



**NSAI**  
Standards

Irish Standard  
I.S. EN 12369-2:2011

# Wood-based panels - Characteristic values for structural design - Part 2: Plywood

## I.S. EN 12369-2:2011

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces:*  
EN 12369-2:2004

*This document is based on:*  
EN 12369-2:2011

*Published:*  
27 June, 2011

This document was published under the authority of the NSAI and comes into effect on:  
27 June, 2011

ICS number:  
79.060.10

**NSAI**  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

**Sales:**  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

English Version

## Wood-based panels - Characteristic values for structural design - Part 2: Plywood

Panneaux à base de bois - Valeurs caractéristiques pour la  
conception des structures - Partie 2: Contreplaqué

Holzwerkstoffe - Charakteristische Werte für die  
Berechnung und Bemessung von Holzbauwerken - Teil 2:  
Sperrholz

This European Standard was approved by CEN on 11 May 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

<b>Contents</b>	<b>Page</b>
Foreword.....	3
<b>1 Scope .....</b>	<b>4</b>
<b>2 Normative references .....</b>	<b>4</b>
<b>3 Terms and definitions .....</b>	<b>5</b>
<b>4 Symbols .....</b>	<b>6</b>
4.1 Main symbols .....	6
4.2 Subscripts .....	6
<b>5 General.....</b>	<b>7</b>
<b>6 Characteristic values for plywood .....</b>	<b>7</b>
6.1 Introduction .....	7
6.2 Bending, tension and compression.....	8
6.2.1 General.....	8
6.2.2 Strength .....	8
6.2.3 Modulus of elasticity .....	10
6.3 Shear properties .....	10
6.4 Characteristic density .....	11
<b>Annex A (informative) Format for the presentation of characteristic values.....</b>	<b>12</b>
<b>Annex B (informative) Information about the conversion factors.....</b>	<b>14</b>
<b>B.1 Tension – Compression .....</b>	<b>14</b>
B.1.1 General.....	14
B.1.2 Strength .....	14
B.1.3 Modulus of elasticity .....	14
<b>B.2 Shear properties .....</b>	<b>15</b>
<b>Bibliography .....</b>	<b>17</b>

## Foreword

This document (EN 12369-2:2011) has been prepared by Technical Committee CEN/TC 112 "Wood-based panels", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

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

This document supersedes EN 12369-2:2004.

This standard is intended to be used in conjunction with EN 1995-1-1:2004.

Compared to EN 12369-2:2004, the following changes have been made:

- a) The scope has been limited;
- b) Where no values were available, this document provides, for tension and compression, strength and stiffness values derived from bending classes in each direction and taking the surface appearance class into account;
- c) This document gives more relevant values for shear properties in relation to the density of the wood species in the panel;
- d) The range of density, from  $350 \text{ kg/m}^3$  to  $750 \text{ kg/m}^3$ , corresponds to data used to determine the correlation between these shear properties and density;
- e) The characteristic value of the density is determined by using the results of Factory Production Control (FPC).

This European Standard is one of a series specifying characteristic values of wood-based panels for structural design. The other parts of this series are listed in the Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard provides information on the characteristic values for use in designing structures incorporating wood-based panels. The characteristic values given in this standard are to be used in accordance with EN 1995-1-1.

When utilizing the classification system for derivation of plywood characteristic values, this European Standard can only be applied with reference to EN 636.

This European Standard includes the characteristic values of the mechanical properties for plywood complying with EN 636 in bending, tension, compression, panel shear and planar shear. EN 636 classifies bending properties into two sets of classes, one for stiffness and another for strength. Stiffness and strength in tension and compression are related to the same properties in bending.

For shear properties, fixed values determined by correlation to density are provided.

Where optimised values are needed, the characteristic values are determined directly by testing in accordance with EN 789 and EN 1058 or by combination of testing according to the latter two standards and calculation according to prEN 14272.

This European Standard applies to panels complying with the three following conditions:

- 5 layers or more and 6 mm overall thickness and more;
- the ratio of the cumulative thickness of veneers in alternate directions does not exceed 2,5;
- wood species with a mean density greater than 350 kg/m<sup>3</sup> and not exceeding 750 kg/m<sup>3</sup>.

## 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.

EN 310, *Wood-based panels — Determination of modulus of elasticity in bending and of bending strength*

EN 323, *Wood-based panels — Determination of density*

EN 326-2, *Wood-based panels — Sampling, cutting and inspection — Part 2: Initial type testing and factory production control*

EN 635-2, *Plywood — Classification by surface appearance — Part 2: Hardwood*

EN 635-3, *Plywood — Classification by surface appearance — Part 3: Softwood*

EN 636:2003, *Plywood — Specifications*

EN 1995-1-1:2004, *Eurocode 5: Design of timber structures — Part 1-1: General — Common rules and rules for buildings*

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

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-