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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 23825-2022

Replacing GB/T 23825-2009

Determination of formaldehyde release for wood-based panels and finishing products - Gas analysis method

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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 of Standardization Documents" drafted.

This document replaces GB/T 23825-2009 "Gas Analysis Method for Determination of Formaldehyde Emission in Wood-based Panels and Their Products", and

Compared with GB/T 23825-2009, in addition to structural adjustment and editorial changes, the main technical changes are as follows.

--- Changed the preparation of the test piece (see 7.1, 6.1 of the.2009 edition);

--- Increase the provisions for the preparation of test pieces during the internal quality control of the enterprise (see 7.2);

--- Added provisions for the preparation of dispute or compliance judgment test pieces (see 7.3);

--- Changed the conditions for the determination of the third test piece (see 8.1, 7.1 of the.2009 edition);

--- Added the release and absorption sampling clauses of formaldehyde for sheets with a thickness of not less than 6mm (see 8.3.5);

---Formaldehyde emission and absorption sampling procedures changed to four different absorption sampling methods (see 8.3.4, 8.3.6,.2009 edition of

7.3.4);

--- Increase the standard curve can use formaldehyde standard solution, 2 data points and linear correlation coefficient (see 8.4.4.1, 8.4.4.4);

--- Added the calculation rule for the formaldehyde emission of the test piece (see 9.2);

--- Changed the representation of formaldehyde emission (see 9.3, 8.2 of the.2009 edition);

--- Changed the test report requirements (see Chapter 10, Chapter 9 of the.2009 edition);

--- Changed Appendix A, Appendix B (see Appendix A, Appendix B, Appendix A, Appendix B of the.2009 edition).

This document is revised and adopted ISO 12460-3.2020 "Determination of formaldehyde emission from wood-based panels - Part 3.Gas analysis method".

Compared with ISO 12460-3.2020, this document has many adjustments in structure, and the comparison list of structure number changes between the two documents

See Appendix A for the table.

Compared with ISO 12460-3.2020, this document has many technical differences. In the outer margins of the clauses involved, the vertical

A straight single line (|) is marked. See Appendix B for a list of these technical differences and their reasons.

For ease of use, the following editorial changes have been made to this document.

--- In order to coordinate with the existing standards, the standard name is changed to "Gas Analysis Method for Determination of Formaldehyde Emission in Wood-based Panels and Their Products";

--- Added note in 9.1;

--- Removed references.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document describes the gas analysis method for the determination of formaldehyde emission in wood-based panels and their products.

This document is applicable to the determination of formaldehyde emission in wood-based panels and their products.

2 Normative references

The contents of the following documents constitute essential provisions of this document

through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

Preparation of GB/T 601 Standard Titration Solutions for Chemical Reagents

GB/T 6682 Analysis Laboratory Water Specifications and Test Methods

GB/T 17657 Test methods for physical and chemical properties of wood-based panels and veneer wood-based panels

3 Terms and Definitions

There are no terms and definitions that need to be defined in this document.

4 Principles

A test piece of known surface area is placed in a test chamber with specified temperature, relative humidity, pressure and air flow, and the test piece is released in the test chamber

The formaldehyde gas is fully mixed with air and fully absorbed by the absorption liquid in the absorption bottle connected to the test chamber. Determined by spectrophotometry.

Calculate the amount of formaldehyde released according to the concentration of formaldehyde in the absorption solution, the absorption time and the exposed area of the test piece, the unit is mg per square meter hour

[mg/(m2.h)].

5 Test material

5.1 Unless otherwise stated, the reagents used are of analytical grade, and the preparation of standard solutions is performed in accordance with GB/T 601.

5.2 Water. at least the third-grade purified water or deionized water that meets the requirements of GB/T 6682.

5.3 Acetylacetone solution. measure 4mL of acetylacetone (pentane-2,4-dione, C5H8O2) into a 1000mL volumetric flask, dilute with water

And set the volume to the scale line.

5.4 Ammonium acetate solution. Weigh.200g of ammonium acetate (C2H3O2NH4) and dissolve it in water (5.2), transfer it to a 1000mL volumetric flask, add water

Dilute and make up to the mark.

5.7 Iodine (I2) standard solution. 0.05mol/L.

Note. Calibrate before use.