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

GB/T 25273-2025

Replacing GB/T 25273-2010

**Films for liquid crystal displays (LCD) - Method for measuring
haze and light transmittance - Integrating sphere method**

液晶显示器（LCD）用薄膜 雾度和透光率测定方法 积分球法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 25273-2010 "Determination of haze of thin films for liquid crystal displays (LCD) - Integrating sphere method" and Compared with GB/T 25273-2010, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The expression of "scope" has been changed, transmittance has been added, and the scope of application of this document has been expanded (see Chapter 1,.2010 Edition). Chapter 1);
- b) The terms and definitions of haze have been changed (see 3.1, 3.1 of the.2010 edition);
- c) Added the terms and definitions of transmittance (see 3.2);
- d) In the "Principle" section, the principle description of the whole process of the integrating sphere haze meter measurement was added, the calculation formula of haze was simplified, and The formula for calculating light transmittance is given in Chapter 4 and Chapter 5 of the.2010 edition.
- e) The requirements for instruments have been changed and the expression has been simplified (see Chapter 5, Chapter 4 of the.2010 edition);
- f) The requirements for test specimens have been changed and the expression has been simplified (see Chapter 6, Chapter 6 of the.2010 edition);
- g) In "Test conditions", delete "If there are other requirements, they shall be determined by negotiation between the supplier and the buyer" (see Chapter 7,.2010 Edition Chapter 7);
- h) The description of the operating steps has been changed and the expression has been simplified (see Chapter 8, Chapter 8 of the.2010 edition). Please note that some of the contents of this document may involve patents. The issuing organization of this document

does not assume the responsibility for identifying patents. This document was proposed by the China Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Optical Functional Thin Film Materials (SAC/TC431). This document was drafted by: Hefei Lucky Technology Industry Co., Ltd., Ningbo Changyang Technology Co., Ltd., Jiangsu Dongcai New Materials Co., Ltd. Liability Company. The main drafters of this document are. Sun Luyang, Sun Jingjing, Qi Haichao, Liu Changfeng, Liu Yulei, Li Chao, Sun Yue, Liu Hongmei, Gao Junhong, Zhou Di, Zheng Ziyin, Xu Qianqian, Zhou Yubo, Li Mingyong. The previous versions of this document and the documents it replaces are as follows:

---First published in 2010 as GB/T 25273-2010;

---This is the first revision. Films for liquid crystal displays (LCD) Determination of haze and transmittance - Integrating sphere method

1 Scope

GB/T 25273-2025 specifies how the haze and the light transmittance of films for liquid crystal displays are measured by the integrating sphere method. A display stack contains a series of optical films, diffusers, prism films, protective and compensation films, and each is bought on two numbers: how much light it passes and how much of that light it scatters. Both are simple in principle and easy to get wrong in practice, because the result depends on the geometry of the measurement, on whether the scattered light is collected, and on the port and aperture sizes of the sphere. This standard fixes those conditions and describes the apparatus, the calibration, the preparation and mounting of the specimen, the measurement procedure and the calculation of the haze and of the total and diffuse transmittance, together with the precision and the test report. The 2025 edition replaces GB/T 25273-2010. For a film producer or a display maker qualifying one in China, this is the method the specification is checked against.

2. Usually only the scattered light flux that deviates from the incident light direction by more than 2.5° is used to calculate the haze.

3.2 Light transmittance The ratio of the luminous flux passing through the sample to the luminous flux incident on the sample.

Note. Expressed as percentage. [Source: GB/T 33376-2016, 2.4.111, modified]

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2918 Standard environment for conditioning and testing of plastic specimens

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Haze The ratio of the scattered light flux that deviates from the direction of the incident light through the sample to the transmitted light flux. Note

4 Principle

4.1 Direct measurement using an integrating sphere haze meter. The principle diagram for measuring haze and transmittance is shown in Figure 1.