1993 ED.

AS 1604—1980
UDC 674.048 : 634.0.841

AS 1604—1993
Timber—Preservative-treated—Sawn and round
(In Professional Package 30A) 29pp *H*
Specifies requirements for penetration and retention of a range of preservatives for sawn and round timber for use in conditions where the material is exposed to decay, insect and marine borer attack hazards. This Standard does not apply to plywood and veneer timber. The composition of acceptable preservatives are given, and recommended treatments and levels are listed according to the anticipated exposure conditions. Appendices give information on hardwood not susceptible to lyctid attack, hazard classifications for various applications and the natural durability of commercial timbers.
Committee TM/6: Supersedes AS 1604—1980: Publication date 1993-11-22: ISBN 0 7262 8559 5.

Australian Standard 1604–1980

PRESERVATIVE TREATMENT FOR SAWN TIMBER, VENEER AND PLYWOOD

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

e

AUSTRALIAN STANDARD

PRESERVATIVE TREATMENT FOR SAWN TIMBER, VENEER AND PLYWOOD

AS 1604—1980

First published 1974
Second edition 1980

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR STREET, NORTH SYDNEY, N.S.W.

ISBN 0 7262 2141 4

PREFACE

This standard was prepared by the Association's Committee on Wood Preservation to supersede the 1974 edition.

This edition corrects some errors and brings the document up-to-date with alterations and additions to the reference standards.

Table 3 has been re-drafted and the opportunity has been taken to amend preservative retentions and to add several new substances to the list.

Modifications to Appendix A have been included and Tables A2 and A3 have been expanded.

This standard requires reference to the following standards:

AS 1143	High Temperature Creosote for the Preservation of Timber
AS 1144	Arsenical Creosote for the Preservation of Timber
AS 1148	Nomenclature of Commercial Timbers Imported into Australia
AS 1605	Methods for the Sampling and Analysis of Wood Preservatives and Preservative-treated Wood
AS 1700	Mineral Turpentine
AS 1701	White Spirit
AS K55	Creosote Oil for the Preservation of Timber
AS O1	Terms Used in Timber Standards
AS O2	Nomenclature of Australian Timbers
BS 3175	Pentachlorophenol
ASTM D86	Method for Distillation of Petroleum Products
ASTM D93	Test Methods for Flash Point by Pensky-Martens Closed Tester
ASTM D96	Test Methods for Water and Sediment in Crude Oils
ASTM D287	Test Methods for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
ASTM D445	Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the calculation of Dynamic Viscosity)

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
PRESERVATIVE TREATMENT FOR SAWN TIMBER, VENEER AND PLYWOOD

FOREWORD

This standard is not meant to imply that only preservative-treated timber, veneer or plywood is suitable or should be used for a specific purpose. In many cases the natural durability of a particular timber species is sufficient to protect that timber from the hazards encountered over a range of end uses.

The role of timber preservation is to extend the range of end uses of the material. Provided that the requirements specified in this standard for the preservative penetration and retention appropriate to the particular end use are met, the treated timber will perform satisfactorily.

Where practicable, as much shaping, ripping, boring, machining, and such operations on material should be carried out prior to treatment, as these operations after treatment may reduce significantly the service life of timber, veneer or plywood.

When placing an order for treated timber, the purchaser should state the intended use of the timber for the guidance of the supplier.

Generally, this standard does not deal with or restrict the methods of preservative treatment that may be adopted to achieve the specified penetrations and retentions. Users of this standard are warned that entries in the tables throughout the standard are necessarily abridgements of fuller description. Advice on the suitability of any timber species and preservative, and the use of preservative-treated timber for a particular application may be obtained from organizations such as State Forestry Authorities; from the CSIRO Division of Building Research; and from the Timber Preservers Association of Australia.

SPECIFICATION

1 SCOPE. This standard specifies requirements for preservative treatment for sawn timber, veneer and plywood intended for use in domestic and industrial buildings, boats, cooling towers, irrigation works, urban fencing and other structures requiring protection against decay or insect attack. It does not apply to preservative treatment for round fence posts, poles or piles, nor to timber treated with fire-retardants; for these refer to other Australian standards, where appropriate.

This standard does not describe the qualities or grades of timber required for a particular end use as these are covered by other SAA publications.

NOTE: Throughout this standard, unless the context requires otherwise, the word 'timber' means sawn timber, veneer and plywood.

2 APPLICATION. In order to comply with this standard, treated timber shall satisfy the requirements for preservative, preservative penetration and preservative retention specified herein.

NOTES:

1. Requirements for the *penetration* of specified preservatives have been related to the natural durability in the ground of the heartwood of the species treated and to the severity of hazard to which the treated timber is likely to be exposed. The *minimum retention* of these preservatives considered necessary to give long term protection commensurate with the various hazards, have been laid down.
2. The standard is intended to have general application throughout Australia but in New South Wales the Timber Marketing Act 1977 and in Queensland the Timber Users' Protection Act 1949-1972, require prior approval of a preservative treatment and registration of a brand before timber offered for sale in either of these States can be described as preservative treated. Detailed information about the requirements of such legislation may be obtained from the State Forestry Departments concerned.
3. Timber complying with the penetration requirements at the time of treatment may not comply if subsequently machined. Some preshaping or deeper treatment may be necessary to obtain the required penetration in finished products.
4. Following treatment with waterborne preservatives, timber retains considerable amounts of the solvent water which must be removed by seasoning before the timber can be used in situations calling for seasoned timber. Also timber treated with preservative oils may need a period of drying before use.

3 DEFINITIONS. The terms used in this standard shall be interpreted in accordance with AS O1, except where defined otherwise as follows:

Charge — the quantity of timber actually processed in a wood preservation plant by one complete cycle of the treating process or in the case of a continuous treatment process, the production from a period not exceeding 8 h.

Lyctus-susceptible sapwood — the sapwood of hardwood timbers which shows evidence of starch when tested in accordance with Appendix E.

NOTE: A few hardwood timbers which may contain starch in the sapwood are too fine in structure to be Lyctus susceptible. Lyctus susceptibility ratings may be obtained from State Forest authorities, CSIRO Division of Building Research, and the Timber Preservers Association of Australia.

Parcel — a lot of preservative-treated timber, veneer or plywood from one or more charges or parts thereof purporting to comply with the requirements of this standard.

Sample — a number of lengths of timber or sheets of veneer or plywood chosen from a charge or parcel in accordance with Appendix B.

Specimen — the small piece of timber, veneer or plywood taken from each length of timber or sheet of veneer or plywood in the sample.

Test piece — a subdivision of a specimen taken for a specific test.

Treated timber — timber, veneer and plywood purporting to comply with the requirements of this standard for both preservative penetration and preservative retention.

4 TIMBER PRESERVATIVES. The timber preservatives used shall comply with the requirements of Appendix A.

5 PENETRATION OF PRESERVATIVE.

5.1 Patterns. Six patterns of penetration are recognized in this standard and are described in Table 1.

5.2 Establishment of Penetration. At the discretion of the purchaser, compliance with the penetration requirement of Clause 5.3 shall be established by—

(a) Certificate of Treatment (see Clause 8); or

(b) branding (see Clause 7); or

(c) sampling in accordance with Appendix B and testing in accordance with Appendix C, except that any material culled in accordance with Paragraph B3.4 of Appendix B shall be rejected from the parcel.

5.3 Penetration Requirement.

5.3.1 *Hazard 1: Borer immunization of sawn timber and plywood.* In all specimens susceptible to lyctid or anobiid attack, the penetration of the sapwood shall comply with Penetration Pattern A, except that where veneer or plywood is treated with dieldrin, it shall comply with Penetration Pattern F.

5.3.2 *Hazard 2: Termite treatments.* All specimens shall show evidence of arsenic in all glue-lines.

5.3.3 *Hazard 3 to Hazard 9: Treatments of sawn timber and plywood subject to decay and insect attack.* All specimens shall show evidence of treatment and in every specimen any sapwood present shall be completely penetrated. Also, five out of six specimens shall show the penetration pattern specified in Table 2 (see Note) appropriate to the intended service hazard and the durability rating of the timber species. The durability of a timber species shall be that assigned to it in Appendix D.

NOTE: Table 2 sets out the penetration and retention requirements in timber of different natural durabilities for the various classes of hazard recognized. To understand Table 2, the notes thereto should be read carefully.