

ICS 81.040.30

CCS Q 34



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

GB/T 42666-2023

Electronic dyed liquid crystal dimmable glass

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Issued on: August 6, 2023

Implemented on: March 1, 2024

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed by China Building Materials Federation. This document is under the jurisdiction of the National Industrial Glass and Special Glass Standardization Technical Committee (SAC/TC447). This document was drafted by: BOE Technology Group Co., Ltd., Beijing BOE Sensing Technology Co., Ltd., Beijing BOE Technology Development Co., Ltd., Beijing BOE Optoelectronics Technology Co., Ltd., Fuyao Glass Industry Group Co., Ltd., Xinyi Energy-Saving Glass (Wuhu) Ltd. The main drafters of this document. Li Lu, Yong Chuang, Hou Zhi, Shi Yue, Zhang Zhigang, Li Xinguo, Xu Xiaoguang, Feng Tao, Yang Jianjun. Electronic dye liquid crystal dimming glass

1 Scope

China's national standard for electronically dimmable glass using dyed liquid crystal. The glass contains a layer of liquid crystal mixed with a dichroic dye between two transparent conductive coatings; with no voltage the molecules are randomly oriented and the dye absorbs, so the glass is dark, and applying a field aligns them so that the absorption falls and the glass clears. The distinction from the polymer dispersed liquid crystal glass that is more common is worth making: that type switches between clear and translucent white by scattering, so it gives privacy rather than shade, while the dyed type absorbs and therefore controls light and heat while remaining transparent. That makes it a facade and vehicle

glazing product rather than a partition one - it can be used where the view must be kept and the solar gain reduced, which is the combination that architectural glazing has always had to compromise between.

This document specifies the requirements, test methods, inspection rules and marking, packaging, transportation and storage of electronic dye liquid crystal dimming glass. This document applies to the production, design and delivery of electronic dye liquid crystal dimming glass components (referred to as "components") for insulated and laminated glass.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 2680 Architectural glass visible light transmittance, direct sunlight transmittance, total solar energy transmittance, ultraviolet transmittance and visible light transmittance Determination of window glass parameters

GB/T 18915.1-2013 Coated glass Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 dye liquid crystal **dye liquid crystal** A liquid crystal material with added dye components.

3.2 dimmable glass **dimmable glass** Glass components that adjust light flux to achieve different light transmission effects by applying different driving voltages.

3.3 normal white mode **normal white mode** A mode that maintains high transparency in the initial state without voltage driving.

3.4 normal dark mode **normal dark mode** A mode that maintains low transparency in the initial state without voltage driving.

3.5 response time **response time** The driving voltage is applied according to the technical conditions of the sample, and the maximum time required for the component to change in different states.

3.6 edge area **Areas with opaque edges.**

3.7 visual area **vision area** Areas other than surrounding areas.