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GB/T 30592-2014

Test method for solar heat gain coefficient of transparent envelope

透光围护结构太阳得热系数检测方法

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Standardization Administration of the PRC

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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 Standardization Technical Committee building components and parts (SAC/TC454) centralized. This standard drafting unit. China Academy of Building Research, Baoye Group Zhejiang Construction Industry Research Institute Co., Ltd. Participated in the drafting of this standard. Guangdong Provincial Academy of Building Research, Fujian Academy of Building Sciences, Shanghai Research Institute of Building Science (set Group) Co., Ltd., Zhejiang Construction Engineering Quality Inspection Station Limited, Sichuan Academy of Building Research, Guangzhou City Construction Institute of Science have Ltd., Jiangsu Construction Engineering Quality Inspection Center Co., Ltd., Tsinghua University, Xinjiang University, Shenyang CWB Detection Equipment Co., North Beijing Olympic Era New Energy Technology Development Co., Ltd., Shenzhen Fangda Decoration Engineering Co., Ltd., China Building Materials Academy, Beijing Sustainable Development Association, built in Beijing Academy of Building Research Co., Ltd. Dalian Building Research Institute, Architectural Design and Research Institute of Shandong Province, Hainan Nan Optical Group Co., Ltd. Zhejiang Shui-saving windows and doors Co., Ltd., and Suzhou City, CITIC Energy Saving Environmental Testing Research and Development Center Co., Ltd., Beijing New Technology Co., Ltd. Lucky vacuum glass. The main drafters of this standard. Liuyue Li Yu Yachao, Zhaoshi Huai, Wang Defu, Cao decided, Ma Yang, Yang Yanping, Liu Hui and Lin Rong, Tang held high, Ren Jun, Ya-Ting, Zhao Yong, Yuan Tao, Zhao Yan, Lvrong Ju, Yan Wen Lei, Zeng Wu, Liu rights, paragraph Kai, Dong Chengming, high Han, Xie Yong, Zhang Zhongwei, Jiang Yi, Xiao Wei, Yang Yuzhong, PAN Zhen, Sun Lixin, Zhao Qing, Jiang Yibin, Zhang Jianjun. Light transmissive envelope detection methods have solar heat gain coefficient

1 Scope

China's national test method for the solar heat gain coefficient of transparent building envelopes. It specifies the terms and definitions, the test method, the data processing and

the test report for determining the solar heat gain coefficient of a glazed envelope element, and it applies to determination using an artificial light source, with an annex describing an arrangement for determination under natural sunlight. The solar heat gain coefficient is the fraction of the solar radiation striking a window that ends up as heat inside the building - both the part transmitted directly through the glass and the part absorbed by the glazing and frame and then released inwards. It is the single most important thermal property of a window in a cooling-dominated climate, and in most of China it matters more than the U-value does: a large area of glazing with a high coefficient will drive the peak cooling load of a building regardless of how well insulated the rest of the fabric is. The difficulty the standard addresses is that the coefficient cannot be calculated reliably for a real assembly. Manufacturers' figures are computed for the glass alone under standard conditions, while the value that governs a building's load belongs to the whole element - glass, frame, spacer, shading and coating together - and depends on the angle of incidence and on the convective conditions at both surfaces. Measuring it directly requires a calibrated chamber, a solar simulator with a known spectrum and irradiance uniformity, and careful separation of the solar gain from the conductive heat flow driven by the temperature difference across the specimen. This standard sets out how that is done and how the result is calculated and reported. Issued on 9 June 2014 and in force since 1 December 2014.

This standard specifies the structure of the solar heat gain coefficient translucent envelope detection of terms and definitions, test methods, and data processing was detected report. This standard applies to the use of artificial light on the detector light-transmissive envelope solar heat gain coefficient.

Note. If the use of natural light on the light-transmissive envelope Solar Heat Gain Coefficient is detected, the detection device may refer to Appendix A.

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 2680 architectural glass visible light transmittance, solar direct transmittance, total solar energy transmittance, ultraviolet transmittance and have Parameters measured off windowpane

GB/T 4132 insulation materials and related terms

GB/T 4271-2007 solar collector thermal performance test method

GB/T 17683.1 solar solar spectral irradiance standard part of the ground at different receiving conditions 1. Air Quality

3 Terms and Definitions

GB/T 4132 and established the following terms and definitions apply to this document.

3.1 Light transmissive envelope transparentenvelope Direct sunlight can penetrate into the interior of the building envelope structures, such as for windows, transparent walls, doors and glass outer brickwork and other structures.

3.2 Solar heat gain solarheatgain The amount of solar energy entering the room through the translucent building envelope, including through the solar radiation into the interior heat gain and heat transfer in two parts.

3.3 Solar Heat Gain Coefficient solarheatgaincoefficient SHGC Its ratio of surface flux of solar radiation by the transparent envelope into the interior of the solar heat gain and projected.

3.4 Heat metering box thermalcalorimeter For metering into the room through the translucent envelope means solar heat gain, heat-insulating outer wall, cooling water system, automatic control Systems and heat metering system configuration.

3.5 Solar irradiance solarirradiance Projected onto the solar radiation flux envelope surface per unit area.