

Australian Standard™

**Timber—Softwood—
Sawn and milled products**

Part 2: Grade description



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This Australian Standard was prepared by Committee TM-007, Sawn, Milled and Speciality Timber Products. It was approved on behalf of the Council of Standards Australia on 31 August 2001 and published on 4 January 2002.

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Australian Timber Importers Federation
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STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 4785.2—2002

Timber—Softwood—Sawn and milled products

Part 2: Grade description

RECONFIRMATION NOTICE

Technical Committee TM-012 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

Australian Standard™

Timber—Softwood— Sawn and milled products

Part 2: Grade description

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM-007, Sawn, Milled and Speciality Timber Products, to supersede the following Standards, which have been revised and amalgamated:

AS

- 1489—1973 Sawn boards from radiata pine (metric units)
- 1492—1973 Flooring milled from radiata pine
- 1493—1973 Shelving and dressed boards milled from radiata pine
- 1494—1973 Lining and panelling boards milled from radiata pine
- 1495—1973 Preservative-treated radiata pine cladding
- 1496—1973 Preservative-treated radiata pine fascia boards and barge boards
- 1497—1973 Milled radiata pine for joinery
- 1498—1973 Mouldings milled from radiata pine
- 1781—1975 Sawn boards from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 1782—1975 Flooring milled from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 1783—1975 Lining boards milled from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 1784—1975 Preservative-treated cladding (weatherboards and chamferboards) milled from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 1785—1975 Mouldings milled from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 1786—1975 Joinery timber milled from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 1787—1975 Preservative-treated fascia boards and barge boards milled from Australian grown conifers (softwoods) (excluding radiata pine and cypress pine)
- 2440—1981 Sawn Douglas fir (Oregon) and sawn western hemlock (Canada pine) (in part)

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee TM-007. 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 producers and users with grading rules for sawn and milled softwood products and sawn softwood boards intended as feedstock for such products, for use when specifying such products intended for use in building. This revision and amalgamation was undertaken to provide uniform Standards for softwood milled products and feedstock.

This Standard is Part 2 of the AS 4785 series, which consists of the following:

AS

- 4785 Timber—Softwood—Sawn and milled products
- 4785.1 Part 1: Product specification
- 4785.2 Part 2: Grade description (this Standard)
- 4785.3 Part 3: Timber for furniture components

The Standard includes the grade descriptions from the above Standards whereas the product requirements are in AS 4785.1.

This Standard describes a series of grades for most products based on the level of feature in each grade. Grade descriptions for individual species and species groups are contained in Appendices A and B which recognizes the need for different grade rules for some species, in line with market considerations.

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.

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STANDARDS AUSTRALIA

Australian Standard

Timber—Softwood—Sawn and milled products

Part 2: Grade description

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard describes grades for products sawn or milled from softwood.

NOTES:

- 1 The coverage by this Standard of all softwood species does not imply their availability nor the availability of every grade in any species or species group.
- 2 Milled timber for window frames, sashes and sills is specified in AS 2047.
- 3 Timber products milled from cypress species are specified in AS 1810.
- 4 Timber for furniture components is specified in AS 4785.3.
- 5 This Standard may be used as a basis for a third party product certification scheme.

1.2 APPLICATION

The grade descriptions given in this Standard are for use with the sawn and milled timber products specified in AS 4785.1 (see Clause 1.7). The grade descriptions are listed in Appendices A and B.

NOTE: Summaries of the grade descriptions are given in the Appendix C; however, they are not exhaustive and do not take the place of the requirements set out in this Standard. Reference should be made to the appropriate Sections of this Standard for a complete description of the grades.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- | | |
|--------|---|
| 1810 | Timber—Seasoned cypress pine—Milled products |
| 2047 | Windows in buildings—Selection and installation |
| 4785 | Timber—Softwood—Sawn and milled products |
| 4785.1 | Part 1: Product specification |
| 4785.3 | Part 3: Timber for furniture components |

AS/NZS

- | | |
|----------|---|
| 1080 | Timber—Methods of test |
| 1080.2.1 | Method 2.1: Slope of grain by scribe |
| 1080.2.2 | Method 2.2: Slope of grain by reference to surface checks |
| 1080.2.3 | Method 2.3: Slope of grain by splintering |
| 4491 | Timber—Glossary of terms in timber-related Standards |

1.4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS/NZS 4491 and those below apply. Where the definitions in this Standard differ from those given in AS/NZS 4491, for the purpose of this Standard those below apply.

1.4.1 Concealed surface

That part of a surface that is intended to be concealed from view when the product is fixed into position or is assembled.

1.4.2 Exposed surface

That part of a surface that is intended to be exposed to view when the product is fixed into position or is assembled.

1.4.3 Other holes

Holes other than knot holes, cone holes or borer holes.

1.4.4 Sticker mark

A mark occurring during the seasoning process, which is left under the strips, fillets, battens or stickers and which may be lighter or darker than the rest of the surface.

1.4.5 Surface check

A check confined mainly to the surface of a piece but of no appreciable depth; that is, depth not exceeding one tenth of the thickness of the piece.

1.4.6 Termite gallery

An irregularly shaped passage or burrow excavated by termites in the bark or wood. An enclosed termite gallery is one that is not completely open to visual inspection throughout its entire length.

1.4.7 Tongue, broken

A tongue reduced in its width because of mechanical damage or timber separation after milling.

1.4.8 Tongue, short

A tongue reduced in its width because of poor milling; that is, there has not been sufficient board width in the feedstock to allow for a full width tongue for all or part of the length of the board.

1.5 GRADES

The grades specified in this Standard are primarily based on features and desired aesthetic appearance. The grades of softwood products given in this Standard are as follows (with the appropriate abbreviations in brackets):

(a) *For pinus species*—the following five grades are specified in Appendix A:

- (i) CLEAR GRADE (CL).
- (ii) APPEARANCE GRADE (AP).
- (iii) SELECT GRADE (SEL).
- (iv) STANDARD GRADE (STD).
- (v) UTILITY GRADE (UTL).

(b) *For other species*—the following four grades are specified in Appendix B:

- (i) CLEAR GRADE (CL).
- (ii) SELECT GRADE (SEL).
- (iii) STANDARD GRADE (STD).
- (iv) UTILITY GRADE (UTL).

(c) *For cypress (Callitris glaucophylla)*—the grades are specified in AS 1810.

NOTE: Some combinations of product, grade and species may not necessarily be available. Availability should be checked before specifying.

1.6 PRODUCT IDENTIFICATION

If the product is branded, labelled, stamped, or otherwise marked to indicate that it complies with this Standard, the information shall be legible and include the following:

- (a) The number of this Standard, i.e. AS 4785.2.
- (b) Identification of the manufacturer of the product (optional).
- (c) The product (e.g. decking, flooring), except where the product or its application are readily identified by the shape or profile.
- (d) The grade, e.g. APPEARANCE or STANDARD, or grade other than those described in this Standard (see Clauses 1.5 and 1.7).

NOTE: The appropriate abbreviation may be used.

The grade title, or its abbreviation, of any grade, other than the grades described in this Standard, shall be such that it will not be confused with one of the titles, or its abbreviation, of a grade described in this Standard (see Clause 1.7).

NOTE: Legislation in some States of Australia requires that if timber is marked with any or all of the items in this Clause, the timber must comply with that marking (see also the Note to Clause 1.7).

1.7 CLAIM OF COMPLIANCE

In any statement or claim of compliance with this Standard, one of the following shall apply:

- (a) Reference to AS 4785.1 is a claim of compliance with the product requirements of AS 4785.1 but not necessarily any particular grade. However, it is also a claim that product performance is appropriate for the intended use.
- (b) Reference to one of the grades described in this Standard (AS 4785.2) is a claim of compliance with both the product requirements of AS 4785.1 and the nominated grade requirements of this Standard.
- (c) Reference to AS 4785.1 and a grade, other than the grades described in this Standard, is a claim of compliance with the product requirements of AS 4785.1 and the requirements of the other grade. However, it is also a claim that product performance is appropriate for the intended use.

NOTE: Manufacturers making a statement of compliance with this Australian Standard on a product, packaging, or promotional material related to that product are advised to ensure that such compliance is capable of being verified.

SECTION 2 GRADING REQUIREMENTS

2.1 GRADING METHOD

2.1.1 General

Each piece of sawn or milled product shall be graded on the face, back, edges and ends, as appropriate, in accordance with this Section 2 and the appropriate grade description given in Appendix A or B.

2.1.2 Basis

Grading is based on considering individual pieces by visually assessing the relationship of the amount (size) of a feature or group of features (within a piece) to the maximum amount of that feature permitted in the grade.

The maximum amounts of feature permitted are set out in a grade description. All features in the piece shall comply with the limits given in the grade description.

Grade descriptions are primarily based on features and desired aesthetic appearance. They are also based on utility considerations.

2.1.3 Grade limits

The grade descriptions describe material on the lower limit of the particular grade. Each parcel shall contain a range of material such that not all of the material is near the lower limits of the grade.

2.1.4 Variation in assessment

Within any parcel, a maximum variation of 5 percent between the gradings of pieces by individual inspectors or graders shall be acceptable, provided that none of the pieces in the disputed 5 percent has features that exceed the maximum limit allowed in the grade by more than 10 percent.

2.1.5 Grading check

A check of the grading of the timber may be required some time after the grading undertaken by the producer or supplier.

Where the purpose of the check is to estimate the accuracy of the previous grading, reasonable allowance shall be made for changes in characteristics of the timber, which are the result of moisture change. These changes in characteristics include but are not limited to—

- (a) reduction in dimensions (shrinkage);
- (b) increase in distortion (bow, spring, twist and cup); and
- (c) increase in, or development of, seasoning checks, splits, end splits and shakes.

NOTES:

- 1 Changes in the characteristics of timber due to moisture change can be minimized from the time that it is machined, by correct downstream protection, handling, transport and storage until it is placed in service. Procedures may include end grain sealing, wrapping, maintaining block packs and level storage or sealing the timber with pale coloured sealers (paints, etc.) immediately upon removal from packs and placing in service.
- 2 Where timber is loosely packed or packs are broken and exposed to the weather, it is likely that the timber will be adversely affected by moisture change.

- 3 Critical changes may arise due to moisture change. For example, the formation of large checks affecting the structural adequacy of the piece or excessive twist affecting the utility of the piece. Such changes in a piece may be cause to reject the piece with respect to its final application.
- 4 Where timber products are sanded after installation, reasonable allowance should be made for features on the exposed surface, which become larger or appear as a result of the removal of the original surface.

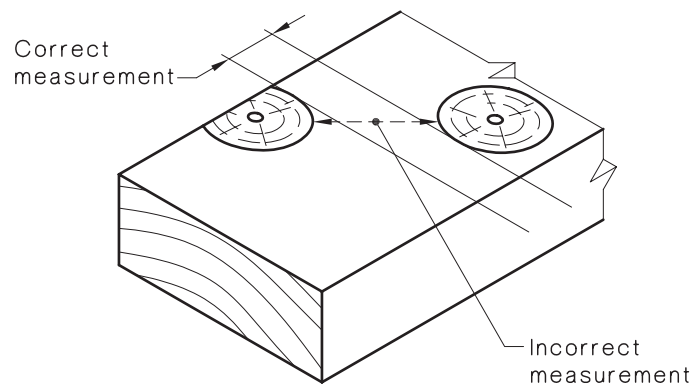
2.2 COMBINATIONS OF FEATURES

Combinations of features shall be limited in products where adequate strength is a consideration (e.g. flooring and decking). In such cases, a combination of features shall be permitted if the combination is less than that of one feature of the maximum permissible size.

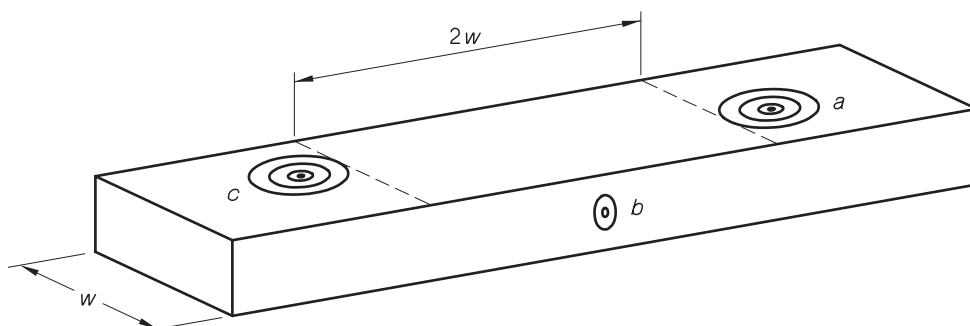
A combination exists when two or more features occur in a length of the piece such that there is less than twice the width of the piece between them (see Figure 2.1). Features in combination are not necessarily on the same surface.

The distance between features shall be measured parallel to the length of the piece, between lines drawn at 90 degrees to the arrises (see Figure 2.1).

If bow, spring, twist or cup are present in the piece they shall be measured separately and are deemed not to be in combination with each other or with any other feature.



(a) Method of measurement of distance between features



NOTE: Given that *a* is 90% of its allowance, *b* is 15% of its allowance and *c* is 85% of its allowance, the combination of *b* and *c* complies with the rules for combinations but the combination of *a* and *b* does not comply with the rules for combinations.

(b) Examples of combinations

FIGURE 2.1 COMBINATIONS OF FEATURES

2.3 MEASUREMENT OF FEATURES

2.3.1 Knots, knot holes and cone holes

The size knots, knot holes and cone holes shall be the width as measured between lines enclosing the knot or hole and parallel to the length of the piece (see Figure 2.2).

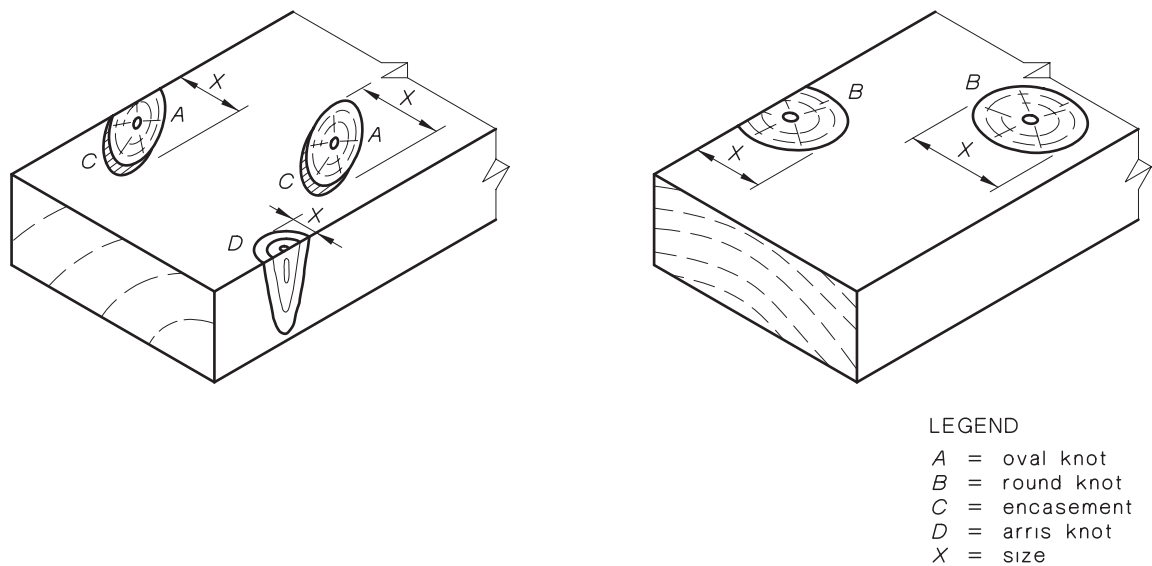


FIGURE 2.2 KNOTS, KNOT HOLES AND CONE HOLES

2.3.2 Holes other than knot holes and cone holes

The size of holes other than knot holes and cone holes shall be measured as shown in Figure 2.3.

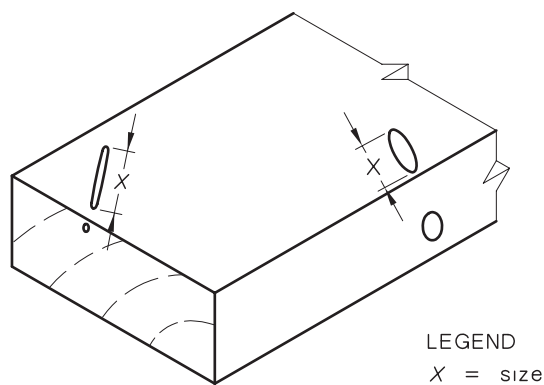
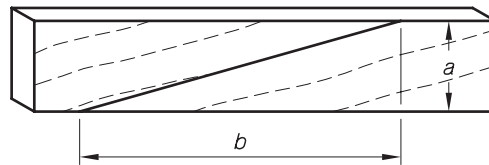


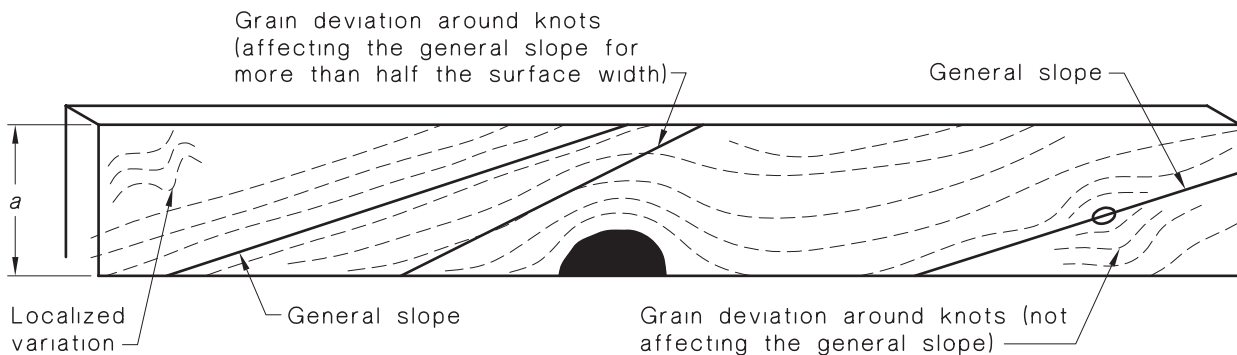
FIGURE 2.3 HOLES OTHER THAN KNOT HOLES AND CONE HOLES

2.3.3 Slope of grain

Slope of grain shall be determined by one of the methods described in AS/NZS 1080.2.1, AS/NZS 1080.2.2 and AS/NZS 1080.2.3, and shall be measured over a distance sufficient to determine the general slope (see Figure 2.4). Localized variations, where grain deviates over less than half the surface, may be disregarded. Grain deviation around knots shall also be disregarded provided that such deviation does not significantly affect the general slope within the piece.



(a) General slope measured = a/b expressed as 1 in x



(b) Deviations around knots and localized variation

FIGURE 2.4 SLOPE OF GRAIN

2.3.4 Resin pockets, resin streaks, bark pockets and overgrowth of injury

The width of the relevant feature shall be measured on the surface across the feature (see Figure 2.5). The length shall be measured parallel to the length of the piece. The depth shall be measured at 90 degrees to the surface on which it appears.

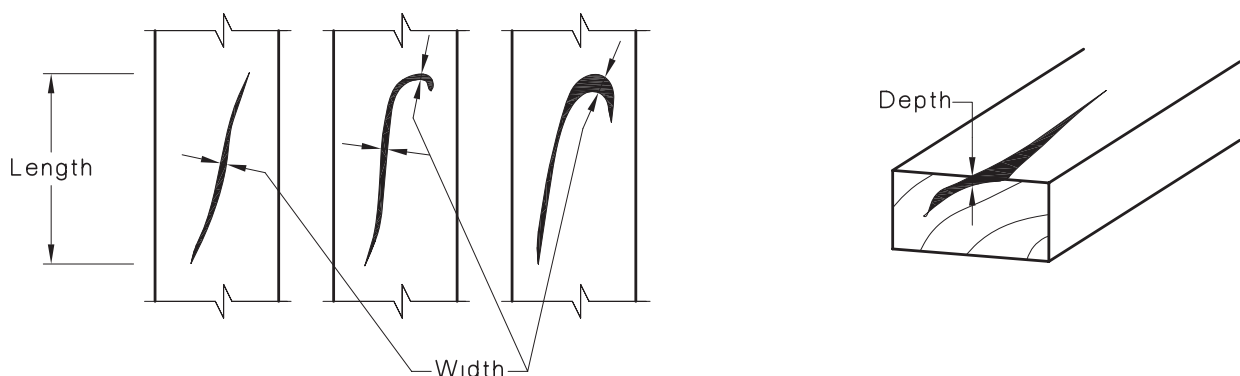


FIGURE 2.5 RESIN POCKETS, BARK POCKETS AND OVERGROWTHS OF INJURY

2.3.5 Checks other than internal

Checks other than internal shall be measured as follows:

- Width*—measured on the surface at 90 degrees to the longitudinal direction of the check (see Figure 2.6); and
- Length*—measured parallel to the length of the piece.

Checks are not to be confused with shakes (see Figure 2.7).

NOTE: Timber products purporting to comply with this Standard are graded visually. Some features such as internal checks are not always able to be seen by the grader. Therefore, it is considered inappropriate to include internal checks as part of the grading rules. After further profiling of the timber (often by another party), the previously unseen internal checks may then be revealed on the surface of the newly profiled product. When this occurs, they should be assessed as 'checks other than internal' because they are now on the surface. Internal checks are not considered acceptable in some products and care should be exercised during drying to limit their occurrence.

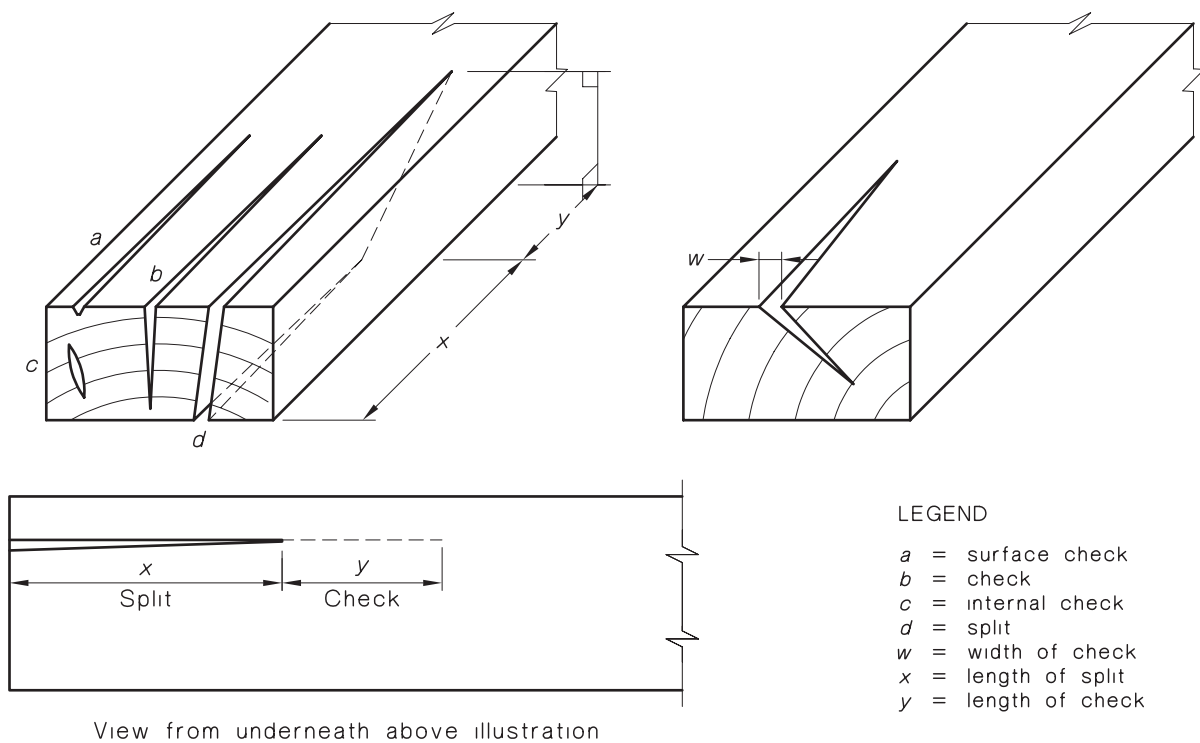


FIGURE 2.6 CHECKS AND SPLITS