
**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*

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Foreword

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ISO 16987 was prepared by Technical Committee ISO/TC 89, *Wood-based panels*. ISO 16987 is based on European Standard EN 321.

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

1 Scope

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

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 9424, *Wood-based panels — Determination of dimensions of test pieces*

ISO 16978, *Wood-based panels — Determination of modulus of elasticity in bending and of bending strength*

ISO 16983, *Wood-based panels — Determination of swelling in thickness after immersion in water*

ISO 16984, *Wood-based panels — Determination of tensile strength perpendicular to the plane of the panel*

ISO 16999, *Wood-based panels — Sampling and cutting of test pieces*

3 Principle

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

4 Apparatus

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

4.2 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.

4.3 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.

5 Test pieces

5.1 Sampling

Sampling and cutting of the test pieces shall be carried out in accordance with to ISO 16999 and the relevant specification standard corresponding to the material.