

Irish Standard I.S. EN 17224:2019

Determination of compressive shear strength of wood adhesives at elevated temperatures

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#### I.S. EN 17224:2019

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*This document is based on:* EN 17224:2019

*Published:* 2019-07-10

*This document was published* under the authority of the NSAI and comes into effect on:

2019-07-28

ICS number:

83.180

NOTE: If blank see CEN/CENELEC cover page

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# EUROPEAN STANDARD NORME EUROPÉENNE

## EN 17224

## **EUROPÄISCHE NORM**

July 2019

ICS 83.180

**English Version** 

## Determination of compressive shear strength of wood adhesives at elevated temperatures

Détermination de la résistance des adhésifs de bois au cisaillement par compression à températures élevées

Bestimmung der Druck-Scherfestigkeit von Holzklebstoffen bei erhöhten Temperaturen

This European Standard was approved by CEN on 26 May 2019.

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Ref. No. EN 17224:2019 E

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## **European foreword**

This document (EN 17224:2019) has been prepared by Technical Committee CEN/TC 193 "Adhesives", the secretariat of which is held by UNE.

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of an identical text or by endorsement, at the latest by January 2020, and conflicting national standards shall be withdrawn at the latest by January 2020.

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### Introduction

#### Safety statement

Persons using this document should be familiar with the normal laboratory practice, if applicable. This document cannot address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory conditions.

#### **Environmental statement**

It is understood that some of the material permitted in this document can have negative environmental impact. As technological advantages lead to better alternatives for these materials, they will be eliminated from this document to the extent possible.

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### 1 Scope

This document specifies a test method for determining the comparative compression shear strength of adhesive bonds and solid wood at both ambient temperature and elevated temperature. The maximum load of the test pieces at ambient temperature and after exposure to a specific elevated temperature for a specified duration of time is evaluated. It is applicable to adhesives used in load bearing timber structures and to other wood adhesives.

This method is intended primarily to obtain performance data for the influence of elevated temperatures on the behaviour of adhesive bonds.

This method is not intended to provide data for structural design, and does not necessarily represent the performance of the bonded element in service.

#### 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 923, Adhesives — Terms and definitions

EN 14080:2013, Timber structures — Glued laminated timber and glued solid timber — Requirements

### 3 Terms and definitions

For the purposes of this document the terms and definitions given in EN 923 apply.

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

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

### 4 Principle

Solid wood test pieces and adhesively bonded test pieces are prepared. Both types of test pieces are tested in a compression shear test according to EN 14080:2013, Annex D at ambient temperature and after exposure to an elevated temperature. The compression shear strength of the solid wood test pieces and the adhesively bonded test pieces at ambient temperature and elevated temperature is compared in order to evaluate the shear strength of the adhesive at elevated temperature.

#### **5** Apparatus

#### 5.1 Test jig

The test equipment described in EN 14080:2013, Annex D is suitable for the performance of the shear test.

#### 5.2 Climate chamber or oven

A climate chamber or oven capable of maintaining the targeted temperature to within  $\pm 2$  °C and with sufficient air circulation to provide constant temperature conditions within the oven interior for the heating of the test pieces.



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