

Wood preservation — Vocabulary

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Committees responsible for this British Standard

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- Association of Consulting Scientists
- British Railways Board
- British Wood Preserving and Damp-proofing Association
- British Woodworking Federation
- Chemical Industries Association
- Creosote Council
- Department of the Environment, Transport and the Regions — represented by the Building Research Establishment
- Forestry Commission
- Timber Research and Development Association
- Timber Trade Federation

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 General	1
2 Fungi	5
3 Insects and marine borers	7
4 Preservative treatment	9
Bibliography	15
Index	16

Foreword

This British Standard has been prepared by Subcommittee B/515/3. It supersedes BS 4261:1985 which is withdrawn.

This revision of BS 4261 provides definitions of terms which are in frequent use in the technology and practice of wood preservation, with particular reference to the UK. It includes terms from new European Standards developed by the European Committee for Standardization (CEN), which are different from the terms included in the previous edition.

This British Standard may be regarded as an extension of BS 6100-4.1. Duplication of terms and definitions from BS 6100-4.1 has been avoided as far as possible by including only such terms relating to the characteristics of wood and timber, as necessarily fall within the scope of the present standard. Some of the definitions given in BS 6100-4.1, and in the European Standards, have been adapted in order to update them and/or provide definitions of greater relevance to the specific field of wood preservation.

Terms are listed alphabetically in the index and are referred to by numbers, which are found against terms in the body of the vocabulary. There they are arranged in alphabetical order within each section, each term having an individual number consisting of three digits. The first digit represents the number of the section and the second and third digits represent the place within the section.

Synonyms and alternative terms are given below the preferred term with their status indicated, if appropriate, e.g. “deprecated”, “non-preferred”. These terms are not individually numbered, but are included in the index with a reference to the number of the preferred term.

Bold type in a definition denotes a term that is defined elsewhere in the vocabulary. Definitions of wood-destroying organisms are given against their common names and not against their Latin names. However, the Latin names are included in the index with a reference to the appropriate common name.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 17 and a back cover.

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1 General

101

air-dry timber

timber that has a **moisture content** which is in approximate equilibrium with surrounding atmospheric conditions

NOTE 1 Adapted from BS 6100-4.1:1992, 410 7013.

NOTE 2 In the UK the **moisture content** of **air-dry timber** may range between 17 % and 23 % according to the season of the year and the species of **timber** concerned.

102

annual ring

growth ring produced during a single year-long period of growth

NOTE Adapted from BS 6100-4.1:1992, 410 3002.

103

bark

outer covering of the trunk and branches surrounding the woody stem of a tree
[BS 6100-4.1:1992, 410 2002]

104

biodegradation

breakdown of materials to simpler constituents caused by biological agencies

105

biodeterioration

undesirable breakdown or spoilage caused by biological agencies

NOTE Adapted from BS EN 844-10:1998, 10.1.

106

bound moisture

moisture that is intimately associated with the wood cell wall by molecular sorption

107

case hardening

condition existing in **timber** in which the outer layers have undergone some **drying** and become set without corresponding shrinkage, causing stress between the inner and outer layers
cf. **surface hardening** (483)

108

check

fissure or crack that does not extend through the **timber** or veneer from one surface to the other

NOTE Adapted from BS 6100-4.1:1992, 410 8112.

109

close-piling

process of stacking **timber** without air spaces between the edges and the faces of the pieces
[BS 6100-4.1:1992, 410 7006]

110

conversion

process of converting logs into **timber** products; includes sawing, peeling and chipping

NOTE Adapted from BS 6100-4.1:1992, 410 6012.

111

dressed timber

surfaced timber

timber made smooth on one or more surfaces

112

durability

resistance of **wood** to destruction by wood-destroying organisms

113

early wood

spring wood (deprecated)

less dense **wood** formed during the earlier stages of the growth of each **growth ring**
[BS 6100-4.1:1992, 410 3006]

114

exposed heartwood

heartwood of a **timber** component that is not enclosed by **sapwood**
[BS EN 351-1:1996, 3.8]

115

fibre saturation point

f.s.p.

notional **moisture content** where all the water present is contained within the cell walls and they are fully saturated

NOTE 1 Adapted from BS 6100-4.1:1992, 410 7021.

NOTE 2 This point cannot be identified accurately but for practical purposes it can be taken as about 30 % **moisture content**.

116

free moisture

free water (deprecated)

moisture that is contained in the cell cavities and intercellular spaces and is held by capillary forces only

[BS 6100-4.1:1992, 410 7018]

117

fungi, pl

fungus, sing

normally filamentous organisms without chlorophyll that obtain their nourishment from organic matter

NOTE Adapted from BS EN 844-10:1998, 10.2.

118

green timber

unseasoned timber (deprecated)

timber which has never dried to a **moisture content** at or below **fibre saturation point**

NOTE Adapted from BS 6100-4.1:1992, 410 7006.

119**growth ring**

layer of **wood** formed during one growing season

NOTE Adapted from BS 6100-4.1:1992, 410 **3001**.

120**hardwood**

wood, whether hard or not, of broadleaved trees belonging to the botanical sub-group dicotyledons of the botanical group Angiosperms

NOTE 1 Adapted from BS 6100-4.1:1992, 410 **1007**.

NOTE 2 Most **hardwood** trees have vessels which differentiate them from conifers or other **softwood** trees and their **wood**; the physical hardness or softness in either case is not a factor.

NOTE 3 The term **hardwood** should not be construed as indicating high **natural durability**.

NOTE 4 In countries where coniferous species are of little commercial significance the terms **hardwoods** and **softwoods** are commonly used in their literal significance.

121**hazard class 1**

situation in which the **wood** or wood-based product is under cover, fully protected from the weather and not exposed to wetting

[BS EN 335-1:1992, **2.1**]

NOTE This term may be defined differently outside Europe.

122**hazard class 2**

situation in which the **wood** or wood-based product is under cover and fully protected from the weather but where high environmental humidity can lead to occasional but not persistent wetting

[BS EN 335-1:1992, **2.2**]

NOTE This term may be defined differently outside Europe.

123**hazard class 3**

situation in which the **wood** or wood-based product is not covered and not in contact with the ground and is either continually exposed to the weather or is protected from the weather but subject to frequent wetting

[BS EN 335-1:1992, **2.3**]

NOTE This term may be defined differently outside Europe.

124**hazard class 4**

situation in which the **wood** or wood-based product is in contact with the ground or fresh water and thus is permanently exposed to wetting

[BS EN 335-1:1992, **2.4**]

NOTE This term may be defined differently outside Europe.

125**hazard class 5**

situation in which the **wood** or wood-based product is permanently exposed to salt water

[BS EN 335-1:1992, **2.5**]

NOTE This term may be defined differently outside Europe.

126**heartwood**

inner zone of **wood** that, in the growing tree, has ceased to contain living cells or conduct sap

NOTE 1 Often distinguishable from **sapwood** by a darker colour.

NOTE 2 Adapted from BS EN 350-1:1994, **3.3**.

127**infection**

invasion of **wood** by **fungi** or other micro-organisms

128**infestation**

establishment of **insects** or other animal organisms in **wood**

129**insect**

class of Arthropoda having the body divided, in the adult stage, into three distinct parts, head, thorax and abdomen, and bearing three pairs of legs on the thorax and a pair of antennae on the head

NOTE Most adult **insects** have wings.

130**juvenile wood**

a few **growth rings** of woody tissue nearest the centre of the tree often having abnormal properties

131**late wood**

summer wood (deprecated)

denser **wood** formed during the later stages of growth of each **growth ring**

[BS 6100-4.1:1992, 410 **3007**]

132**moisture content****MC****m.c.**

quantity of water present in **wood**; determined, for instance, by **oven-drying**, and expressed as a percentage of the **oven-dry** mass of that **wood**

NOTE Adapted from BS 6100-4.1:1992, **7019**.

133**movement**

change in the dimensions of **wood** caused by swelling, shrinkage and distortion of the **wood** consequent upon changes in moisture content below the **fibre saturation point**

134**natural durability**

inherent resistance of **wood** to attack by wood-destroying organisms

[BS EN 350-1:1994, **3.1**]

135**oven-dry wood**

wood that has been dried to constant mass in a ventilated oven at $103\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$

NOTE Adapted from BS 6100-4.1:1992, 410 **7014**.



136

over-absorbent wood

wood that absorbs an abnormally high quantity of **wood preservative**

NOTE This is often **wood** that has been attacked by bacteria during **water storage**.

137

product

formulated **wood preservative** in the form as supplied for sale by the manufacturer

NOTE Adapted from BS EN 599-1:1997, 3.1.12.

138

reaction wood

modified wood tissue occurring on the upper side of **hardwood** trees (tension wood), or the lower side of **softwood** trees (compression wood) typically present in branches and in leaning trunks of trees

NOTE 1 Adapted from BS 6100-4.1:1992, 410 8108.

NOTE 2 It has abnormally high longitudinal shrinkage on **drying**.

139

reference wood species

species which is used in a test to be compared with the **test wood species**

NOTE Generally the **sapwood** of *Pinus sylvestris* and/or *Fagus sylvatica* is used as a **reference wood species**.

[BS EN 350-1:1994, 3.6]

140

relative humidity

ratio, expressed as a percentage, of the actual mass of water vapour contained in a unit volume of air, to the mass of water vapour that would saturate that volume at the same temperature and pressure

141

rot

decay (non-preferred)

decomposition of **wood** by **fungi** or other micro-organisms resulting in softening, progressive loss of mass and strength, and often a change of texture and colour

[BS 6100-4.1:1992, 410 8204;

BS EN 844-10:1998, 10.14]

NOTE The following terms designating different types of **rot** are defined in section 2: **brown rot**, **butt rot**, **dote**, **dry rot**, **heartwood rot**, **pocket rot**, **soft rot**, **wet rot**, **white rot**.

142

sapwood

outer zone of **wood** that, in the growing tree, contains living cells and conducts sap

NOTE Often distinguishable from **heartwood** by a lighter colour.

[BS EN 350-1:1994, 3.2]

143

softwood

wood, whether soft or not, of trees of the order Gymnospermae

NOTE 1 Adapted from BS 6100-4.1:1992, 410 1008.

NOTE 2 Commercial timbers of this group are almost all from the class Coniferae (conifers).

144

solid wood

wood which has been sawn or otherwise machined

NOTE It may include finger jointed and/or laminated **wood**.

145

sound wood

wood which is free from degradation by wood-destroying **fungi**, and free from **infestation** by wood-destroying **insects** and **marine borers**

146

split

longitudinal crack or fissure extending through the **timber** or veneer from one surface to another

NOTE 1 Adapted from BS 6100-4.1:1992, 410 8123.

NOTE 2 **Splits** result from shrinkage during drying.

147

stain

discoloration (non-preferred)

any variation from the natural colour of **wood**, which is not associated with a loss of strength

NOTE It may be the result of fungi, weathering, contact with metals, etc.

[BS EN 844-10:1998, 10.8]

148

test wood species

species which is tested to determine its **durability**

[BS EN 350-1:1994, 3.5]

149

timber

wood in the form of standing or felled trees or the product of these after **conversion**

[BS 6100-4.1:1992, 410 1001]

150

transition wood

wood in a zone between the true **sapwood** and the true **heartwood**

NOTE This is only distinguishable in very few **wood** species (for example *Lophira alata*). In general its **natural durability** is intermediate between that of **sapwood** and **heartwood**, whereas its **treatability** is similar to that of **heartwood**.

[BS EN 350-1:1994, 3.4]

151

wane

original rounded surface of a tree remaining, with or without **bark**, on any face or edge of sawn **timber**

NOTE Adapted from BS 6100-4.1:1992, 410 6039.

152

warp**warping**

distortion of a piece of **timber**

NOTE Adapted from BS 6100-4.1:1992, 8.1.1.