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Structural timber — Machine strength grading — Basic principles

Bois de structure — Classement par machine selon la résistance — Principes de base

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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).

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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.

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

This second edition cancels and replaces the first edition (ISO 13912:2005), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Annexes C and D have been added;

— Clauses 5 and 7 have been technically revised.

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Introduction

The general principle of this document is that any type of machine strength-grading procedure is acceptable, provided it is defined, controlled, and documented to the extent required to reflect the degree of reliability intended for the structural application of the product.

The body of this document specifies the essential features common to all machine strength-grading operations. The requirements are minimal so as to ensure maximum scope and flexibility in the application of this document to the machine strength-grading process as applied to timber.

Annex A provides an example of a conformance standard reflecting the requirements of this document.

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Structural timber — Machine strength grading — Basic principles

1 Scope

This document establishes the basic principles for rules and procedures governing the machine sorting of timber for use in structural applications. This applies to conventional bending type strength-grading machines as well as more recent machines that use other properties for strength-grading purposes.

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 12122-1, *Timber structures — Determination of characteristic values — Part 1: Basic requirements*

ISO 12122-2, *Timber structures — Determination of characteristic values — Part 2: Sawn timber*

ISO 13910, *Timber structures — Strength graded timber — Test methods for structural properties*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13910 apply.

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

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

4 Symbols and abbreviated terms

For the purposes of this document, the symbols and abbreviated terms given in ISO 13910 apply.

5 General

5.1 Machine strength-graded timber

Machine strength-graded timber is sawn wood that has been machine sorted according to selected criteria allowing for classification into structural grades. The machine criteria shall identify mechanical and/or physical properties that reflect the timber strength and can affect the utility of the product.

5.2 Machine strength-grading operations

A typical machine strength-grading operation shall be comprised of a grading machine that sorts an input resource into one or more grades (see Figure 1).

The data recorded by the machine shall be processed so as to produce a sorting criterion, and this sorting criterion shall be used as a basis for assigning a grade of machine strength timber.

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