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

**GB/T 47191-2026**

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**Analytical methods for the chemical composition of  
resin-based artificial stone**

树脂型人造石化学成分分析方法

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## Table of Contents

|       |                                                                      |
|-------|----------------------------------------------------------------------|
| 1     | Scope                                                                |
| 2     | Normative references                                                 |
| 3     | Terms and Definitions                                                |
| 4     | Experimental instruments and reagents                                |
| 4.1   | Instruments                                                          |
| 4.1.2 | Analytical balance, scale division                                   |
| 4.2   | Reagents                                                             |
| 5     | Sample Preparation                                                   |
| 6     | Qualitative Identification of Resins                                 |
| 7     | Qualitative Identification of Inorganic Packing Materials            |
| 8     | Determination of aluminum hydroxide content                          |
| 9     | Determination of resin content                                       |
| 10    | Determination of carbonate content (calculated as calcium carbonate) |
| 11    | Determination of Quartz Content                                      |
| 12    | Determination of silica content                                      |

## Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Building Materials Federation. This document is under the jurisdiction of the National Technical Committee on Standardization of Stone Materials (SAC/TC460). This document was drafted by: China National Testing & Inspection Group Co., Ltd., and Anhui Yuanzheng Testing Co., Ltd., both subsidiaries of China National Testing & Inspection Group. Company, China Resources Cement Technology R&D Co., Ltd., Wuhan University of Technology, Sinoma Artificial Crystal Research Institute Co., Ltd., Guangxi Lisheng Stone Industry Co., Ltd. Company, Leidi (China) Building Materials Co., Ltd., Huapeng Meiyate Decorative Materials (Taixing) Co., Ltd., Netzsch Scientific Instruments Trading (Shanghai) Co., Ltd. Limited Company, Guangxi Construction Vocational and Technical College, Guangxi Zhuang Autonomous Region Construction Engineering Quality Testing Center Co., Ltd., Mettler Toledo Technology (China) Co., Ltd., Beijing Academy of Science and

Technology Analysis and Testing Institute (Beijing Physical and Chemical Analysis and Testing Center), Shenzhen Runfeng New Materials Co., Ltd. Materials Technology Co., Ltd., Shanghai Jianke Environmental Technology Co., Ltd., Beijing Building Materials Testing and Research Institute Co., Ltd., Hezhou Testing and Inspection Center Xin, Macheng Zhonglei New Building Materials Co., Ltd., and Shandong Provincial Institute of Product Quality Inspection. The main drafters of this document are. Ding Jianjun, Jia Qi, Guo Zijian, Qiao Wenqing, Xie Xiaoli, Ge Yuanzhou, Xu Xiaoyuan, Han Wei, Chen Huijuan, and Zhou Junxing. Deng Kai, Liu Xiaoli, Yao Junlong, Si Heyang, Luo Yanglin, Zeng Jianfeng, Zou Tao, Fan Na, Wang Fang, Li Mengyao, Pang Chunhua, Wang Mingyu, Li Xuan, Yuan Qingdan Xu Danhua, Guan Hongyan, Guo Zhongbao, Liu Zhigang, Zhang Shuaizhou, Zhao Wenyan, Liu Lu, Xu Dan, Li Kang, Peng Zhihong, Wang Rong, Chen Yudi, Chen Xuhui, Li Hui Wei Fuguang, Zhao Baiwen, and Dai Shule. Chemical composition analysis method for resin-based artificial stone

## 1 Scope

GB/T 47191-2026 is the Chinese national standard covering the composition of engineered stone - the resin fraction, the quartz or marble filler and the pigments, which determine both the performance of the material and, in the case of the crystalline silica, the hazard to the people who cut it. First edition, in force since 1 September 2026. It was issued on 27 February 2026 and has been in force since 1 September 2026, as a first edition. The document is under the responsibility of the China Building Materials Federation. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes the qualitative and quantitative analysis methods for the chemical components in resin-based artificial stone. This document applies to resin-based artificial quartz stone, resin-based artificial solid surface materials, and resin-based artificial engineered stone containing resin, aluminum hydroxide, and carbonate. Qualitative and quantitative analysis of the chemical composition of salt, quartz and silica.

## 2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values

## GB/T 39527 Determination of Calcium, Aluminum and Silicon Content in Solid Surface Materials - Chemical Analysis Method

### 3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 resin-based artificial stone It uses marble, limestone, quartz (sand, powder), silica sand, aluminum hydroxide and other materials as the main raw materials, and high molecular polymers as the main binder. Artificial stone made of materials.

Note. This includes resin-based artificial quartz stone, resin-based artificial solid surface materials, and resin-based artificial engineered stone. [Source: GB/T 35165-2017, 3.3.1.1.1, 3.3.1.2.1, with modifications]

### 4.1 Instruments

4.1.1 Forced air drying oven, temperature control accuracy  $\pm 2^{\circ}\text{C}$ .

#### 4.1.2 Analytical balance, scale division

0.01 mg.

4.1.3 Fourier Transform Infrared Spectrometer (FTIR).

4.1.4 Ultrasonic cleaner.

4.1.5 High-speed centrifuge, with a rotation speed of not less than 5000 r/min.

4.1.6 Pyrolysis-gas chromatography-mass spectrometry (Py-GC/MS) system.

4.1.7 X-ray diffractometer (XRD).

4.1.8 Differential Scanning Calorimeter (DSC).

4.1.9 Thermogravimetric analyzer (TG).

### 4.2 Reagents

4.2.1 Acetone, analytical grade.