

Plywood — Bonding quality —

Part 1: Test methods

The European Standard EN 314-1:2004 has the status of a
British Standard

ICS 79.060.10

National foreword

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The UK participation in its preparation was entrusted to Technical Committee B/541, Wood based panels, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 20, an inside back cover and a back cover.

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Amendments issued since publication

Amd. No.	Date	Comments

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 16 January 2006

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English version

Plywood - Bonding quality - Part 1: Test methods

Contreplaqué - Qualité du collage - Partie 1: Méthodes
d'essai

Sperrholz - Qualität der Verklebung - Teil 1: Prüfverfahren

This European Standard was approved by CEN on 14 October 2004.

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Foreword

This document (EN 314-1:2004) 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of an identical text or by endorsement, at the latest by June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005..

This document supersedes EN 314-1:1993.

In the revised version the following modifications have been made as compared to EN 314-1:1993:

- the standard contains not only test methods for veneer plywood but also for blockboard and laminboard;
- the normative annex A "Determination of the percentage of apparent cohesive wood failure by comparison" has been extended;
- a new informative annex B "Guidelines for the evaluation of glue bond of insulating core plywood" has been added.

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

1 Scope

This document specifies methods for determining the bonding quality of veneer plywood, blockboard and laminboard by shear testing.

The relevant requirements are specified in EN 314-2.

This document is suitable for insulating core plywood as defined in Annex B.

Annex A is normative. Annex B is informative.

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 314-2, *Plywood — Bonding quality — Part 2: Requirements*

EN 326-1, *Wood-based panels — Sampling, cutting and inspection — Part 1: Sampling and cutting of test pieces and expression of test results*.

3 Test pieces

3.1 Sampling

Sampling shall be according to EN 326-1.

Test pieces shall be without any manufacturing defects or characteristics inherent in wood (see EN 635-1) in the testing area.

3.2 Shape and sizes

The test pieces of veneer plywood shall be prepared as shown in Figure 1.

Each test piece shall be cut so that the grain direction of the layer between the gluelines under test is perpendicular to the length of the test piece.

The test pieces have to be prepared and the nicking is made to allow the examination of each glueline of the panel.

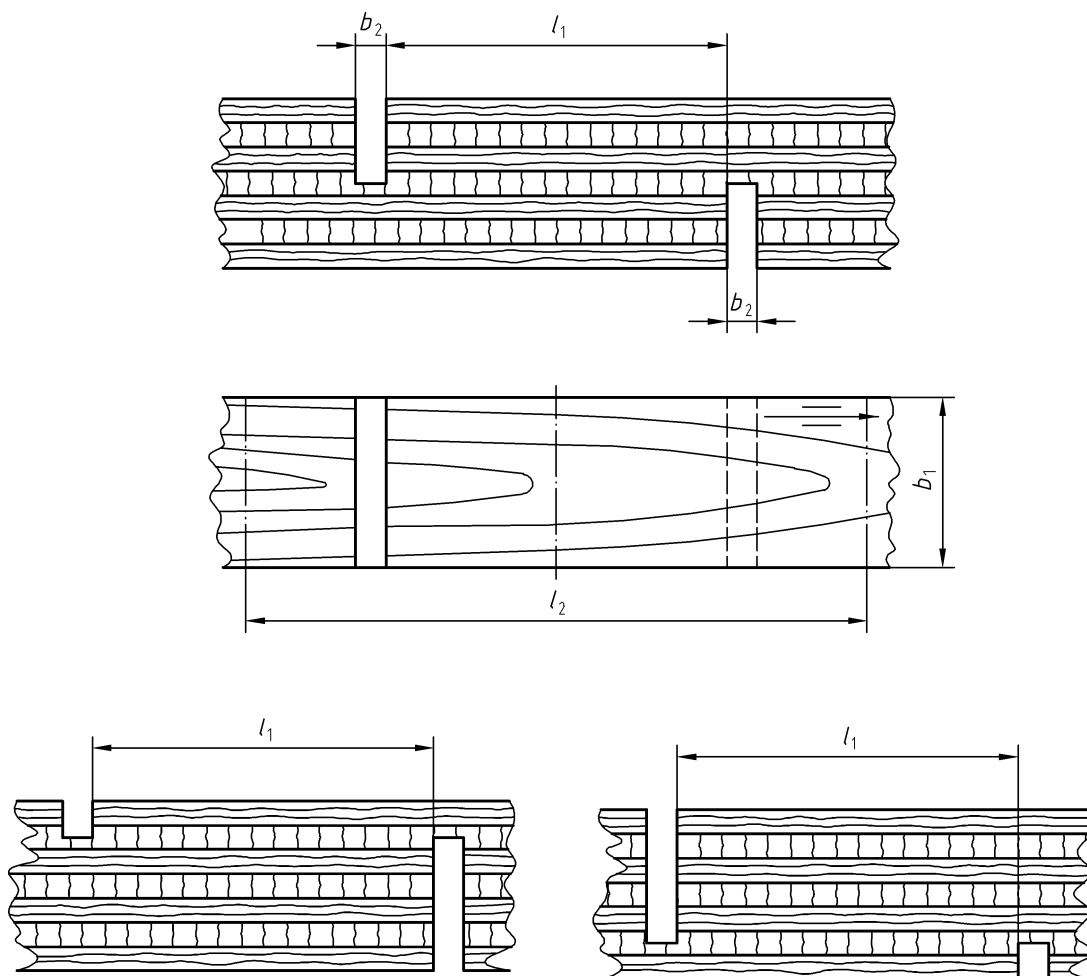
The saw cuts shall extend into the layer between the gluelines under test, as shown in Figure 1.

Full panel thickness test pieces may be used for veneer plywood with 3 to 9 layers.

For panels of more than 9 layers, excess layers may be removed by planing, cutting or sanding.

Similar procedure can be used for determining the bonding quality of blockboard and laminboard (Figure 2) or thin faces veneered plywood (Figure 3). The saw cuts shall extend into one of the layers between the gluelines under test between face layers and core layers, as shown in Figures 2 and 3.

NOTE For insulating core plywood, see Annex B.

**Key**

b_1 (25 ± 0,5) mm (shear width of test piece)

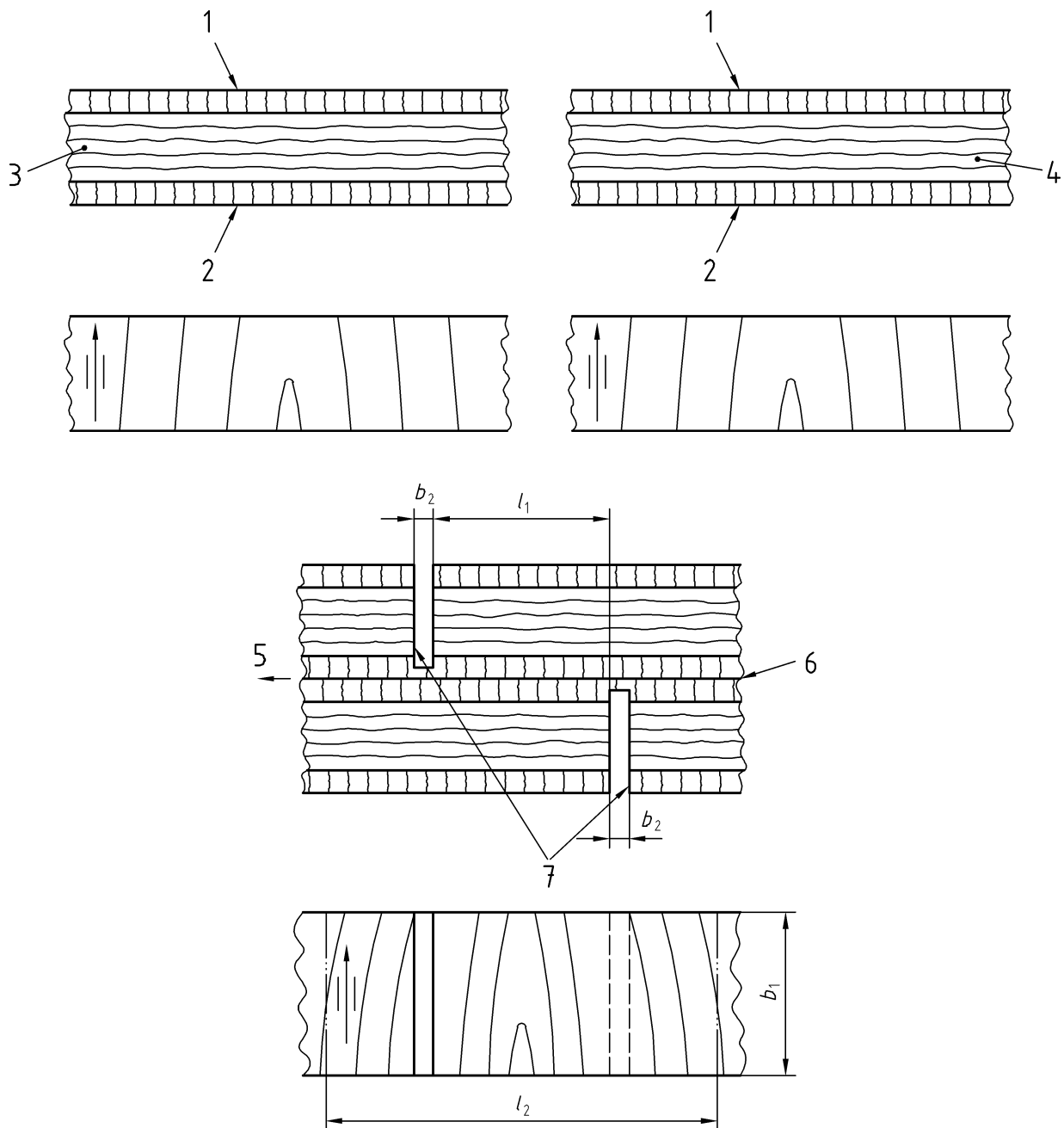
b_2 2,5 mm to 4 mm (saw cut width)

l_1 (25 ± 0,5) mm (shear length)

l_2 50 mm min (distance between clamps)

—→ along the grain direction

Figure 1 — Test piece example for a 7 ply veneer plywood



Key

- 1 Face
- 2 Back face
- 3 Part 1
- 4 Part 2
- 5 Faces of part 1 and part 2, the same set-up shall be made for the back face of part 1 and part 2
- 6 Glueline not subject to the shear test
- 7 Saw cuts throughout the face layers
- b_1 (25 ± 0,5) mm (shear width)
- b_2 (2,5 to 4) mm (saw cut width)
- l_1 (25 ± 0,5) mm (shear length)
- l_2 50 mm min (distance between clamps)

→ along the grain direction

Figure 2 — Composite test piece for blockboard and laminboard