
**Timber structures — Bending
applications of I-beams —**

Part 2:
**Component performance and
manufacturing requirements**

Structures en bois — Résistance à la flexion des poutres en I —

Partie 2: Performances des composants et exigences de production



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 22389-2 was prepared by Technical Committee ISO/TC 165, *Timber structures*.

ISO 22389 consists of the following parts, under the general title *Timber structures — Bending applications of I-beams*:

- *Part 1: Testing, evaluation and characterization*
- *Part 2: Component performance and manufacturing requirements*

This part of ISO 22389 is based, with permission of ASTM International, on ASTM D5055, *Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists*, copyright ASTM International.

Introduction

Prefabricated wood-based I-beams are being produced in many different countries under different national standards and these products are being exported from one country to another. While the national standards have many similarities there are also many areas of dissimilarity. Thus, there is a need for the development of an International Standard to establish consistency between these national standards to ensure the suitability of prefabricated wood-based I-beams for end use applications, regardless of country of manufacture or country of end use. This part of ISO 22389 will be of benefit to industry, consumers, governments and distributors.

Timber structures — Bending applications of I-beams —

Part 2:

Component performance and manufacturing requirements

1 Scope

This part of ISO 22389 specifies the component performance and manufacturing requirements for prefabricated wood-based I-beams used as structural members in bending applications. It does not cover fire performance, formaldehyde requirements and biological durability.

This part of ISO 22389 gives requirements for manufacturing, in-house quality assurance and periodic reevaluation of prefabricated wood-based I-beams.

Wood-based I-beams tested according to this part of ISO 22389 are intended for use in covered conditions and utilize components that are able to resist the effects of moisture on structural performance due to construction delays or other conditions of similar severity, but not permanently exposed to the weather.

NOTE The service conditions are similar to “Service class 2” as defined in ISO 20152-1.

Testing, evaluation, and performance characterization requirements for prefabricated wood-based I-beams are covered in ISO 22389-1.

This part of ISO 22389 does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this part of ISO 22389 to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

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 20152-1, *Timber structures — Bond performance of adhesives — Part 1: Basic requirements*

ISO 22389-1:2010, *Timber structures — Bending strength of I-beams — Part 1: Testing, evaluation and characterization*

EN 789, *Timber structures — Test methods — Determination of mechanical properties of wood based panels*

ASTM D5456, *Standard Specification for Evaluation of Structural Composite Lumber Products*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

prefabricated wood-based I-beam

structural member manufactured using sawn or structural composite lumber flanges and structural panel webs, forming an “I” cross-sectional shape, bonded together with a structural wood adhesive that possesses the moisture resistance suitable for the conditions specified

[ISO 22389-1:2010, definition 3.1]