ICS 31.030
CCS L 90

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 31379.3-2025

Test methods for polarizers of flat panel displays - Part 3: Reliability

平板显示器偏光片测试方法 第3部分：可靠性

Issued on: October 5, 2025 **Implemented on: May 1, 2026**

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. This document is Part 3 of GB/T 31379 "Test Methods for Polarizers of Flat Panel Displays". GB/T 31379 has published the following... part.

1.Physical and Chemical Properties;

2.Optical Properties;

3.Reliability. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Semiconductor Equipment and Materials (SAC/TC203). This document was drafted by: Sujin Optoelectronics (Nanjing) Co., Ltd., China Electronics Technology Standardization Institute, and Shenzhen Sanli Optoelectronics Technology Co., Ltd. Joint-stock company, Sugon Optoelectronics (Guangzhou) Co., Ltd., Foshan Weida Optoelectronic Materials Co., Ltd., TCL CSOT Technology Co., Ltd. Company, Sugon Optoelectronic Technology (Zhangjiagang) Co., Ltd., Shanghai Tianma Microelectronics Co., Ltd., Jiangxi Taylai Polymer Materials Co., Ltd., Ningbo Huizhixing New Material Technology Co., Ltd., Shenzhen Saishida Technology Co., Ltd., Hangzhou Fannuo Electronics Co., Ltd., and Shenzhen Qicaihongyu Gong Technology Development Co., Ltd. The main drafters of this document are. Zhu Zhiyong, Wu Yiran, Liu Gefang, Li Juntao, Zhao Junsha, Zhou Wenxian, Huang Weidong, Teng Haitao, and Cao Kewei. Xue Xiang, Ding Jiyun, Wang Guanghua, Liu Riming, Xiong Yu, Ren Cheng, Huo Bingzhong, Shi Zeyuan, Zhang Baoshuai, Song Lulu, Ao Xueli, Jin Yongbiao, Dong Hongxing Liu Chaoshuai, Cai Ning, Chen Yinchuan, Ding Guoliang, Ding Chenglong, Wan Shan.

Polarizing films are an indispensable optical component for flat panel displays. They can adjust the direction of light, increase contrast, and block reflected light. With the development of technology, the application range of flat panel displays is constantly expanding, and the performance requirements are gradually increasing. Flat panel display

manufacturers are focusing on the performance of polarizers. The demand for technology has also diversified, such as using low water contact angle polarizers to improve the adhesion between the touchscreen and the polarizer, and using low reflectivity polarizers... Advertising screens with emissivity polarizers alleviate visual fatigue by reducing the intensity of ambient light reflection. Different uses of displays require different polarizers. Due to varying performance requirements, perfecting the testing standards for polarizers is crucial for the independent development of polarizers in my country. GB/T 31379 is proposed to consist of 4 parts.

1.Physicochemical Properties. The purpose is to provide test methods for the physicochemical properties of polarizers for flat panel displays.

2.Optical Performance. The aim is to provide a testing method for the optical performance of polarizers in flat panel displays.

3.Reliability. The aim is to provide a testing method for the reliability of polarizers in flat panel displays.

4.Surface Properties. The aim is to provide a test method for the surface properties of polarizers for flat panel displays. Test methods for polarizers in flat panel displays Part

1 Scope

GB/T 31379.3-2025 is the Chinese national standard covering ageing a display polariser - the damp heat and high temperature storage, the thermal cycling and the ultraviolet exposure, the light leakage and delamination at the edges that these produce, and the criteria for judging the sheet still good. Part 3 of the series, first edition. In force from 1 May 2026. Issued on 5 October 2025, it has been in force since 1 May 2026.

This document describes the low-temperature, high-temperature, constant temperature and humidity, thermal shock, light aging, and bending of polarizers for flat panel displays. The testing method. This document applies to the reliability testing of polarizers used in flat panel displays.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 150.1 Pressure Vessels - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 31379.2 apply to this document.

4.Principles Artificially simulated harsh external environmental conditions were used to accelerate the aging of samples, and the size, optics, appearance, and pressure-sensitive adhesive layer of the samples before and after aging were compared. Changes in performance.

5.Reagents and Materials Unless otherwise stated, all reagents used in this document are analytical grade or higher and conform to national or industry standards.

---Anhydrous ethanol (CH3CH2OH);

---Alkali-free glass (requires a transmittance of >=90% in the visible light region);

---Pressure roller;

---Cleanroom wipes;