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**Bamboo structures — Engineered  
bamboo products — Test methods  
for determination of physical and  
mechanical properties**

*Structures en bambou — Produits en bambou reconstitués —  
Méthodes d'essai pour la détermination des propriétés physiques et  
mécaniques*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 165, *Timber structures*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



# Bamboo structures — Engineered bamboo products — Test methods for determination of physical and mechanical properties

## 1 Scope

This document specifies test methods suitable for determining the following mechanical properties of engineered bamboo products:

- a) modulus of elasticity in bending;
- b) shear modulus;
- c) bending strength;
- d) modulus of elasticity in tension parallel to the fibre;
- e) tension strength parallel to the fibre;
- f) modulus of elasticity in compression parallel to the fibre;
- g) compression strength parallel to the fibre;
- h) modulus of elasticity in tension perpendicular to the fibre;
- i) tension strength perpendicular to the fibre;
- j) modulus of elasticity in compression perpendicular to the fibre;
- k) compression strength perpendicular to the fibre and shear strength;
- l) shear strength parallel to the fibre.

In addition, the determination of dimensions, moisture content and density are specified.

This document is applicable to prismatic shapes of glued laminated bamboo and bamboo scrimber intended to resist flexure, shear, axial loads, or combinations thereof.

## 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.

ISO 22157, *Bamboo structures — Determination of physical and mechanical properties of bamboo culms — Test methods*

ISO 21625, *Vocabulary related to bamboo and bamboo products*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22157, ISO 21625 and the following apply.