

ICS 79.080
CCS B 70

LY

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

LY/T 3233-2020

**Guiding standard for formaldehyde release load capacity of
wood floors for ground with heating system
(English Translation)**

Issued on: December 29, 2020

Implemented on: June 1, 2021

Issued by: State Forestry and Grassland Administration

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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" Drafting. Appendix A of this document is an informative appendix.

1 Scope

This document specifies the terms and definitions of the specification for the formaldehyde release bearing capacity of wooden floors for floor heating, the calculation method of the indoor bearing capacity, and the inspection method.

Method, sampling method and inspection report.

This document is applicable to the calculation and detection of the formaldehyde release bearing capacity of the wooden composite floor heating for interior decoration and decoration.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated reference documents, Only the version corresponding to that date is applicable to this document. For undated references, the latest version (including all amendments) is applicable to this file.

Note: For undated references, if the latest version contains the quoted content, then the last version containing the quoted content applies.

GB/T 17657-2013 Test method for physical and chemical properties of wood-based panels and facing wood-based panels GB 50325 Code for Indoor Environmental Pollution Control of Civil Construction Engineering LY/T 1612 1m³ climate chamber for formaldehyde emission detection LY/T 1700 Wooden floor for floor heating

3 Terms and definitions

The terms and definitions defined in LY/T 1700 and the following are applicable to this document.

Loading ratio

The ratio of the exposed surface area of the floor heating wooden floor to the volume of the floor heating environment.

Background concentration when the floor heating environment box is empty, the outlet concentration of the target compound in the box.

Indoor loading ratio the ratio of the exposed surface area of the indoor floor heating wooden floor to the indoor volume.

Emission rate

In unit time, the amount of formaldehyde released per unit area of wooden floor for floor heating.

Indoor load capacity in a certain space, under the premise of meeting the requirements of GB 50325 for the concentration of formaldehyde in the indoor air, the wooden floor for floor heating is used indoors.

Paving area.

Air exchange rate

The ratio of indoor ventilation volume per unit time to indoor volume.

4.1 Calculation of release rate

Where.

ER- the amount of formaldehyde released per unit area per unit time, in milligrams per square meter hour ($\text{mg}/(\text{m}^2\cdot\text{h})$) the concentration of formaldehyde when the air formaldehyde concentration in the CS-climate reaches a steady state, in milligrams per cubic meter (mg/m^3) N-air replacement rate per hour, the unit is times per hour (times/h) L-loading rate, the unit is square meter per cubic meter (m^2/m^3)

4.2 Calculation of indoor carrying capacity

The load-bearing capacity of the wooden floor for indoor floor heating shall be carried out according to formula (2).

D- Carrying capacity of wooden floor for floor heating, in square meters (m^2) VE-The indoor volume occupied by the floor heating floor area, in cubic meters (m^3) C-infinity-The limit of formaldehyde concentration in indoor air that meets the requirements of GB 50325 (mg/m^3) ER- the amount of formaldehyde released per unit area per unit time, in milligrams per square meter hour ($\text{mg}/(\text{m}^2\cdot\text{h})$) 1h -1 hour

5.1.1 Floor heating environment box

3 The technical parameters and requirements of the floor heating environment box should meet the requirements of LY/T 1612, and it is equipped with floor heating with a temperature range of $15^\circ\text{C}\sim 50^\circ\text{C}$ Heating device, background concentration $\leq 0.006\text{mg}/\text{m}^3$. See Appendix A for the principle of the floor heating environment box.

5.1.2 Other instruments

Others are in accordance with the provisions of 4.60 in GB/T 17657-2013.

5.2.1 Specimen production

Take a number of wooden floor blocks for heating with an exposed area of not less than 1m^2 as test pieces, remove the tongue and groove of the test piece, and keep the size of the test piece it is proved that when it is laid flat on the floor heating device, it will not be laid outside the floor heating device, and the exposed area of the test piece is 1m^2 after edge sealing.

5.2.2 Balance treatment of test piece

According to the provisions of 4.60 in GB/T 17657-2013.

5.2.3 Edge banding of test piece

The four sides of the test piece with the tongue and groove removed and the back of the test piece are sealed with formaldehyde-free aluminum foil tape.

5.3 Test conditions

During the test, the following conditions were maintained in the floor heating environment.

5.4 Formaldehyde sample collection and analysis

The collection method and analysis method of formaldehyde are implemented according to 4.60 in GB/T 17657-2013, where the formaldehyde emission is accurate to 0.001mg/m

6 Sampling method

Randomly take samples with an exposed area of not less than 1 m² from wooden floors for floor heating of the same location, category, and specification, and immediately Seal the sample with packaging materials that will not release or absorb formaldehyde and be tested.

- a) When taking samples from the manufacturer, samples must be taken from the qualified products in the finished product warehouse of the manufacturer.
- b) When the distribution company takes samples, the qualified products must be marked at the distribution site or in the distribution company's finished product warehouse to take samples.
- c) When sampling samples at the construction or use site, they must be randomly selected from the same product at the same location.

7.1 Inspection records

The format is shown in Table 2.

7.2 Inspection report

7.2.1

The inspection report shall include the following information. product name, specifications, inspection standards, etc.

7.2.2

Test results and conclusions.