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

GB/T 18204.1-2025

Replacing GB/T 18204.1-2013

**Examination methods for public places - Part 1: Physical
indicators**

公共场所卫生检验方法 第1部分：物理性指标

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Table of Contents

1	Scope
2	Normative references
3	Terms and definitions
4	Air temperature
4.1	Glass liquid thermometer method
5	Relative humidity
5.1	Resistance capacitance method
6	Wind speed (electric anemometer method)
8	Noise (digital sound level meter method)...
9	Illuminance (illuminometer method)
10	Natural lighting coefficient...
10.2	Laser infrared rangefinder (handheld) method
11	Atmospheres (empty box pressure gauge method)
12	Radiant heat...
13	Hot comfort
13.2	Thermal comfort meter method
13.2.4	Result evaluation
14	Electromagnetic radiation (broadband omnidirectional field strength meter method) ...
30 15	UV radiation (UV spectrum analysis dose method)...
16	Radon concentration in the air
17	Pool water temperature (thermometer method)
18	Pool water transparency
18.1	Principle
	Annex A

1 Scope

GB/T 18204.1-2025 is the Chinese national standard on examination methods for public places - part 1: physical indicators, in the field of environment and health protection, safety. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 30 May 2025 by the State Administration for Market Regulation; Standardization Administration of China, and

has been in force since 1 December 2025. Classification: ICS 13.060, CCS C51. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes the method for measuring physical indicators in public places. This document is applicable for the determination of physical indicators in public places. Refer to this document for indoor environments such as other places and living rooms.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 18049, Ergonomics of the thermal environment -- Analytical determination and interpretation of thermal comfort using calculation of the PMV and PPD indices and local thermal comfort criteria

GB/T 18883, Standards for indoor air quality HJ/T 10.2, Guideline on management of radioactive environmental. Protection electromagnetic radiation monitoring Instruments and Methods

HJ 1212, Measurement methods for determination of radon in environmental air JGJ/T 309, The standard of the measurement and evaluation for efficiency of building ventilation

ISO 7726, Ergonomics of the thermal environment -- Instruments for measuring physical quantities ISO/TS 14415.2005, Ergonomics of the thermal environment -- Application of International Standards to people with special requirements

3 Terms and definitions

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

4.1 Glass liquid thermometer method

4.1.1 Principle A glass liquid thermometer is composed of a thin-walled temperature chamber that contains the thermometer liquid and a glass tube that is sealed and connected to the temperature chamber. The change in air temperature will cause a change in the temperature of the temperature pack, and the volume of liquid inside the temperature pack will also change accordingly. When the temperature of the thermosphere increases, the liquid expands and the liquid column inside the thin tube rises; vice versa. The glass tube is marked with a scale to indicate the height of the liquid column inside the tube. The liquid column height reading accurately indicates the temperature of the temperature pack.

4.1.2 Instruments The instruments used in this method are as follows: - Glass liquid thermometer (with a minimum scale value not exceeding 0.2°C and a measurement accuracy of $\pm 0.5^\circ\text{C}$); - Temperature gauge suspension bracket.

4.1.3 Measurement steps The measurement steps are as follows:

- a) The layout of measuring points shall be in accordance with the provisions of A.2 in Annex A;
- b) Read after 5 min. Read decimals first and then integers when reading. The line of sight should be perpendicular to the thermometer scale. Mercury thermometer reads at the highest point of the convex lunar surface. The alcohol thermometer reads at the lowest point of the concave lunar surface;
- c) The reading should be fast and accurate to avoid human breath affecting the accuracy of the reading;
- d) Due to the post thermal effect of glass, the zero position of glass liquid thermometers should be frequently calibrated with standard thermometers. If there is a displacement at zero, the displacement value should be added to the reading;
- e) When exposed to sunlight or other thermal radiation, it is necessary to provide thermal shielding for the temperature bulb. Avoid contact between hands and The measurement steps are as follows:
 - a) Conduct periodic verification and pre use calibration of the instrument as required;
 - b) The layout of measuring points shall be in accordance with the provisions of A.2;
 - c) Operate according to the instrument manual;
 - d) After the reading displayed on the monitor stabilizes, the temperature value can be read out.

4.2.4 Measurement Range The air temperature ranges from 0°C~50°C.

5.1 Resistance capacitance method

5.1.1 Principle Measure humidity by utilizing the characteristic that the resistance and capacitance values of humidity sensitive components change according to a certain pattern with the variation of environmental humidity.

5.1.2 Instruments Various hygrometers using resistive or capacitive humidity sensors (with a maximum allowable error of no more than $\pm 5\%$ at 25°C).

5.1.3 Measurement steps The measurement steps are as follows:

- a) The layout of measuring points shall be in accordance with the provisions of A.2;
- b) Operate the instrument according to the user manual. Read the relative humidity value

directly after the instrument reading stabilizes;

c) The moisture sensitive parts of the instrument's humidity sensitive components should not be touched by hand. Avoid dust pollution, harmful gas corrosion, or condensation.

5.1.4 Measurement range The measurement range of a resistance hygrometer is 10%~90% under the condition of 0°C~60°C. The measurement range of a capacitive hygrometer is 0% to 100%.

5.3.6 Measurement range The dew point temperature ranges from -45°C to 60°C.

6 Wind speed (electric anemometer method)

6.1 Principle A thermoelectric anemometer consists of a measuring head and a measuring instrument. The heating coil (wire) of the measuring head is exposed to a certain wind speed, causing changes in the heating current or voltage of the measuring head. As the degree of temperature rise of the measuring head is negatively correlated with the wind speed, the wind speed value can be displayed by an instrument (pointer type) or through a display (digital display type).

6.2 Instruments The minimum detection value of pointer type thermoelectric anemometer or digital display thermoelectric anemometer should not exceed

0.05 m/s.

6.3 Measurement steps The measurement steps are as follows:

- a) The layout of measuring points shall be in accordance with the provisions of A.2;
- b) Use the pointer type thermoelectric anemometer to adjust the zero and full points of the instrument according to the instruction manual. The use of a digital thermal anemometer requires self-inspection or preheating;
- c) Gently pull out the measuring rod and probe. Align the red dot on the measuring head with the direction of incoming wind. Read the wind speed value.

6.4 Expression of results The measurement results of a region are given as the arithmetic mean of the measurements taken at each measuring point within the region.

6.5 Measurement range and measurement deviation Measurement range.

0.1 m/s~10 m/s. Within the range of

0.1 m/s~2 m/s, the relative measurement deviation shall not exceed $\pm 10\%$. Within the range of 2 m/s~10 m/s, the relative measurement deviation shall not exceed $\pm 15\%$.

8.5 Expression of results The measurement results of a region are given as the arithmetic mean of the equivalent A-weighted sound levels at each measuring point within the region.