)

© ISO 2015



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, 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
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Terms and definitions ... **1**
2.1 General ... 1
2.2 Components of ceramic tiling ... 2
2.3 Tiling techniques and operations ... 3
2.4 Characteristics/aspects of ceramic tiling ... 4

3 Exchange of information ... **4**

4 Materials ... **5**
4.1 General ... 5
4.2 Basic materials ... 5
4.3 Basic information ... 6

5 Specification ... **7**
5.1 General ... 7
5.2 The project data ... 7
5.2.1 Installation location and working conditions ... 7
5.2.2 Backgrounds ... 7
5.3 Selection and specification of the materials ... 9
5.3.1 Criterion of performance ... 9
5.3.2 Criterion of compatibility ... 9
5.3.3 Criterion of safety ... 10
5.4 Specification of the tiling ... 10
5.4.1 Tiling system ... 10
5.4.2 Tile joints ... 10
5.4.3 Movement joints ... 11

6 Installation ... **11**
6.1 General ... 11
6.2 Analysis of the specification and planning of the work ... 12
6.3 Control of environmental conditions ... 12
6.4 Storage and control of the materials ... 12
6.5 Control and preparation of the background, preparation of the bedding material, application of bedding and tiles ... 13
6.6 Installation of movement joints ... 13
6.7 Cleaning and protection ... 14

7 Quality of ceramic tiling: characteristics and requirements ... **14**
7.1 General characteristics of ceramic tiling ... 14
7.2 Guidelines for the specification of requirements and their recommended tolerances ... 14
7.2.1 General ... 14
7.2.2 Regularity ... 14
7.2.3 Durability ... 17
7.2.4 Safety ... 17

8 Initial cleaning, protection, and maintenance ... **18**
8.1 General ... 18
8.2 Initial cleaning ... 18
8.3 Protection ... 18
8.4 Treatment ... 19
8.4.1 Surface waterproofing treatments ... 19
8.4.2 Temporary tile sealers ... 19
8.5 Maintenance ... 19

Bibliography ... **20**

© ISO 2015 – All rights reserved

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*.

ISO/TR 17870 consists of the following parts, under the general title *Ceramic tiles — Guidelines for installation*:

— *Part 1: Installation of ceramic wall and floor tiles*

— *Part 2: Installation of thin ceramic wall and floor tiles and panels*

© ISO 2015 – All rights reserved

Introduction

There are currently International Standards available for

— ceramic tiles, and

— adhesives and grouts for tiles.

NOTE ISO 13007-5, dealing with liquid-applied waterproofing membranes for use beneath ceramic tiling bonded with adhesives, is under preparation.

For these products to give satisfactory service, they need to be selected and installed competently, and they have to receive appropriate initial treatment, protection, and maintenance.

Some countries have published standards and/or guides that specify the design and installation of ceramic tiling. The purpose of ISO/TR 17870 is to foster good installation practices for ceramic wall and floor tiles, internationally.

© ISO 2015 – All rights reserved

Ceramic tiles — Guidelines for installation —

Part 1:
Installation of ceramic wall and floor tiles

1 Scope

This part of ISO/TR 17870 defines the quality of ceramic tiling and provides guidance for materials selection, installation and use, to achieve required levels of quality and performance.

It considers aspects related to the specification and installation of the tiling project, in terms of:

— manufacture and distribution of the materials (ceramic tiles, adhesives, grouts, etc.);

— specification of the tiling;

— installation of the tiling (tile fixing operations).

It is applicable to internal and external floor and wall ceramic tiling, installed by either cement mortar or other adhesive methods.

NOTE The quality of ceramic tiling depends on the following general characteristics:

— regularity;

— durability;

— safety.

The durability of the tiling can depend on its use and management.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1 General

2.1.1
ceramic tiling
ceramic tiles installed, together with its associated bedding and jointing

2.1.2
design (of ceramic tiling)
specification (of ceramic tiling)
selection of ceramic tiles, backgrounds, fixing methods, and fixing and jointing materials as appropriate for the structure and intended use

2.1.3
installation (of ceramic tiling)
tile fixing
application of ceramic tiling in accordance with the specification

© ISO 2015 – All rights reserved