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**Optical functional films - Films for backlight unit of
liquid crystal display - High temperature and high
humidity aging measurement**

光学功能薄膜 液晶显示背光模组用薄膜

高温高湿老化性能测定方法

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**Standardization Administration of the People's Republic of
China.**

Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Devices.....	4
4 Specimen	5
5 Test environment	5
6 Test steps	5
7 Result expression	7
8 Test report.....	7

Optical functional films - Films for backlight unit of liquid crystal display - High temperature and high humidity aging measurement

1 Scope

This Standard specifies the measurement method of high temperature and high humidity aging of optical functional films for backlight unit of liquid crystal display.

This Standard is applicable to the measurement of high temperature and high humidity aging of optical functional films for backlight unit of liquid crystal display.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 2410, *Determination of the luminous transmittance and haze of transparent plastics*

GB/T 6739, *Paints and varnishes - Determination of film hardness by pencil test*

GB/T 9286, *Paints and varnishes - Cross cut test for films*

GB/T 25257, *Optical functional films - Determination of warping degree*

HG/T 4915, *White reflective films - Determination of reflectance*

3 Devices

3.1 Constant temperature and humidity aging box

Meet: maximum temperature $\geq 65^{\circ}\text{C}$, maximum relative humidity $\geq 95\%$, and continuous operation for more than 500h.

Temperature accuracy: $\pm 0.5^{\circ}\text{C}$.

2 - Specimen.

Figure 1 -- Specimen clamping diagram

6.5 Aging test

Set the constant temperature and humidity aging box as: testing temperature is 65°C and the relative testing humidity is 95%. When the set temperature and humidity are reached, put the specimen into the box. Conduct the 500h aging test to Group A3, Group A4, Group A5, Group A6, Group B1 and Group B2 specimens obtained according to 6.4. It must not interrupt during the test process.

6.6 Specimen balance after aging

After the test ends, place Group A3, Group A4, Group A5, Group A6, Group B1 and Group B2 specimens obtained according to 6.5 on the platform. Treat them according to the provisions of Clause 5.

6.7 Performance testing after aging

Respectively test adhesion, hardness, light transmittance, haze and warpage to post-test specimens of Group A3, Group A4, Group A5 and Group A6 obtained according to 6.6. Respectively test warpage and reflectivity to post-test specimens of Group B1 and Group B2.

In addition, the testing areas of specimen adhesion, hardness, light transmittance, haze and reflectance shall be beyond by 5mm or more around the edges and the clamping area.

7 Result expression

Compare with the testing results of Group A1, Group A2, Group A5, Group A6, Group B1 and Group B2 specimens before aging test, record, compare, calculate and analyze each performance parameter of Group A3, Group A4, Group A5, Group A6, Group B1 and Group B2 specimens after aging test. And determine the results.

8 Test report

The test report shall contain the following information:

- a) reference to this Standard;
- b) detailed instructions required to identify specimen, such as specimen

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