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

GB/T 18575-2017

Replacing GB/T 18575-2001

**Shaking table test method for the seismic performance of
curtain walls**

建筑幕墙抗震性能振动台试验方法

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 18575-2001 "shakedown test method for building curtain wall seismic performance," compared with GB/T 18575-2001 The main technical changes are as follows:

--- Added analog seismic wave selection method and test report page style (see Appendix A and Appendix B);

--- Supplemented curtain wall engineering test requirements, acceleration sensor measuring point layout requirements (see 4.4,5.1.2);

--- Modify and adjust the standard of the main testing methods (see Chapter 5,.2001 edition Chapter 4). This standard proposed by the Ministry of Housing and Urban-Rural Development of the People's Republic of China. This standard by the National Building Curtain wall Standardization Technical Committee (SAC/TC448) centralized. This standard is drafted by China Construction Metal Structure Association, China Academy of Building Research, Tongji University. Participated in the drafting of this standard. Guangdong Academy of Building Research Group Co., Ltd., Henan Institute of Building Research Limited Division, China Building Materials Inspection and Certification Group Co., Ltd., Shenyang Yuanda Aluminum Engineering Co., Ltd., Jiang Qinghai curtain wall systems engineering (Wuhan) have Co., Ltd., Shenzhen Fangda Jianke Group Co., Ltd., Shanghai Jianke Inspection Co., Ltd., Shanghai Construction Engineering Consulting Co., Ltd., deep Shenzhen Sanxin Technology Development Co., Ltd., Guangdong Jian Long Hardware Products Co., Ltd., Hui Fish (Taicang) Construction Anchor Bolts Co., Ltd., Hebei Olympic Run Shunda Window Industry Co., Ltd., River to create Group Co., Ltd. Dingtai Heng (Beijing) Building Materials Co., Ltd. The main drafters of this standard. Huangpi, Jiang Ren, Lu Wensheng, Huang Xiaokun, Li Qingxiang, Qian Wei, Liu Haibo, Yu Hua, Jiang Qinghai, Wen Lin, Xu Qin, Xi Shifang, Wang Feiyong, Du Wanming, Zhao Lin, Wei He Dong, Huang Zhangzhi, Huang Zheng. This standard replaces the standards previously issued as.

--- GB/T 18575-2001. Shake - wall seismic performance test method

1 Scope

China's national shaking table test method for the seismic performance of building curtain walls - the test in which a full specimen of the wall is actually shaken. It specifies the terms and definitions, the test requirements, the test procedure, the processing of the test data and the test report, and it applies to dynamic response testing of curtain wall specimens on a simulated earthquake shaking table, for the purpose of checking, verifying and evaluating the seismic performance of a curtain wall. This is the most demanding of the curtain wall tests and it answers a question that the quasi-static storey deformation test cannot. That test imposes displacement slowly, and it tells you whether the wall can accommodate a given drift. A shaking table imposes a real ground motion record, and the wall responds with its own mass and its own dynamics - the panels have inertia, the fixings have flexibility, the whole assembly has natural frequencies, and the response at the top of a specimen can exceed the input considerably. What emerges is the behaviour rather than the capacity: whether the glass cracks, whether a panel comes out of its rebate, whether a bracket yields, whether the sealant tears, and at what level of input each of those happens. The standard fixes what makes such a test meaningful. The specimen must be full size and built as the wall will be built, because a scaled or idealised specimen has the wrong mass and the wrong stiffness. The mounting must reproduce the real support conditions. The input motion has to be defined and its intensity levels sequenced from serviceability upward, and the instrumentation must capture the input, the response and the relative displacement across the wall. The data processing and the report then state what was demonstrated and at what level. Issued on 14 October 2017 and in force since 1 September 2018, it replaces GB/T 18575-2001.

This standard specifies the terms and definitions, test method of seismic performance of building walls, test requirements, test procedures, test data, Reason and test report. This standard applies to the use of simulated seismic shaking table on the building curtain wall specimen dynamic response test to check, verify, evaluate the construction Building curtain wall seismic performance.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 21086 building walls

GB 50011 Code for seismic design of buildings JGJ/T 101 Building seismic test code

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Building curtain wall simulation earthquake shaking table test
earthquakesimulationshakingtabletestforcurtainwal Through the entry of the table shaking table seismic waves and artificial seismic waves, the simulation of the test objects (including building curtain wall full-scale test pieces and its installation with a simulation test frame) role of the seismic test.

3.2 Seismic performance of building curtain walls
seismicperformanceofcurtainwal Under the action of the prescribed earthquake, the performance of the curtain wall against earthquake action usually includes the carrying capacity of the curtain wall, deformation capacity and damage mode.

3.3 Displacement angle between story walls
storydriftangleofcurtainwal The ratio of the horizontal displacement difference between the measuring points at the top and the bottom of the curtain wall specimen to the spacing between the measuring points.

4.1 Shaker

4.1.1 Shaking table should be consistent with the provisions of JGJ/T 101, should be used with iterative correction function of low frequency large displacement numerical control analog seismic vibration Moving platform.

4.1.2 Shaker table size and space should be able to meet the simulation test frame and curtain wall specimen installation requirements.

4.1.3 Shaking Table Top load and anti-overturning ability should meet the test requirements.