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LY

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

LY/T 1612-2023

**The technique specification of the 1-cubic-meter chamber for
determining formaldehyde emissions**

甲醛检测用1m³气候箱

(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.

This document replaces LY/T 1612-2004 "1m³ Climate Chamber for Formaldehyde Emission Detection".

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

--- Changed the volume of the climate chamber from "volume. (1.0 ± 0.02) m³" to "effective volume. (1.0 ± 0.01) m³" (see 4.2, 2004 3.2 of the 2011 edition);

--- Changed the temperature adjustable range from "Temperature. adjustable range 20°C~25°C, accuracy ±0.5°C" to "Temperature. adjustable range Range 18°C~30°C, deviation ±1°C, uniformity 1.0°C, fluctuation ±0.3°C" (see 4.2, 3.2 of the 2004 edition);

--- Changed the relative humidity adjustable range from "relative humidity adjustable range. 45%~50%, accuracy ±3%" to "relative humidity Degree. Adjustment range 40%~60%, deviation ±3%, uniformity 3%, fluctuation ±2%" (see 4.2, 3.2 of the 2004 edition);

--- Changed the air flow rate from "air flow rate. 0.1m/s~0.3m/s, accuracy ±0.05m/s" to "carrier gas flow rate. adjust Range 0.1m/s~0.5m/s" (see 4.2, 3.2 of the 2004 edition);

--- Changed the air replacement rate from "air replacement rate. (1.0±0.05)h⁻¹" to "carrier gas replacement rate. adjustment range (0.2~ 2.0)h⁻¹, allowable deviation ±3%" (see 4.2, 3.2 of the 2004 edition).

--- Changed the airtightness requirements (see 5.4, 4.4 of the 2004 edition), changed the airtightness test method (see 5.4, 5.7);

--- Deleted the insulation requirements (see 4.5 and 5.6 of the 2004 edition), and added the

requirements for condensation on the inner surface (see 5.5);

--- Changed the noise requirements for the climate chamber during operation, the noise value was reduced from 70dB to 60dB (see 5.6, 4.6 of the 2004 edition);

--- Changed the continuous working time requirements of the climate chamber, and the continuous stable working time was increased from 28d to 30d (see 5.7, 2004 edition 4.7);

--- Added refrigeration mode for climate control in the box (see 5.9, 4.9 of the 2004 edition);

--- Deleted the entire content of "Test Methods" (see Chapter 5 of the 2004 edition).

1 Scope

This document specifies the basic structure and technical parameters of a 1m³ climate chamber for formaldehyde emission testing.

This document is applicable to the formaldehyde emission test of artificial boards and their products for interior decoration specified in GB 18580-2017.

1m³ climate chamber.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB 18580-2017 Limits of formaldehyde emission from artificial boards and their products for interior decoration and renovation
JB/T 9512-2018 Determination of the sound power level of emitted noise of climate environment test equipment by sound pressure method
JJF(Building Materials)182-2021 Calibration Specification for Environmental Test Chambers for Volatile Detection of Building Materials Products
JJF1101-2019 Calibration specification for temperature and humidity parameters of environmental test equipment

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4.1 Climate Chamber Composition

The climate chamber usually consists of a carrier gas supply device, a carrier gas purification device, a gas flow control device, a carrier gas temperature control device, a carrier gas humidity control device, and a carrier gas temperature control device.

Device, climate chamber body, gas circulation control device in the chamber, temperature, humidity and wind speed sensors and monitoring and recording devices, mixed gas outlet, gas the sampling connection device and the sample rack are composed of a 1m³ climate chamber. See Figure 1 for a schematic diagram of the composition and Appendix A for a simplified structural diagram.