

ICS 91.060.10

CCS P 32



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

GB/T 29738-2013

**Classification and test method for the performance of external
windows, doors and curtain walls impacted by windborne
debris in a windstorm**

建筑幕墙和门窗抗风携碎物冲击性能分级及检测方法

Issued on: September 18, 2013

Implemented on: June 1, 2014

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

1	Scope
2	Normative references
3	Terms and Definitions
4	Rating
8	Evaluation Results
12	References

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. 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 is drafted by: China Academy of Building Research. Participated in the drafting of this standard. national security glass and quartz glass Quality Supervision and Inspection Center, China Academy of Building Standard Design and wide Eastern Provincial Academy of Building Research, Beijing University of Technology, Shanghai Research Institute of Building Sciences (Group) Co., Ltd., Henan Academy of Building Research Ltd., Shenzhen City Mountain curtain Technical Advisory Co., Ltd., Shenyang Yuanda Aluminum Industry Engineering Co., Limited Hangzhou Zhijiang Silicone Chemical The company, the State Building Materials Industry Building Hardware Plumbing Products Quality Supervision and Testing Center, the National Chemical Building Materials Testing Center (Materials Testing Division), Jiangsu Provincial Academy of Building Research Co., Ltd., Guangdong Kin Long Hardware Products Co., Ltd., Dalian Shide Group Co., Ltd., Guangzhou Aluminium Decoration Engineering Co., Weilukesi (China) Co., Ltd., Zhongshan Shengxing Co., Ltd., Zhejiang New Century Engineering Testing Co., The company, Ningbo and State Detection Research Limited. The main drafters of this standard. Wang Hongtao, Wan Chan, Zang Shuguang, Gutai Chang, Zhang Zuoping, SUN Shi Bing, Xu Qin, Liu Xinsheng, DU Ji Yu, Wang Shuangjun, Liu, Deng Guizhi, Hu Xiaoyi, ECCENTRIC COMPRESSION LOADING white Bao Kun, Li Guangqi, Fan Yuling, Tan Guoxiang, Guocheng Lin, Jiang Qinghai, Yu Jie, Qin Jian, Zhang Chunlin, Han Zhiyong. Building walls and windows wind carrying chipping performance Classification and test method

1 Scope

China's national classification and test method for the resistance of building curtain walls,

external windows and doors to impact by windborne debris. It specifies the performance grades and the laboratory method by which a facade component is tested for its ability to withstand an impact from debris carried by a windstorm and to remain sealed afterwards. In a typhoon, a building is not only loaded by wind pressure. It is struck by whatever the wind has picked up - roof tiles, sheet metal, gravel from a neighbouring roof, sign panels, timber. A facade that is designed for the pressure and not for the impact fails at the first strike, and the failure is not local. Once the envelope is breached, the wind enters the building and pressurises it from inside, and the internal pressure adds to the external suction on the roof and on the leeward walls. A building that has lost one window in a typhoon loses its roof next, which is why the design codes treat a breached envelope as a different load case rather than as damage. That is the reasoning behind an impact requirement, and it is why the test does not stop at the impact. The specimen is struck by a defined missile at a defined speed at defined locations, and then it is subjected to a cycling pressure sequence that represents the remainder of the storm - because a laminated glass unit that cracks on impact and holds the wind out has performed, while one that cracks and then fails under the subsequent pressure cycling has not. The standard specifies the missiles, the impact energies and locations, the pressure cycling, the criteria for passing, and the grades that follow. Issued on 18 September 2013 and in force since 1 June 2014.

This standard specifies the building walls, doors and windows wind carry outside chipping performance terms and definitions, classification, detection devices, specimen testing, Evaluation of results and test report. This standard applies to building walls, doors and windows wind carry outside chipping classification and detection performance. Object detection is limited to building walls, outside Doors and windows specimen itself does not involve the joints building walls, doors and windows and other outside structures. Anti-storm device may refer to use.

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 7106 building external doors and windows airtight, watertight, wind pressure performance classification and test methods

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

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Storm windstorm Basic wind speed greater than 32.7m/s airflow.

3.2 Wind carrying debris windborne debris Objects carried by the gas stream in a storm.

3.3 Wind carrying chipping performance resistance of wind borne debris in wind storm After carrying chipping and pressure fluctuations in the wind, the specimen exceeds the capacity of breakage does not occur.

3.4 Missile For ball impact test piece or pieces of wood.

3.5 Anti-storm means wind storm protective system Installation, attached or secured to the curtain wall system to prevent or weaken them against the wind in a storm carrying debris destruction device.

4 Rating

Quality and impact velocity projectiles as grading index, is divided into 5 levels, the index value in Table 1.