

Thermal insulation products for building applications -
Determination of the resistance to impact of external
thermal insulation composite systems (ETICS)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|---|--|
| See Eesti standard EVS-EN 13497:2018 sisaldab Euroopa standardi EN 13497:2018 ingliskeelset teksti. | This Estonian standard EVS-EN 13497:2018 consists of the English text of the European standard EN 13497:2018. |
| 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 05.09.2018. | Date of Availability of the European standard is 05.09.2018. |
| 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.

ICS 91.100.60

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; telefon 605 5050; e-post 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; phone +372 605 5050; e-mail info@evs.ee

English Version

**Thermal insulation products for building applications -
Determination of the resistance to impact of external
thermal insulation composite systems (ETICS)**

Produits isolants thermiques pour le bâtiment -
Détermination de la résistance au choc des systèmes
composites d'isolation thermique par l'extérieur
(ETICS)

Wärmedämmstoffe für das Bauwesen - Bestimmung
der Schlagfestigkeit von außenseitigen Wärmedämm-
Verbundsystemen (WDVS)

This European Standard was approved by CEN on 23 April 2018.

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: Rue de la Science 23, B-1040 Brussels

| Contents | Page |
|--|-------------|
| European foreword..... | 3 |
| 1 Scope..... | 4 |
| 2 Normative references..... | 4 |
| 3 Terms and definitions | 4 |
| 4 Principle | 4 |
| 5 Test apparatus..... | 4 |
| 5.1 General..... | 4 |
| 5.2 Steel ball requirements..... | 5 |
| 5.3 Crack measuring gauge..... | 5 |
| 5.4 Specimen support | 5 |
| 5.5 Optional tube to control descent of steel ball | 5 |
| 6 Test specimens..... | 6 |
| 6.1 Preparation of a test specimen | 6 |
| 6.2 Sealing and conditioning of test specimens..... | 6 |
| 7 Procedure..... | 7 |
| 7.1 Test conditions..... | 7 |
| 7.2 Test procedure | 7 |
| 8 Examination and expression of results..... | 8 |
| 9 Accuracy of measurement..... | 9 |
| 10 Test report..... | 9 |

European foreword

This document (EN 13497:2018) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

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 March 2019, and conflicting national standards shall be withdrawn at the latest by March 2019.

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 13497:2002.

The following table includes the most significant technical changes between both editions.

| 2002 Version | 2018 Version |
|---|---|
| Two impact energy levels 2 J and 10 J with two different balls possible. ETAG 004 only partly matched | Thirteen impact energy levels with five different balls possible. Matches ETAG 004 levels. No 2 J impact energy level anymore |
| Only size and weight of steel balls defined | Definition of steel ball material added |
| No definition of measuring device | Definition of Crack measuring gauge included |
| No definition of specimen support | Definition of specimen support included |
| Weak definition of optional tube | Precise definition of optional tube |
| Minimum dimensions of test specimen given | Minimum distances between impacts defined instead. |
| - | More precise description of conditioning of the test specimens |
| - | Second procedure for conditioning added |
| - | Figure for second procedure for conditioning added |
| - | Detailed description of test procedure |
| - | Detailed description of the examination and expression of results |
| - | Introduction of hard facts for evaluation, which is the measurement of crack widths. |
| - | Evaluation of cracks well defined |
| - | Amended test report |
| Alternative ISO 7892 test possible | No alternative test possible |

This European Standard has been drafted for applications in buildings, but can also be used in other areas where it is relevant.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

1 Scope

This European Standard specifies the equipment and procedure for determining the resistance to impact of design ETICS kits with renders.

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.

EN 1602, *Thermal insulating products for building applications — Determination of the apparent density*

EN 1607, *Thermal insulating products for building applications — Determination of tensile strength perpendicular to faces*

EN 16383, *Thermal insulation products for building applications — Determination of the hygrothermal behaviour of external thermal insulation composite systems with renders (ETICS)*

EN 17237, *Thermal insulation products for buildings — External thermal insulation composite systems with renders (ETICS) — Specification*¹

EN ISO 9229, *Thermal insulation — Vocabulary (ISO 9229)*

ISO 3290-1, *Rolling bearings — Balls — Part 1: Steel balls*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 9229 and EN 17237 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Principle

The impact resistance of a design ETICS kit is the hard body impact resistance, determined by means of a steel ball falling onto the surface of the kit. The energy level and corresponding dropping height is selected from Table 1. Any damages occurring are visibly assessed (e.g. the reinforcement has become visible from the external surface, the finishing coat or the rendering system has visibly delaminated or been perforated) and cracks widths are measured.

5 Test apparatus

5.1 General

For the test a steel ball is dropped from a specified height onto the surface of the test specimen (see Table 1). A second impact (rebound) by the ball shall be avoided.

¹ To be published. Stage at the time of publication: prEN 17237:2018.