

# INTERNATIONAL STANDARD

**ISO**  
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## **Plywood — Bonding quality —**

### **Part 2: Requirements**

*Contreplaqué — Qualité de collage —  
Partie 2: Exigences*

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## Foreword

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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 part of ISO 12466 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12466-2 was prepared by Technical Committee ISO/TC 89, *Wood-based panels*, Subcommittee SC 3, *Plywood*.

ISO 12466 consists of the following parts, under the general title *Plywood — Bonding quality*:

- *Part 1: Test methods*
- *Part 2: Requirements*



# Plywood — Bonding quality —

## Part 2: Requirements

### 1 Scope

This part of ISO 12466 specifies requirements for determination of bonding classes of veneer plywood according to their intended end uses.

The appropriate test methods are specified in ISO 12466-1.

### 2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 12466. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 12466 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 12466-1, *Plywood — Bonding quality — Part 1: Test methods.*

### 3 Bonding classes

Bonding quality is categorized into three classes, in accordance with ISO 12465-1, ISO 12465-2 and ISO 12465-3, based upon moisture resistance as follows.

a) Class 1: dry conditions

This bonding class is appropriate for veneer plywood intended for use in normal interior climates.

b) Class 2: humid conditions

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

c) Class 3: exterior conditions

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

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

### 4 Requirements

For each pretreatment, both the mean shear strength and the average apparent cohesive wood failure, determined in accordance with ISO 12466-1 for a minimum of ten test pieces per glueline, shall satisfy the criteria given in Table 2 for all three bonding classes.

The pretreatments chosen are related to the bonding class of the plywood veneer, as given in Table 1.

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

**Table 1 – Pretreatments for the three plywood bonding classes**

Bonding class	Pretreatments (in accordance with ISO 12466-1, subclause)			
	5.1 a)	5.1 b)	5.1 c) *	5.1 d)
Class 1: dry conditions	x			
Class 2: humid conditions	x	x		
Class 3: exterior conditions	x		x	x

\* When full phenolic glues are used, pretreatment 5.1 c) can be used provided pretreatment 5.1 d) 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 average apparent cohesive wood failure, as combined in Table 2.

**Table 2 – Glueline requirements**

Mean shear strength N/mm	Average apparent cohesive wood failure %
$0,2 \leq f_v < 0,4$	$\geq 80$
$0,4 \leq f_v < 0,6$	$\geq 60$
$0,6 \leq f_v < 1,0$	$\geq 40$
$1,0 \leq f_v$	no requirement

The relationship between the average percentage of apparent cohesive wood failure and the mean shear strength given in Table 2 is illustrated in Figure 1.

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