ICS 91.100.15
CCS Q21

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 46028-2025

Safety technical requirements for building decorative stone

建筑装饰石材安全技术要求

Issued on: August 1, 2025 **Implemented on: August 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

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1 Scope

GB 46028-2025 is the Chinese national standard on safety technical requirements for building decorative stone, in the field of construction materials and building. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 1 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 August 2026. Classification: ICS 91.100.15, CCS Q21. 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 specifies the safety technical requirements, test methods, inspection rules, and other requirements for building decorative stone. This document applies to natural stone and engineered stone used for architectural decoration, as well as the adhesives and protective agents used in their production.

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 1725, Paints, varnishes and plastics -- Determination of non-volatile-matter content

GB 6566, Limits of radionuclides in building materials

GB/T 6750, Paints and varnishes -- Determination of density -- Pyknometer method

GB/T 9966.2, Test methods for natural stone -- Part

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB 6566, GB/T 13890, and GB/T 35165 as well as the followings apply.

3.1 building decorative stone Stone products used in building and municipal engineering projects, as well as for other decorative purposes. NOTE. Includes natural stone and engineered stone.

4.1 Building decorative stone

4.1.1 Radionuclide limits The limits for radionuclides in natural granite shall comply with the requirements specified in Table 1. Table 1 -- Limit requirements for radionuclides in natural granite

4.1.2 Plate thickness Table 6 -- Limits for harmful substances in bulk-type stone adhesives

4.3 Stone protective agents The limits for harmful substances in stone protective agents shall comply with the requirements specified in Table 7. Table 7 -- Limit requirements for hazardous substances in stone protective agents

5.1 Building decorative stone

5.1.1 Radionuclide limits In accordance with GB 6566.

5.1.2 Thickness Measure the thickness at the center of each edge of the board product using a vernier caliper or a measuring instrument that meets the required precision. Record measurements to an accuracy of

0.1 mm. The minimum measured value shall be taken as the thickness of the board product. For board products featuring processing layers such as backing mesh, the processing layer at the measurement point must be removed prior to measurement.

5.1.3 Flexural strength The flexural strength of natural stone is determined in accordance with GB/T 9966.2. Tests for flexural strength in both dry and water-saturated conditions are conducted. The minimum value from each set of specimens is taken as the test result for the respective condition. The flexural strength test for engineered stone is conducted in accordance with GB/T 35160.2.The minimum value from each set of specimens is taken as the test result.

5.1.4 Frost resistance coefficient Testing shall be conducted in accordance with GB/T 9966.2.Tests for flexural strength in the water-saturated state and after freeze-thaw cycles

shall be performed. The result is expressed as the percentage of the average flexural strength after freeze-thaw cycles relative to the average flexural strength in the water-saturated state, reported to two significant figures.

5.2 Stone adhesives

5.2.1 The compressive-shear bond strength of adhesives for reinforced and composite connections shall be determined in accordance with GB/T 24264.

5.2.2 The tensile-shear bond strength and compressive-shear bond strength of adhesives for dry-hanging applications shall be determined in accordance with JC/T 887.

5.2.3 For the limits of harmful substances in stone adhesives, the total volatile organic compound (VOC) content shall be determined in accordance with GB 33372-2020. Other items shall be tested in accordance with GB 30982.

5.3 Stone protective agents

5.3.1 Free formaldehyde Test in accordance with GB/T 23993.

5.3.2 Benzene content and the sum of toluene, ethylbenzene, and xylene The procedure is carried out in accordance with Method A of GB/T 23990-2009.The calculation of the benzene content and the total content of toluene, ethylbenzene, and xylene is performed in accordance with

8.4.3 of GB/T 23990-2009.

5.3.3 Volatile organic compounds in solvent-based protective agents Testing of solvent-borne protective agents containing no reactive diluents is conducted in accordance with GB/T 23985-2009.The non-volatile matter content is determined according to GB/T 1725.A sample of approximately 1 g is weighed, and the baking conditions are (105 ± 2)°C / 1 h. Water content is not measured and is assumed to be zero. The VOC content is calculated in accordance with