

**Plywood**Bonding quality  
Requirements

English version of DIN EN 314 Part 2

**DIN**  
**EN 314**  
Part 2

Sperrholz; Qualität der Verklebung; Anforderungen

Intended to supersede parts of  
DIN 68 705 Part 2, July 1981 edition,  
DIN 68 705 Part 3, December 1981  
edition, and DIN 68 705 Part 5,  
October 1980 edition.**European Standard EN 314-2:1993 has the status of a DIN Standard.***A comma is used as the decimal marker.***National foreword**

This standard has been prepared by CEN/TC 112.

The responsible German body involved in the preparation of this standard was the *Normenausschuß Holzwirtschaft und Möbel* (Timber and Furniture Standards Committee), Technical Committee 2.15.

This European Standard is part of a series of standards dealing with wood-based panel products within the scope of the EC Directive on the approximation of the laws, regulations and administrative provisions of the Member States relating to construction products (89/106/EEC) and also serving to implement

Eurocode No. 5 Design of timber products. Part 1-1: General rules and rules for buildings.

It is to be noted that not all of the DIN Standards dealing with requirements and methods of test for wood-based panel products need yet be withdrawn. This is in keeping with resolution 22/93 taken by CEN/BT, which states that where 'packages' of EN Standards are concerned, it shall be permitted for the relevant national standards to be valid for longer periods of time than usual, specifically, until the EN 'package' has been published in its entirety.

In the case at hand, all of the relevant EN Standards have not yet been published, but the foreseen deadline for submitting them to Formal Vote has been set for 30 June 1994. CEN/TC 112 has therefore decided to extend the period of validity for relevant national standards until the end of 1994.

**Standards referred to**See **Normative references** and **Annex A**.**Previous editions**

DIN 68 705: 12.58, 03.63; DIN 68 705 Part 1: 01.68; DIN 68 705 Part 2: 01.68, 09.68, 07.81; DIN 68 705 Part 3: 01.68, 12.81; DIN 68 705 Part 5: 10.80.

**Amendments**

DIN 68 705 Part 2, July 1981 edition, DIN 68 705 Part 3, December 1981 edition, and DIN 68 705 Part 5, October 1980 edition, have been superseded by the specifications of EN 314-2.

**International Patent Classification**

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**English version**

**Plywood  
Bonding quality  
Part 2: Requirements**

Contreplaqué; qualité du collage.  
Partie 2: Exigences

Sperrholz; Qualität der Verklebung.  
Teil 2: Anforderungen

This European Standard was approved by CEN on 1992-12-15.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

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## Foreword

This European Standard was prepared by Working Group 2 'Plywood' (Secretariat: AFNOR) of Technical Committee CEN/TC 112 'Wood-based panels', the Secretariat of which is held by DIN.

This standard is one of a series of standards specifying requirements and test methods for plywood.

No existing European Standard is superseded.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, by August 1993 at the latest, and conflicting national standards withdrawn, by December 1994 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## 1 Scope

This European Standard specifies requirements for bonding classes of veneer plywood according to their end uses.

The appropriate test methods are specified in EN 314-1.

## 2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

- EN 636-1 Plywood; specifications. Part 1: Requirements for plywood for use in dry conditions<sup>1)</sup>
- EN 636-2 Plywood; specifications. Part 2: Requirements for plywood for use in humid conditions<sup>1)</sup>
- EN 636-3 Plywood; specifications. Part 3: Requirements for plywood for use in exterior conditions<sup>1)</sup>
- EN 314-1 Plywood; bonding quality. Part 1: Test methods

## 3 Bonding classes

Bonding quality is divided into three classes, according to EN 636-1, EN 636-2 and EN 636-3, based upon the moisture resistance, as follows:

- Class 1: dry conditions

This bonding class is appropriate for normal interior climate.

- Class 2: humid conditions

This bonding class is appropriate for protected external applications (e. g. behind cladding or under roof coverings), but is capable of resisting weather exposure for short periods (e. g. when exposed during the construction). It is also suitable for interior situations where the service moisture condition is raised above the class 1 level.

- Class 3: exterior conditions

This bonding class is designed for exposure to weather over sustained periods.

NOTE: The durability of plywood depends not only upon the bonding performance level, but also upon other factors.

<sup>1)</sup> At present at the draft stage.

#### 4 Requirements

For each pretreatment, both the mean shear strength and the mean apparent cohesive wood failure for a minimum of ten test pieces per glueline, shall satisfy the criteria given in table 2 for all three bonding classes.

The pretreatments are related to the bonding classes as given in table 1.

Each pretreatment is carried out on a separate set of ten pieces for each glueline.

**Table 1: Pretreatments for the three bonding classes**

	Pretreatments (according to EN 314-1)			
	5.1.1	5.1.2	5.1.3*)	5.1.4
Class 1: dry interior	x			
Class 2: covered exterior	x	x		
Class 3: non-covered exterior	x		x	x
*) When full phenolic glues are used, pretreatment 5.1.3 can be used, provided pretreatment 5.1.4 is occasionally used as a test of confirmation.				

For all three bonding classes, each glueline shall satisfy two criteria: the mean shear strength and the mean apparent cohesive wood failure, as combined in the following table.

**Table 2: Requirements**

Mean shear strength, $f_v$ , in N/mm <sup>2</sup>	Mean apparent cohesive wood failure, $w$ , in %
$0,2 \leq f_v < 0,4$	$\geq 80$
$0,4 \leq f_v < 0,6$	$\geq 60$
$0,6 \leq f_v < 1,0$	$\geq 40$
$1,0 \leq f_v$	No requirement

The relationship between the mean apparent cohesive wood failure and the mean shear strength given in table 2 is illustrated in figure 1.

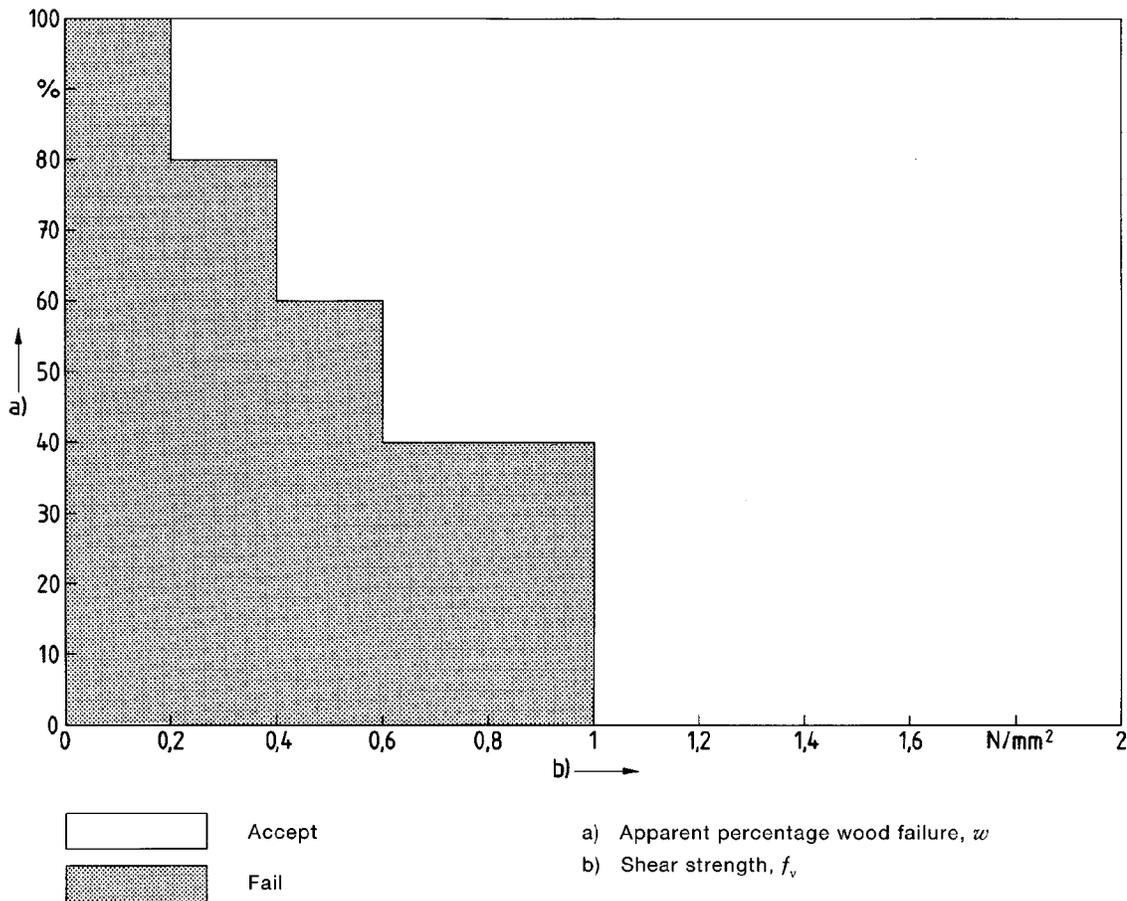


Figure 1: Relationship between the mean percentage of apparent cohesive wood failure and the mean shear strength

## 5 Determination of bonding class

The comparison of results obtained according to EN 314-1 and requirements defined in this standard allows determination of the bonding class to which the tested panel belongs.

## Annex A (informative)

### Bibliography

- EN 313-1 Plywood; classification and terminology. Part 1: Classification
- EN 313-2 Plywood; classification and terminology. Part 2: Terminology