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**Test method for the watertightness of curtain walls under
dynamic wind pressure**

建筑幕墙动态风压作用下水密性能检测方法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard reference AAMA501.1-2005 "building windows, walls and doors dynamic pressure water tight performance standard testing methods" ENV13050-2000 "walls - watertightness - laboratory under dynamic air pressure and water spray test conditions." The 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 windows and doors Standardization Technical Committee (SAC/TC448) centralized. This standard drafting unit. China Academy of Building Research, Guangdong Academy of Building Research, Shanghai Institute of Building Sciences (Group) have Limited, Jiangsu Academy of Building Research Co., Ltd., Shenzhen City, mountain walls Technical Advisory Co., Ltd., China Building Material Test Certification Center, Shenzhen Institute of Building Sciences, Beijing University of Technology, the State Building Materials Industry Building Hardware Plumbing Products Quality Supervision and Testing Center, Henan Academy of Building Research Co., Ltd., Shanghai doors and windows Testing Station, Guangzhou Academy of Building Research Co., Ltd., Hangzhou Zhijiang Silicone Chemicals Co., Ltd., Shenyang Yuanda Aluminum Industry Engineering Co., Ltd., Guangdong Kin Long Hardware Products Co., Ltd., Zhengzhou Zhongyuan application technology Art Research and Development Co., Ltd., Zhongshan Shengxing Co., Ltd., Guangzhou aluminum Decoration Engineering Co., Beijing Jangho Company Limited Division, Beijing Jiayu Fenestration Co., Ltd., Fujian Nanping Aluminum Co., Ltd., Shenzhen Fu Cheng Curtain Wall Decoration Engineering Co., Ltd., Shenzhen Shenzhen Fangda Decoration Engineering Co., Ltd., Shenzhen Tairan Aluminum Engineering Co., Ltd., Shenzhen Hui Hua Decoration Engineering Co., Ltd., Zhejiang Century Engineering Testing Co., Ltd., Ningbo and State Detection Research Ltd, Hainan Construction Engineering Corporation, Shenyang canon aluminum building system Limited. The main drafters of this standard. Wang Hongtao, Hao Zhihua, Zhang Shixiang, Xu Qin, Zhang Yunlong, DU Ji Yu, Liu Haibo, Luo Gang, SUN Shi Bing, Deng Guizhi,

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1 Scope

China's national test method for the watertightness of building curtain walls under dynamic wind pressure. It specifies the laboratory method by which a curtain wall specimen is tested for water penetration with water spray and a fluctuating air pressure, and it was prepared with reference to AAMA 501.1 and to ENV 13050. The conventional watertightness test applies a steady pressure difference across the specimen while spraying water on it, raises it in steps, and records the pressure at which water penetrates. That is a reproducible test and it is not what happens on a building. Real wind is turbulent: the pressure on a facade fluctuates continuously, rising and falling many times a minute, and the fluctuation is what drives water through a joint. A drainage cavity that copes with a steady pressure is pumped by a fluctuating one - water is pushed in during a pressure peak and cannot drain out before the next, so it accumulates and eventually finds its way past the second line of defence. A curtain wall that passes a static test at a high pressure can therefore leak on a building in a storm at a lower average pressure, and that discrepancy is why this method exists. The dynamic test reproduces the condition: water is sprayed at a defined rate while a fan system generates a fluctuating pressure with a specified mean, amplitude and frequency content, and the specimen is observed for penetration through the sequence. The standard specifies the apparatus - which is substantially more demanding than a static rig, since it has to move a large volume of air rapidly - the specimen mounting, the spray, the pressure sequence, and the criteria by which penetration is judged. Issued on 27 November 2013 and in force since 1 August 2014.

This standard specifies the construction curtain wall dynamic pressure in the water tight performance of terms and definitions, the detection principle, the detection device, specimen and safety Installation, testing, test results and determination test report. This standard applies to building walls in the dynamic wind pressure watertight performance laboratory testing. Detection object confined walls of the specimen Body, does not involve the joints between walls and other structures. Building exterior doors watertight laboratory performance under dynamic wind pressure can be detected Referring to this standard.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 15227 building walls airtight, watertight, wind pressure resistance detection method

GB 50009 building structural load specifications

3 Terms and Definitions

GB/T 15227 and defined by the following terms and definitions apply to this document.

3.1 Calibration Winds calibrationwindspeed The average wind speed calibration point.

3.2 Dynamic pressure dynamicwindpressure In the air disturbance under the action of the inner and outer walls on both sides of the specimen formed by wind pressure.

3.3 Dynamic wind pressure water tight performance watertightnessperformanceunderdynamicwindpressure Dynamic pressure watertight performance In the dynamic wind pressure, wall to prevent rainwater from entering the room capacity.

3.4 Propeller law testmethodusingaircraftpropeler The use of aircraft propeller wind dynamic pressure as the system detects a curtain dynamic pressure method for watertight performance.

3.5 Axial fans Act testmethodusingaxialfan Use as a dynamic pressure axial fan air curtain system detects the dynamic pressure method for watertight performance.

4 Detection principle

The outer surface of the specimen in accordance with the uniform water continued watering, so that the specimen surface to form a continuous film of water, the outer surface of the specimen is applied to move