

Australian/New Zealand Standard™

Specification for preservative treatment

Part 4: Laminated veneer lumber (LVL)



AS/NZS 1604.4:2012

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee TM-006, Timber Preservation and Durability. It was approved on behalf of the Council of Standards Australia on 18 September 2012 and by the New Zealand Standards Approval Board on 6 September 2012. This Standard was published on 26 November 2012.

The following are represented on Committee TM-006:

Australian Forest Products Association
Australian Pesticides and Veterinary Medicines Authority
Australian Timber Importers Federation
Department of Building and Housing (New Zealand)
Department of Employment, Economic Development and Innovation
Engineered Wood Products Association of Australasia
Engineers Australia
Forest and Wood Products Australia
Forests New South Wales
Glued Laminated Timber Association of Australia
Monash University
New Zealand Pine Manufacturers Association
New Zealand Responsible Care
New Zealand Timber Industry Federation
New Zealand Timber Preservation Council
Timber Preservers Association of Australia
Wood Processors Association New Zealand

Additional Interests:

Dr Harry Greaves

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR (2012) AS/NZS 1604.4.

Australian/New Zealand Standard™

Specification for preservative treatment

Part 4: Laminated veneer lumber (LVL)

Originated as AS/NZS 1604.4:2002.
Previous edition 2010.
Fourth edition 2012.
Reissued incorporating Amendment No. 1 (March 2017).

COPYRIGHT

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, PO Box 1473, Wellington 6011.

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM-006, Timber Preservation and Durability, to supersede AS/NZS 1604.4:2004.

This Standard incorporates Amendment No. 1 (March 2017). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to specify requirements for preservative treatment of laminated veneer lumber (LVL) for protection against decay or insect attack.

The objectives of this revision are to—

- (a) include treatment requirements for surface-applied envelope-treated softwood to be used south of the Tropic of Capricorn for hazard class H2;
- (b) amend the level of bifenthrin for glueline treatment in hazard class H2;
- (c) add an outer surfaces treatment requirement with imidacloprid for H2;
- (d) add copper azole for H2 treatment in Table H2.1;
- (e) add waterborne azole formulation to Table H3.1; and
- (f) include copper azole retention for hardwoods in Table H5.

A1 | The objectives of this amendment to this Standard are to—

- (i) delete all references to Forests New South Wales;
- (ii) amend and simplify the preservative and preservative treatment requirements of Clauses 1.5, 1.7 and 1.8;
- (iii) amend the marking information in Clause 7.2.1;
- (iv) insert a new Appendix C, Timber preservatives; and
- (v) insert a new Appendix D, Abbreviated marking.

This Standard is part of a series that covers specifications for preservative treatment of timber products, as follows:

AS 1604	Specification for preservative treatment
AS 1604.1	Part 1: Sawn and round timber
AS/NZS 1604	Specification for preservative treatment
AS/NZS 1604.2	Part 2: Reconstituted wood-based products
AS/NZS 1604.3	Part 3: Plywood
AS/NZS 1604.4	Part 4: Laminated veneer lumber (LVL) (this Standard)
AS/NZS 1604.5	Part 5: Glued laminated timber products

This Standard does not specify the preservative treatment methods to be adopted to achieve the specified penetrations and retentions. Where the user is uncertain of the appropriate preservative treatment, additional information may be obtained from relevant organizations.

A1 | Preservatives not covered in this edition, and which may have general application, should be brought to the attention of Standards Australia for consideration for inclusion in future editions.

WARNING:**Important Safety Notice**

Improper use of the preservative chemicals and treated products may be hazardous. All individuals involved in the production or testing of treated products should be familiar with the relevant Material Safety Data Sheets.

Consumer information sheets dealing with the appropriate use and handling of treated products should be provided as point-of-sale literature.

Treated timber should not be used for food preparation surfaces nor should it be used in storage units or containers where the foodstuffs will be in direct contact with the treated timber surface.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

CONTENTS

	<i>Page</i>
FOREWORD.....	6
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	7
1.2 APPLICATION	7
1.3 NORMATIVE REFERENCES	8
1.4 DEFINITIONS.....	8
1.5 TIMBER PRESERVATIVES	10
1.6 PRODUCT REQUIREMENTS.....	10
1.7 HAZARD CLASS.....	10
1.8 PRESERVATIVE TREATMENT.....	11
1.9 USE IN NEW ZEALAND	12
SECTION 2 HAZARD CLASSES H1 AND H1.2	
2.1 SCOPE OF SECTION	13
2.2 HAZARD CLASS H1	13
2.3 HAZARD CLASS H1.2	13
SECTION 3 HAZARD CLASS H2	
3.1 SCOPE OF SECTION	15
3.2 PRESERVATIVE PENETRATION ZONE	15
3.3 PRESERVATIVE RETENTION REQUIREMENT.....	17
SECTION 4 HAZARD CLASS H3	
4.1 SCOPE OF SECTION	19
4.2 PRESERVATIVE PENETRATION ZONE	19
4.3 PRESERVATIVE RETENTION REQUIREMENT.....	19
4.4 USE OF TBTN AND TBTO.....	19
SECTION 5 HAZARD CLASS H4	
5.1 SCOPE OF SECTION	21
5.2 PRESERVATIVE PENETRATION ZONE	21
5.3 PRESERVATIVE RETENTION REQUIREMENT.....	22
SECTION 6 HAZARD CLASS H5	
6.1 SCOPE OF SECTION	23
6.2 PRESERVATIVE PENETRATION ZONE	23
6.3 PRESERVATIVE RETENTION REQUIREMENT.....	23
SECTION 7 MARKING	
7.1 LEGIBLE MARKING	24
7.2 MARKING INFORMATION	24
7.3 'Text deleted'	25
7.4 WARNING LABEL—ENVELOPE PENETRATION	25
7.5 USE RESTRICTION	25
7.6 COMPLIANCE DETERMINATION	25

APPENDICES

A	GUIDE TO HAZARD CLASSIFICATIONS FOR VARIOUS END-USE APPLICATIONS	26
B	METHOD OF SELECTION AND PREPARATION OF TEST SAMPLE FOR DETERMINATION OF PENETRATION	27
C	TIMBER PRESERVATIVES	29
D	ABBREVIATED MARKING.....	31
	BIBLIOGRAPHY.....	32

FOREWORD

The purpose of preservation is to extend the life of the laminated veneer lumber (LVL) by protecting it from decay or insect attack. This increases the range for the end application of the laminated veneer lumber (LVL) and renders it a more useful and reliable material for construction, building and engineering purposes.

The service life of the laminated veneer lumber (LVL) depends on a variety of factors. These include the natural durability of the timber species, the degree of preservative treatment, the range of hazards, the quality and type of glue-line, and type of environment anticipated during the service life of the laminated veneer lumber (LVL). In addition, the severity of exposure may be reduced by alternative design. Regular inspection and maintenance procedures will assist in minimizing the effects of exposure.

In all conditions of use, the non-durable timber component of the laminated veneer lumber (LVL) may be made durable by correct preservative treatment. Service life may depend on the laminated veneer lumber (LVL) having been ripped, cross-cut, shaped, bored, machined or having had any such operations or processes carried out after preservative treatment. Where subsequent machining is unavoidable and the treatment type is an envelope, supplementary protection should be applied to the cut surface; however, this protection cannot be expected to be as effective as the original recommended treatment.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

—————
Australian/New Zealand Standard
Specification for preservative treatment
 —————

—————
 Part 4: Laminated veneer lumber (LVL)
 —————

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for preservative treatment of laminated veneer lumber (LVL). It specifies the bond type, preservative penetration pattern, and the preservative retention requirements suitable for each hazard class (see Table 1.1).

This Standard does not cover grade or seasoning condition.

1.2 APPLICATION

The preservatives referred to in this Standard are intended for application only in approved industrial treatment plants as defined in AS/NZS 2843 series.

This Standard, in conjunction with AS 1604.1 and the AS/NZS 1605 series, is intended for application throughout Australia and New Zealand.

NOTES:

- 1 This Standard does not apply to finger-jointed material. For finger-jointed material, the requirements of AS 1604.1 apply.
- 2 **‘Text deleted’**
- 3 Where laminated veneer lumber (LVL) products are to be treated to comply with the requirements of this Standard, timber treaters should select suitable timber material to ensure that the finished product can be penetrated to the depth required for each hazard class.
- 4 Where a timber species’ treatment properties are not known, trial samples placed into a normal charge/process should give indications of the timber’s treatability. These indications should serve as a guide for the treater.
- 5 The following references set down the treatment properties of some well-known commercial timbers of the world:
 - (a) EN 350-2 (see Bibliography).
 - (b) Keating WG, Bolza E, *Characteristics, properties and uses of timber*, Vol. 1, *South East Asia, Northern Australia and the Pacific*, INKATA PRESS, Melbourne, 1982.
- 6 Additional guidance on the use/application of preservative-treated laminated veneer lumber (LVL) is provided in Bolden S and Greaves H, *Guide to the specification, installation and use of preservative treated engineered wood products*, FWPA Project No. PR08.1062.

A1 |