

Australian Standard™

Timber—Natural durability ratings

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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 11 April 2003 and published on 2 June 2003.

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Australian Pesticides and Veterinary Medicine Authority
CSIRO Forestry and Forest Products
Housing Industry Association, Australia
Institution of Engineers, Australia
New Zealand Forest Research Institute
New Zealand Timber Industry Federation
New Zealand Timber Preservation Council
Plywood Association of Australasia
Queensland Forestry Research Institute
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Additional interests participating in the preparation of this Standard:

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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.

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.

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

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 and insect 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. 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 fully 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 selection of species for a particular location, local experience should be used as a guide to what is practical in the area. The extent of decay and termite 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 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 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.
 - (d) Marine hazard.

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 provide guidance to assist with the development of other timber product and application Standards and specifications that can take into consideration the other factors that influence performance.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1604	Specification for preservative treatment
1604.1	Part 1: Sawn and round timber
1720	Timber structures
1720.2	Part 2: Timber properties