

PLAATIMISSEGUD JA -LIIMID. OSA 1: NÕUDED,  
TOIMIVUSE PÜSIVUSE HINDAMINE JA KONTROLLIMINE,  
LIIGITAMINE JA MÄRGISTAMINE

Adhesives for ceramic tiles - Part 1: Requirements,  
assessment and verification of constancy of  
performance, classification and marking

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 12004-1:2017 sisaldab Euroopa standardi EN 12004-1:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 12004-1:2017 consists of the English text of the European standard EN 12004-1:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.02.2017.	Date of Availability of the European standard is 15.02.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 83.180, 91.100.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:  
Koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

EUROPEAN STANDARD

**EN 12004-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2017

ICS 83.180; 91.100.10

Supersedes EN 12004:2007+A1:2012

English Version

**Adhesives for ceramic tiles - Part 1: Requirements,  
assessment and verification of constancy of performance,  
classification and marking**

Colles à carrelage - Partie 1: Exigences, évaluation et  
vérification de la constance de performance,  
classification et marquage

Mörtel und Klebstoffe für keramische Fliesen und  
Platten - Teil 1: Anforderungen, Bewertung und  
Überprüfung der Leistungsbeständigkeit, Einstufung  
und Kennzeichnung

This European Standard was approved by CEN on 28 November 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

# Contents

Page

European foreword.....	4
Introduction .....	5
<b>1</b> <b>Scope</b> .....	<b>6</b>
<b>2</b> <b>Normative references</b> .....	<b>6</b>
<b>3</b> <b>Terms and definitions</b> .....	<b>6</b>
3.1 <b>General</b> .....	6
3.2 <b>Products</b> .....	7
3.3 <b>Tools and working methods</b> .....	7
3.4 <b>Application properties</b> .....	7
3.5 <b>Final properties</b> .....	8
3.6 <b>Characteristics</b> .....	8
<b>4</b> <b>Product characteristic</b> .....	<b>9</b>
4.1 <b>Cementitious adhesives (C)</b> .....	9
4.2 <b>Dispersion adhesives (D)</b> .....	11
4.3 <b>Reaction resin adhesives (R)</b> .....	11
4.4 <b>Reaction to fire</b> .....	12
4.4.1 <b>General</b> .....	12
4.4.2 <b>Adhesives classified as Class A1 without the need for testing (CWT)</b> .....	12
4.4.3 <b>Adhesives classified as class E without the need for further testing (CWFT)</b> .....	12
4.4.4 <b>Adhesives classified according to the test results</b> .....	13
4.5 <b>Resistance to chemical attack</b> .....	13
4.6 <b>Release of dangerous substances</b> .....	14
<b>5</b> <b>Testing, assessment and sampling methods</b> .....	<b>14</b>
<b>6</b> <b>Assessment and verification of constancy of performance (AVCP)</b> .....	<b>14</b>
6.1 <b>General</b> .....	14
6.2 <b>Type testing</b> .....	14
6.2.1 <b>General</b> .....	14
6.2.2 <b>Test samples, testing and compliance criteria</b> .....	15
6.2.3 <b>Test reports</b> .....	17
6.2.4 <b>Shared other party results</b> .....	17
6.3 <b>Factory production control (FPC)</b> .....	17
6.3.1 <b>General</b> .....	17
6.3.2 <b>Requirements</b> .....	18
6.3.3 <b>Product specific requirements</b> .....	21
6.3.4 <b>Initial inspection of factory and of FPC</b> .....	22
6.3.5 <b>Continuous surveillance of FPC</b> .....	22
6.3.6 <b>Procedure for modifications</b> .....	22
6.3.7 <b>One-off products, pre-production products (e.g. prototypes) and products produced in very low quantity</b> .....	23
<b>7</b> <b>Classification and designation</b> .....	<b>23</b>
<b>8</b> <b>Marking and labelling</b> .....	<b>26</b>

<b>Annex ZA (informative) Relationship of this European Standard with Regulation (EU) No. 305/2011 .....</b>	<b>27</b>
<b>ZA.1 Scope and relevant characteristics .....</b>	<b>27</b>
<b>ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP) .....</b>	<b>30</b>
<b>ZA.3 Assignment of AVCP tasks .....</b>	<b>30</b>
<b>Bibliography .....</b>	<b>33</b>

This document is a preview generated by EVS

## European foreword

This document (EN 12004-1:2017) has been prepared by Technical Committee CEN/TC 67 “Ceramic tiles”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by November 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12004:2007+A1:2012.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) for construction works of Regulation No. 305/2011.

For relationship with this Regulation, see informative Annex ZA, which is an integral part of this document.

The significant technical changes between this European Standard and the previous edition are listed herewith:

- Clause 3.6.1 replacement of the term “Fundamental” with “Basic”;
- Clause 4, Tables 1, 2 and 3;
- New Clause 5;
- New Clause 6 in accordance with CEN guidance documents;
- New Annex ZA (informative) in accordance with the CPR (Regulation (EU) No. 305/2011) and the Commission Delegated Regulations (EU) No. 157/2014 relative to DoP made available on websites, (EU) No. 574/2014 relative to the Model of DoP and (EU) No. 568/2014 relative to the assessment and verification of constancy of performance.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

It is essential that the characteristics of the construction products defined in this standard consider that the normal stresses due to the works for which they are intended, assembled or installed, can be properly accommodated. Some special characteristics will take into account the type of substrate and that the adhesives should resist the degrading actions of climate, etc.

Many properties of adhesives for tiling are mainly determined by the type of binders used. Different types of tile adhesives are defined according to the chemical nature of their binders.

The different types of adhesives for ceramic tiles have specific characteristics in terms of their application properties and final performance.

The relationship between characteristics and the working conditions (dry or humid conditions, hot climate, fast setting, etc.) is not given in this standard.

The manufacturer should give information about the use of the product and the correct conditions of use.

The specifier should evaluate the state of the job site (mechanical and thermal influences) and choose the appropriate product considering all the possible risks.

## 1 Scope

This European Standard is applicable to the following three types of adhesives for ceramic tiles, i.e. cementitious ones for internal and external tile installations, dispersion and reaction resin ones for internal tile installations, on walls and floors.

This European Standard gives the terminology concerning the products, working methods, application properties, etc, for ceramic tile adhesives.

This European Standard specifies the performance requirements for the adhesives for ceramic tiles.

It also specifies the appurtenant test methods, assessment and verification of constancy of performance (AVCP), as well as classification, designation and marking of adhesives for ceramic tiles.

This European Standard does not provide criteria or recommendations for the design and installation of ceramic tiles.

Ceramic tile adhesives may also be used for other types of tiles (natural and agglomerated stones, etc.), if they do not adversely affect these materials.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12004-2:2017, *Adhesives for ceramic tiles — Part 2: Test methods*

EN 12808-1, *Grouts for tiles — Part 1: Determination of chemical resistance of reaction resin mortars*

EN 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 14411, *Ceramic tiles — Definition, classification, characteristics, assessment and verification of constancy of performance and marking*

## 3 Terms and definitions

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

### 3.1 General

#### 3.1.1

##### **thin bed method**

method used for installing tiles onto a plane surface with an adhesive

Note 1 to entry: The adhesive is usually applied with a trowel to obtain a layer and then combed with a notched trowel to achieve the right thickness and planarity.

#### 3.1.2

##### **fixing surface**

plane rigid surface upon which the tile is fixed