

ICS 91.140.30

CCS P 48



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

GB/T 45462-2025

**Test methods for the performance of gas-phase air cleaning
media and devices**

气相空气净化材料及装置性能试验方法

Issued on: March 28, 2025

Implemented on: October 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Symbols and abbreviations	3
5 Test methods for gas phase air purification materials	5
6 Test methods for gas phase air purification devices	13
7 Safety precautions	22
Appendix A (Normative) Standard sampling procedures and test parameters for various purification materials	23
Appendix B (Normative) Target gas, generation mode and test method	25
Appendix C (Informative) Schematic diagram of purification material test bench	29
Appendix D (Normative) Test bench performance, verification and maintenance requirements	30
Appendix E (Informative) Test Report Example	33
Appendix F (Informative) Dimensionless Clean Air Volume Test Method	40
Appendix G (Informative) Design of the Purification Equipment Test Bench	44
References	46

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.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the Ministry of Housing and Urban-Rural Development of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee for Standardization of Heating, Ventilation, Air Conditioning and Purification Equipment (SAC/TC 143).

This document was drafted by: China Academy of Building Research Co., Ltd., Tianjin University, Tsinghua University, Beijing Institute of Architectural Design Co., Ltd., Shiyuan

Technology Engineering Co., Ltd., Institute of Urban Environment, Chinese Academy of Sciences, Jianke Environmental Energy Technology Co., Ltd., Nanjing Industrial University, Mekong (China) Environmental Technology Co., Ltd., Aimek Air Filter (Suzhou) Co., Ltd., Daikin (China) Investment Co., Ltd.

Co., Ltd., He's (Suzhou) Special Materials Co., Ltd., Camfil Filtration Equipment (Taicang) Co., Ltd., Suzhou Youyuan Environmental Technology Co., Ltd., TAI BAO YUAN PURIFICATION LIMITED.

The main drafters of this document are: Feng Xin, Pei Jingjing, Liu Junjie, Xu Ying, Lin Kunping, Yan Dong, Wu Renxiang, Zhou Shaoyang, Zhang Hui, Wang Zhiyong, Zhou Bin, Chen Ling, Bai Jing, Zhang Wenjun, Yu Lei, Cai Shi, Ji Jing, Lu Yuming, Wang Fengming, Xu Zhaowei, Yang Yuntao, Jiang Yu, Fan Yujie, He Nana.

Test methods for performance of gas phase air purification materials and devices

1 Scope

This document specifies the test methods for gas phase air purification materials for conventional ventilation, the test methods for gas phase air purification devices, safety matters, etc.

This document applies to gas-phase air cleaning granules, sheets and bulk cleaning materials for conventional ventilation, full-scale gas-phase air cleaning devices, and And used in purification equipment such as scrubbers, absorbers, non-adsorption equipment, and can be installed on the test bench specified in this document. device.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 adsorption

The process by which the adsorbent surface absorbs molecules or ions in the surrounding medium (gas or vapor) through physical or chemical processes.

[Source. GB/T 16803-2018, 5.1.35]

3.2 Adsorbent

Substances with greater adsorption capacity.

[Source. GB/T 16803-2018, 5.1.36]

3.3 Bypass airflow

A test gas flow that bypasses the purification device and does not come into contact with the purification material.

[Source. ISO 29464 2024, 3.1.5]

3.4 Target gas challenge compound

Chemicals used as target pollutants in tests.

3.5 Capacity

The amount of target gas contained in a purification material or purification device under given test conditions and at a specified test termination point.

Note 1. The dirt holding capacity during desorption is a negative value.

Note 2. The unit is milligram (mg) or mole (mol).

3.6 challenge volume fraction

The volume fraction of the target gas in the gas flow before purification (test gas flow).

3.7 Challenge air stream

Dilute the test purification material and the target gas upstream of the device to a gas flow with a specified volume fraction.