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LY

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

LY/T 1788-2023

Vocabulary of wood properties

木材性质术语

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document replaces LY/T 1788-2008 "Terms of Wood Properties". Compared with LY/T 1788-2008, except for structural adjustment and editing, in addition to the changes in performance, the main technical changes are as follows.

- Changed the "wood anatomical characteristics" and "wood environmental characteristics" in the classification (see Chapter 3, Chapter 2 of the 2008 edition);
- Changed the general concepts "strip", "log", "sawn timber", "plank", "square timber", "coniferous timber", "timber identification", "trunk", "quarter-cut timber" Definitions of "tangentially cut timber", "green timber" and "wood anisotropy" (see 4.1.2~4.1.7, 4.1.9, 4.1.13~4.1.17, 4.1.19, 2008 3.1.2~3.1.7, 3.1.9, 3.1.13~3.1.17, 3.1.19 of the 2017 edition);
- Added the general concepts of "same type stand", "same type forest", "age class", "same age stand", "root neck", "height under branches", "shape rate" and "diameter at breast height" Terms and definitions (see 4.1.20 to 4.1.27);
- Changed the "wood structure", "bark", "xylem", "cambium", "phloem", "cross section",

"radial section", "tangential section", "sapwood", "heartwood" and other aspects.

Definitions of wood anatomical characteristics (see 4.2.1, 4.2.4~4.2.11, 4.2.13, 4.2.16, 4.2.17, 3.2.2~3.2.9, 3.2.10, 3.2.48, 3.2.49 of the 2008 edition);

--- Changed the definitions of wood anatomical characteristics of "growth ring", "growth ring width", "early wood", "late wood", "late wood rate", "intercellular canal" and "gum canal" (See 4.2.19, 4.2.22, 4.2.24~4.2.27, 4.2.29, 3.2.11, 3.2.13~3.2.17 of the 2008 edition);

--- Changed "vessel", "non-porous material", "tubular pore type", "pit", "cross-field pit", "axial parenchyma", "off-tubular axial parenchyma" Definitions of wood anatomical features such as "paravascular axial parenchyma", "wood rays", "wood fibers", "pore inclusions", and "wood cell wall" (see 4.2.33, 4.2.34, 4.2.37, 4.2.41, 4.2.46, 4.2.48~4.2.51, 4.2.53, 4.2.55, 4.2.57, 3.2.28 of the 2008 edition, 3.2.21, 3.2.23, 3.2.42, 3.2.47, 3.2.40, 3.2.41, 3.2.29, 3.2.30, 3.2.32, 3.2.34);

--- Added "wood macrostructure", "wood microstructure", "sapwood species", "heartwood species", "mature wood species", "pithelial spots", "false annual rings" "Growth ring boundary", "serrated thickening", "vessel cells", "polymer wood rays", "primary wall", "secondary wall", "tuberous layer", "microfibrils", "spirals" "Thickened" wood anatomical characteristics terms and definitions (see 4.2.2, 4.2.3, 4.2.12, 4.2.14, 4.2.15, 4.2.18, 4.2.21, 4.2.23, 4.2.31, 4.2.32, 4.2.52, 4.2.58~4.2.61, 4.2.63);

--- Changed "cellulose crystalline area" and "cellulose non-crystalline area" to wood chemical properties, and changed the definition (see 4.5.6 and 4.5.7, 3.2.36 and 3.2.37 of the 2008 edition);

--- Changed "Basic density", "Wood moisture content" and "Absolute moisture content", "Equilibrium moisture content", "Free water", "Bound water", "Fiber saturation" Definition of the physical properties of wood (see 4.3.3, 4.3.8, 4.3.9, 4.3.11~4.3.14, 3.3.3, 3.3.5, 2008 edition) 3.3.6, 3.3.7~3.3.10);

--- Changed the definitions of wood physical properties such as "wood acoustic properties", "wood thermal properties", "wood thermal conductivity", and "wood thermal conductivity".

(See 4.3.23, 4.3.25, 4.3.30, 4.3.31, 3.3.18, 3.3.20, 3.3.25, 3.3.26 of the 2008 edition);

--- Added the terms and definitions of wood physical properties such as "absolute dry density", "green density", "substantial density", "relative moisture content", and "shrinkage and swelling" (see 4.3.5~4.3.7, 4.3.10, 4.3.18);

--- Changed the "wood cross-grain compressive strength", "wood parallel tensile strength", "wood parallel shear strength", "wood splitting resistance", "wood nail holding strength" Definition of mechanical properties of wood (see 4.4.6, 4.4.8, 4.4.11, 4.4.15, 4.4.16, 3.4.6, 3.4.8, 2008 edition) 3.4.11, 3.4.15, 3.4.16);

--- Added "wood creep", "wood relaxation", "wood bending ability", "wood viscoelasticity",

"wood rigidity", "wood plasticity", "wood resistance "Fatigue" Wood Mechanical Properties Terms and Definitions. (See 4.4.21~4.4.27);

--- Changed "Wood Chemical Properties", "Wood Chemical Composition", "Cellulose", "Hemicellulose", "Lignin", "Wood Buffer Capacity", "Wood Definition of chemical properties of wood "Extractives" (see 4.5.1, 4.5.3, 4.5.5, 4.5.11, 4.5.12, 4.5.14, 4.5.17, 2008 edition) 3.5.1, 3.5.3, 3.5.5, 3.5.7, 3.5.8, 3.5.10, 3.5.11);

--- Added the terms and definitions of wood chemical properties such as "cellulose polymerization degree", "cellulose accessibility", "wood acid content" and "wood acid-base properties".

Meaning; (see 4.5.9, 4.5.10, 4.5.15, 4.5.16);

--- Changed the definitions of "wood decay" and "blue stain" biological properties of wood (see 4.6.3, 4.6.8, 3.6.3, 3.6.5 of the 2008 edition);

--- Added the terms and definitions of wood biological properties such as "mildew" and "wood pests" (see 4.6.9 and 4.6.10);

--- Changed the definitions of "wood tactile properties", "wood moisture conditioning properties" and wood environmental properties (see 4.7.3, 4.7.4, 2008 edition) 3.7.3, 3.7.4);

--- Added "Biological regulation characteristics of wood", "Spatial acoustic characteristics of wood", "Acoustic radiation quality constant of wood", "Space acoustic properties of wood" "Optical properties of wood", "Environmental properties of wood", "Olfactory properties of wood" Terms and definitions of wood environmental properties (see 4.7.5~4.7.10).

1 Scope

This document defines the general concept of wood and its anatomical characteristics, physical properties, mechanical properties, chemical properties, Terms related to wood biological properties, wood environmental characteristics, etc.

This document applies to wood and wood-related areas.

2 Normative references

This document has no normative references.

3.1 General Concepts

3.1.1

Wood

Derived from the secondary xylem of trees.

Note: It is mainly composed of cellulose, hemicellulose and lignin.

3.1.2

Original longpole; tree-lengthlog the whole trunk of felled trees that have not been processed for timbering after delimbing.

3.1.3

Log

The round wood section is formed by cross-cutting the original strip.

3.1.4

Sawntimber; lumber

The log is sawn lengthwise to form a product with at least two parallel faces.

3.1.5

Board

Sawn timber whose width is at least twice its thickness.

3.1.6

Scantling

Sawn timber whose width dimension is less than twice its thickness dimension.

3.1.7

softwood;coniferouswood Wood produced by gymnosperms such as pine, fir, cypress, etc.

3.1.8

hardwood; deciduouswood Wood produced by angiosperms such as poplar, ash, elm, eucalyptus, etc.