



BSI Standards Publication

Wood-based panels — Determination of moisture resistance under cyclic test conditions

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National foreword

This British Standard is the UK implementation of EN 321:2026. It supersedes BS EN 321:2002, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/541, Wood based panels.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

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EUROPÄISCHE NORM

March 2026

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English Version

Wood-based panels - Determination of moisture resistance under cyclic test conditions

Panneaux à base de bois - Détermination de la
résistance à l'humidité selon essais cycliques

Holzwerkstoffe - Bestimmung der
Feuchtebeständigkeit durch Zyklustest

This European Standard was approved by CEN on 26 January 2026.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (EN 321:2026) has been prepared by Technical Committee CEN/TC 112 “Wood-based panels”, 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of an identical text or by endorsement, at the latest by September 2026, and conflicting national standards shall be withdrawn at the latest by September 2026.

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 321:2001.

EN 321:2026 includes the following significant technical changes with respect to EN 321:2001:

- the wording of 7.2 has been changed to avoid misinterpretations;
- the Bibliography has been updated.

This document is one of a series specifying methods of test for determining the behaviour of wood-based panels under the influence of moisture.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies a test method for the determination of the moisture resistance of wood-based panels under cyclic test conditions.

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 310, *Wood-based panels — Determination of modulus of elasticity in bending and of bending strength*

EN 317, *Particleboards and fibreboards — Determination of swelling in thickness after immersion in water*

EN 319, *Particleboards and fibreboards — Determination of tensile strength perpendicular to the plane of the board*

EN 325, *Wood-based panels — Determination of dimensions of test pieces*

EN 326-1, *Wood-based panels — Sampling, cutting and inspection — Part 1: Sampling and cutting of test pieces and expression of test results*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

4 Principle

Test pieces are exposed to three cycles, each comprising immersion in water, freezing, and drying at elevated temperature. After cyclic treatment, the test pieces are then reconditioned and their swelling in thickness and residual strength determined.

5 Apparatus

5.1 Water bath

A water bath which shall maintain water at a temperature of $(20 \pm 1) ^\circ\text{C}$.

5.2 Freezing cabinet

A freezing cabinet which shall be capable of maintaining a temperature of between $-12 ^\circ\text{C}$ and $-25 ^\circ\text{C}$. It shall also be capable of regaining this temperature within 1 h after inserting the test pieces.

5.3 Drying cabinet

A laboratory drying cabinet with forced, evenly distributed air ventilation, which shall maintain a temperature of $(70 \pm 2) ^\circ\text{C}$ and have (25 ± 5) air exchanges per hour. It shall be capable of reaching a temperature of $(70 \pm 2) ^\circ\text{C}$ within 2 h after inserting the test pieces.