

Marine plywood —

Part 1: Requirements

ICS 79.060.10

Confirmed October 2008

Committee responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee B/541, Wood based panels, upon which the following bodies were represented:

- APA The Engineered Wood Association
- Association of British Plywood and Veneer Manufacturers
- British Marine Industries Federation
- British Woodworking Federation
- Canada Wood UK
- Department of Trade and Industry
- Eternit Building Materials
- Flat Roofing Alliance
- Forestry Commission
- Furniture Industry Research Association
- Institution of Structural Engineers
- Lloyds Register of Shipping
- Mineral Bonded Board Products Federation
- Ministry of Defence
- National Federation of Roofing Contractors
- National House-Building Council
- National Panel Products Association
- Timber Research and Development Association
- Timber Trade Federation
- Wood Panel Industries Federation
- Zurich Municipal Building Guarantee

This British Standard was published under the authority of Standards Policy and Strategy Committee on 9 July 2003

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First published as BS 1088 & 4079 November 1966

Second edition as BS 1088-1 July 2003

The following BSI references relate to the work on this British Standard:
Committee reference B/541
Draft for comment 01/108762 DC

Amendments issued since publication

Amd. No.	Date	Comments

ISBN 0 580 41741 7

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Foreword

This part of BS 1088 has been prepared by Technical Committee B/541. Together with BS 1088-2, it supersedes BS 1088:1966 and BS 4079:1966, which are withdrawn.

BS 1088 is issued in two parts:

— *Part 1: Requirements;*

— *Part 2: Determination of bonding quality using the knife test.*

Guidance on preservative treatment of plywood, which was previously included in BS 4079, is now dealt with by reference to DD ENV 1099.

Unlike performance-based plywood standards, BS 1088 is unique in giving specific requirements for wood species, construction, lay-up and adhesives. These features have been maintained and where appropriate cross-referenced to current British and European Standards.

Although the term “marine plywood” is widely used in commerce, there has not previously been a formal definition in British, European or International Standards. A definition is included in Clause 3 of this standard.

Standard marine plywood as defined in and meeting the requirements of BS 1088 has outstanding resistance to both biodeterioration and loss of bond strength with time. Lightweight marine plywood as defined in and meeting the requirements of BS 1088 has outstanding resistance to loss of bond strength with time. BS 1088 was originally developed to specify plywood meeting the exacting requirements of use in marine craft, but marine plywood is also suitable for use in extreme climates and in such applications as vehicle bodies and general building work where the cost of replacement in the event of failure might be high. The scope of this edition reflects this wider range of use. The biological durability of marine plywood is expected to be greater than that of plywood of the same species that meets only the minimum requirements of BS EN 636-3.

BS 1088:1966 and BS 4079:1966 were confirmed without amendment in 1992. The original text is no longer useable for a number of reasons: conformity to many requirements cannot be verified by tests on the finished product subsequent to manufacture, several references are now obsolete, there are no adequate verification and labelling clauses and the language does not give the degree of precision and lack of ambiguity required by BS 0.

The main technical changes in this edition are in the specification of the adhesive type to overcome the original unverifiable requirements for BS 1203 type WBP, and the use of shear testing in place of the knife test for determining bonding quality. The knife test, described in Part 2 of this standard, may still be used for quality control in the mill. The mycological test has been deleted.

The original edition gave no requirements for a statistical control of production for the purpose of verifying conformity.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Assessed capability. Users of this British Standard are advised to consider the desirability of quality system assessment and registration against the appropriate standard in the BS EN ISO 9000 series by an accredited third-party certification body.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, an inside back cover and a back cover.

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1 Scope

This part of BS 1088 specifies requirements for marine plywood for use in the manufacture of marine craft and in other marine and waterway applications. It also applies to marine plywood that has been selected for use in building construction, in extreme climates and in such applications as vehicle bodies and general building work where a high standard of durability is required or where the cost of replacement in the event of failure might be high.

This standard does not include strength data, which can be used to derive characteristic values or grade stresses for use in engineering design.

NOTE 1 Where marine plywood is to be used in construction, attention is drawn to the requirements of the Construction Products Directive. Compliance with these requirements can be verified through demonstrating compliance with BS EN 13986.

NOTE 2 Where marine plywood is to be used for load-bearing applications in building construction, it is necessary to substantiate the design or design calculations. BS 5268-2 and DD ENV 1995-1-1 (Eurocode 5) provide suitable methods for achieving this.

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.

BS 1203, *Hot-setting phenolic and aminoplastic wood adhesives — Classification and test method*.

BS EN 314-1, *Plywood — Bonding quality — Part 1: Test methods*.

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

BS EN 322, *Wood-based panels — Determination of moisture content*.

BS EN 324-1, *Wood-based panels — Determination of dimensions of boards — Part 1: Determination of thickness, width and length*.

BS EN 324-2, *Wood-based panels — Determination of dimensions of boards — Part 2: Determination of squareness and edge straightness*.

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

BS EN 335-3, *Durability of wood and wood-based products — Definition of hazard classes of biological attack — Part 3: Application to wood-based panels*.

BS EN 350-2, *Durability of wood and wood-based products — Natural durability of solid wood — Part 2: Guide to natural durability and treatability of selected wood species of importance in Europe*.

3 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

3.1

amino resin

thermosetting synthetic resin derived from a condensation reaction of the –NH– groups of amines or amides with aldehydes

NOTE “Urea–formaldehyde (UF)” and “melamine–formaldehyde (MF)” resins are mainly of significance in the adhesives field.

[Adapted from BS EN 923:1998, definition 2.3.51]

3.2

layer

either one ply or two or more plies glued together with their grain direction parallel, or another material [BS EN 313-2:2000, definition 2.11]