



National Standards Authority of Ireland

IRISH STANDARD

**I.S. EN 13497:2002**

ICS 91.100.60

**THERMAL INSULATION PRODUCTS FOR  
BUILDING APPLICATIONS -  
DETERMINATION OF THE RESISTANCE TO  
IMPACT OF EXTERNAL THERMAL  
INSULATION COMPOSITE SYSTEMS (ETICS)**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 13497**

October 2002

ICS 91.100.60

English version

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

Produits isolants thermiques destinés aux applications du  
bâtiment - Détermination de la résistance au choc des  
systèmes composites d'isolation thermique par l'extérieur  
(systèmes I.T.E.)

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

This European Standard was approved by CEN on 19 August 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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## Contents

	page
Foreword .....	3
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	4
4 Principle .....	4
5 Test apparatus .....	4
6 Test specimens .....	5
6.1 Preparation and number of test specimens .....	5
6.2 Conditioning of test specimens .....	5
7 Procedure .....	5
7.1 Test conditions .....	5
7.2 Test procedure .....	5
8 Expression of results .....	7
9 Accuracy of measurement .....	7
10 Test report .....	8

## **Foreword**

This document (EN 13497:2002) 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 April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

This European Standard is one of a series of standards which specify test methods for determining dimensions and properties of thermal insulating materials and products. It supports a series of product standards for thermal insulating materials and products which derive from the Council Directive of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (Directive 89/106/EEC) through the consideration of the essential requirements.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

**EN 13497:2002 (E)****1 Scope**

This European Standard specifies equipment and a procedure for determining the resistance to impact of external thermal insulation composite systems.

**2 Normative references**

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references subsequent amendments to, or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 823, *Thermal insulating products for building applications — Determination of thickness*.

EN 1015-1, *Methods of test for mortar for masonry — Part 1: Determination of particle size distribution (by sieve analysis)*.

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*.

prEN 13499:1999, *Thermal insulation products for buildings — External Thermal Insulation Composite Systems (ETICS) based on expanded polystyrene — Specification*.

prEN ISO 3251, *Paints, varnishes and plastics — Determination of non-volatile matter content (ISO/DIS 3251:2000)*

EN ISO 3451-1, *Plastics — Determination of ash — Part 1: General methods (ISO 3451-1:1997)*.

prEN ISO 9229:1997, *Thermal insulation — Definitions of terms (ISO 9229:1997)*.

ISO 7892, *Vertical building elements — Impact resistance tests — Impact bodies and general test procedures*.

**3 Terms and definitions**

For the purposes of this European Standard the terms and definitions given in prEN ISO 9229:1997 and prEN 13499:1999 apply.

**4 Principle**

The resistance to impact (impact resistance) of external thermal insulation composite systems is determined by means of a steel ball falling on to the surface of the ETICS. Any damages occurring are rated qualitatively (e.g. the reinforcement has become visible; the finishing material or the base coat has visibly delaminated or the base coat with the reinforcement has been perforated).

**5 Test apparatus**

For the impact resistance level of 2 J a steel ball of  $(500 \pm 5)$  g falls from a height of  $(408 \pm 1)$  mm. For this a vertical pipe with an internal diameter of at least 2 mm greater than the diameter of the steel ball and a length of 408 mm is erected above a surface of the horizontal test specimen. The ball falls through the pipe on to the surface of the test specimen (see figure 1).

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