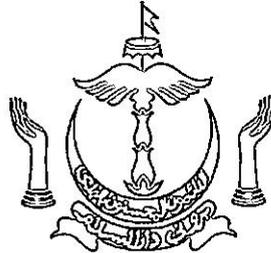


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PIAWAI BRUNEI DARUSSALAM
BRUNEI DARUSSALAM STANDARD

Solid Timber in Structural sizes - Determination of some Physical and Mechanical Properties

MINISTRY OF DEVELOPMENT
NEGARA BRUNEI DARUSSALAM

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Negara Brunei Darussalam**

**Solid Timber in Structural
sizes - Determination of some
Physical and Mechanical
Properties**

PIAWAI BRUNEI DARUSSALAM

PBD ISO 8375
First Edition

National Foreword

This Brunei Darussalam Standard reproduces verbatim ISO 8375: 1985 and implements it as the Brunei Darussalam National Standard.

This Brunei Darussalam Standard is published under the direction of the Technical Committee on Timber Standards.

Attention is drawn to the fact that this Brunei Darussalam Standard does not confer any immunity from legal obligations in any contract for compliance to the Standard.

The Brunei Darussalam Standards are subject to periodical review according to the current needs of the local industries to keep abreast of progress in the industries concerned. Suggestions of amendments will be recorded and in due course brought to the notice of the committees concerned.

Amendments issued since publication :

Amd No.	Date of issue	Text affected

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International Standard



8375

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Solid timber in structural sizes — Determination of some physical and mechanical properties

Bois massif en dimensions d'emploi — Détermination de certaines propriétés physiques et mécaniques

First edition — 1985-07-01

UDC 624.011.1 : 620.17

Ref. No. ISO 8375-1985 (E)

Descriptors : timber construction, structural timber, tests, physical properties, mechanical properties.

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8375 was prepared by Technical Committee ISO/TC 165, *Timber structures*.

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Printed in Switzerland

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Solid timber in structural sizes — Determination of some physical and mechanical properties

0 Introduction

The values obtained in any determination of the properties of timber depend upon the test methods used. It is therefore desirable that these methods be standardized so that results from different test centres may be correlated and more widely applied. Moreover, with the adoption of limit state design and with the development of both visual and machine stress grading, attention will be increasingly centred on the determination and monitoring of the strength properties and variability of timber in structural sizes. Again, this can be more effectively undertaken if the basic data are defined and obtained under the same conditions.

This International Standard, which is based on the recommendations of CIB-W 18¹⁾/RILEM 3TT²⁾, specifies laboratory methods for the determination of some physical and mechanical properties of timber in structural sizes. The methods are not intended for the grading of timber or for quality control surveillance.

For the determination of shear modulus, alternative methods have been specified. The choice of which to use will depend upon the objective of the investigation and, to some extent, on the equipment available. It is recognized that the methods may not give comparable results.

Sampling techniques, the orientation and positioning of test pieces within the test machines, and the analysis of data will be dealt with in future International Standards. Methods for the determination of shear strength and strength and stiffness in torsion are being studied and will form the subject of a future International Standard.

Attention is drawn to the advantages that may be gained, often with little extra effort, in extending the usefulness of test results, by recording additional information on the growth characteristics of the specimens that are tested, particularly at the fracture sections. Generally, such additional information should include grade-determining features such as knots, slope of grain, rate of growth, wane, etc., on which visual grading

rules are based, and strength indicating parameters, such as localized modulus of elasticity, on which machine stress grading is based.

1 Scope and field of application

This International Standard specifies laboratory methods for determining the following properties of solid timber in structural sizes:

- a) modulus of elasticity in static bending;
- b) shear modulus;
- c) bending strength;
- d) modulus of elasticity in tension;
- e) tension strength parallel to the grain;
- f) modulus of elasticity in compression;
- g) compression strength parallel to the grain.

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

The methods apply to rectangular and square sections of solid unjointed timber or finger-jointed timber in finished sizes.

2 References

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications.*

ISO 3130, *Wood — Determination of moisture content for physical and mechanical tests.*

ISO 3131, *Wood — Determination of density for physical and mechanical tests.*

1) Working Commission W 18, *Timber structures*, of the International Council for Building Research, Studies and Documentation.

2) Commission 3TT, *Testing methods for timber*, of the International Union of Testing and Research Laboratories for Materials and Structures.