

Australian Standard[®]

Timber—Natural durability ratings

STANDARDS
Australia



This Australian Standard® was prepared by Committee TM-006, Timber Preservation and Durability. It was approved on behalf of the Council of Standards Australia on 28 April 2005. This Standard was published on 3 June 2005.

The following are represented on Committee TM-006:

- A3P
 - Australian Pesticides and Veterinary Medicines Authority
 - Consumers' Federation of Australia
 - CSIRO Forestry and Forest Products
 - Department of Primary Industries and Fisheries
 - Engineers Australia
 - Forests NSW
 - Glued Laminated Timber Association of Australia
 - Housing Industry Association, Australia
 - LOSP Treated Timber Association
 - New Zealand Forest Research Institute
 - New Zealand Timber Industry Federation
 - New Zealand Timber Preservation Council
 - Plywood Association of Australasia
 - Timber Preservers Association of Australia
 - Timber Promotion Council
 - Timber Queensland
-

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Timber—Natural durability ratings

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PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee TM-006, Timber Preservation. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

This Standard incorporates Amendment No. 1 (October 2008). 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 provide natural durability ratings for timber species for use by producers and users of timbers products. It will reduce problems associated with the existence of different lists in different Standards that do not agree with each other.

The objectives of this revision are as follows:

- (a) Update the timber natural durability ratings to include the latest research data.
- (b) Include marine borer resistance classes.

This Standard has been drafted to provide an authoritative source of information on the natural durability of timber, and will be used as a reference by other standards.

The natural durability ratings given in this Standard are based upon expert opinions and assessments from a wide range of sources including, but not limited to, CSIRO, state forest organizations, and port authorities.

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

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FOREWORD

Natural durability rating may be defined as the inherent resistance of a timber species to decay, insect, and marine borer attack. In the context of this Standard, natural durability ratings refer to the timber's performance both in contact with the ground and above ground when exposed to average environmental conditions, and in southern marine waters. The performance of untreated heartwood above ground will generally be better than its performance in the ground.

Classification of the durability of a species is not something that can be done with great precision because of the variability of wood properties within species, even within the individual tree and the variable nature of the hazard to which the timber will be exposed. An in-ground classification, which is widely accepted as a general guide, is based on one developed many years ago by CSIRO Forestry and Forest Products. It is essentially a rating of the durability of the species' heartwood when in ground contact and exposed to attack by decay and termites. Because of this combined assessment, the classification does not truly reflect the special qualities of some species (e.g., brush box, which is very resistant to termites but much less so to decay). A further consideration is the size of the specimen at risk.

In the selection of species for a particular location, local experience should be used as a guide to what is practicable in the area. The extent of decay, termite and marine borer hazard varies greatly in a continent with such a wide range of climates.

All untreated sapwood has poor resistance to biological attack. General species resistance is determined largely by the extractives formed when sapwood changes into heartwood. Termites and marine borers are less easily deterred by these extractives than fungi and will attack most species, though slowly in the case of the very durable species.

STANDARDS AUSTRALIA

Australian Standard Timber—Natural durability ratings

1 SCOPE

This Standard provides natural durability ratings for a range of biological hazards for a number of Australian and imported timber species.

NOTES:

- 1 An attempt has been made to account for the more aggressive termite of the northern areas of Australia and to account for the increased durability achieved for timbers not in contact with the ground.
- 2 This Standard does not provide natural durability ratings against the following hazards:
 - (a) Physical or mechanical hazards.
 - (b) Chemical hazards.
 - (c) Fire hazards.

2 APPLICATION

The ratings given in this Standard are intended to provide the users with a relative comparison of the performance of untreated timber against the given biological hazards.

It is not intended that these ratings will be used as stand alone criteria for determining the suitability of timber species for particular products, applications or environments. The performance and life expectancy of timber used in specific applications and environments will be greatly influenced by many other factors in addition to the natural durability ratings. These other factors include—

- (a) presence or absence of preservative treatment;
- (b) supplementary protection and maintenance;
- (c) climate;
- (d) environmental conditions;
- (e) human influence; and
- (f) manufacturing process.

This Standard is intended to assist with the development of other Standards and specifications for timber product and application.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1720	Timber structures
1720.2	Part 2: Timber properties
AS/NZS	
1148	Timber—Nomenclature—Australian New Zealand and imported species
1604	Specification for preservative treatment (all Parts)
4491	Timber—Glossary of terms in timber-related Standards