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

GB/T 25256-2026

Replacing GB/T 25256-2010

**Optical functional films - Test method for the 180° peel force
and subsequent adhesion of release films**

光学功能薄膜 离型膜180°剥离力和残余黏着率测试方法

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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 replaces GB/T 25256-2010 "Test Method for 180° Peel Strength and Residual Adhesion of Optical Functional Thin Film Release Films", and is consistent with... Compared with GB/T 25256-2010, apart from structural adjustments and editorial changes, the main technical changes are as follows:

- a) Added the 180° peel test principle for release test strips, and the 180° peel test principle for control strip strips and residual adhesion strips (see...). Chapter 4);
- b) The phrase "The pressure roller is a cylindrical steel pressure roller conforming to 5.3.4 of GB/T 2792-2014" was changed, and "its diameter is..." was added. (85.0±2.5)mm, with a surface covered by approximately 6mm thick rubber. The rubber hardness is (80±5) Shore A, with no unevenness or deviation. The amount is (2000±100)g (see 5.1., 2010 edition 5.1);
- c) A requirement for a "sample preparation plate/platform" has been added (see 5.2);
- d) The phrase "The test plate may be a thin stainless steel sheet conforming to

5.3.3 of GB/T 2792-2014" was changed, and "of which stainless steel..." was added. The steel sheet should be flat, smooth, bright, clean, and free of stains and scratches (see 5.3, 5.2 of the.2010 edition);

e) The requirements for tensile testing machines have been changed (see 5.6, 5.5 in the.2010 edition);

f) Added content and illustrations regarding the preparation of release test specimens on a sample preparation plate/platform (see 6.3.2.1);

g) The requirement that "the spline should be flat, without wrinkles, and without air bubbles" has been added (see 6.3.2.1, 6.3.3, and 6.3.4);

h) Added the content "Select an appropriate tension sensor with maximum load" (see 8.1);

1 Scope

GB/T 25256-2026 is the Chinese national standard covering the release liner on an optical film - it must come off cleanly at a controlled force and must not leave silicone behind, because whatever it leaves is then bonded into a display. It replaces GB/T 25256-2010 and has been in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, replacing GB/T 25256-2010. The document is under the responsibility of the China Petroleum and Chemical Industry Federation. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes the test methods for the 180° peel force and residual adhesion rate of the release film. This document applies to the testing of 180° peel force and residual adhesion of release films with plastic substrates.

4 Principles

4.1 Principle of 180° Peel Test of Release Test Strip Peel the sample at a constant speed of 180° along the longitudinal main axis and measure the 180° peel force of the release test sample during this process, as shown in Figure 1.

4.2 Principle of 180° peel test for control strip and residual adhesive strip Peel the sample at a constant speed of 180° along its longitudinal main axis. Measure the 180° peel force controlling the strip and residual adhesive strip during this process, as shown in Figure 2. As shown.

5 Experimental Apparatus

5.1 Pressure Roller The pressure roller is a cylindrical steel pressure roller conforming to

5.3.4 of GB/T 2792-2014, with a diameter of (85.0 ± 2.5) mm and a surface coating. It is covered with rubber about 6mm thick, the rubber hardness is (80 ± 5) Shore A, there is no unevenness, and the mass is (2000 ± 100) g.

5.2 Sample preparation plate/platform During sample preparation, to ensure that the pressure-sensitive tape used for testing adheres tightly to the release film sample and the typical support, it should be placed on a horizontal, smooth, rigid surface. Sample preparation is carried out on a plate or platform, which can be made of smooth float glass, smooth stainless steel, etc.

5.3 Test Plate The test plate can be a thin stainless steel sheet conforming to

5.3.3 of GB/T 2792-2014, or it can be polyethylene terephthalate. Thin sheets made of materials such as PET, polyvinyl chloride (PVC), and butadiene acrylonitrile styrene copolymer (ABS), with stainless steel sheets being flat and smooth. Smooth, glossy, clean and free of stains and scratches.

5.4 Length measuring tools A ruler with a measurement accuracy of ± 0.5 mm.

5.5 Sample cutter Appropriate tools for cutting strips, such as paper cutters, scalpels, and surgical knives.

5.6 Tensile Testing Machine A constant-speed tensile testing machine should be used, and the two clamps should be parallel and aligned, lying in the same plane in the direction of movement. The clamps should be of the same width. Clamp the specimen. The testing machine should move at a constant speed of (300 ± 6) mm/min. Record the displacement at least once every 10 mm of specimen peeled off. load.

6 Test specimens

6.1 Shape and Size The sample is long and parallel on both sides, with a width of (25.0 ± 0.5) mm and a length of not less than 150 mm.

6.2 Quantity There should be no fewer than 5 of each type of spline.

6.3 Preparation

6.3.1 Release film sample When measuring the 180° peel force and residual adhesion of the release film, the evaluated samples produced an average effect that was highly satisfactory for users. Important. Before evaluation, samples should be stored under the manufacturer's recommended conditions to ensure their performance indicators are representative under normal storage and use. Representativeness. The fundamental goal of sample selection and storage is to ensure that the measured membrane material properties are representative. Release film samples can be prepared according to the sampling area, the width of the pressure-sensitive adhesive tape used for testing, and the number of test

samples required.

6.3.2 Release test spline

6.3.2.1 Cut representative release film strips onto a sample preparation plate/platform, and attach them to the release film using 25mm wide test pressure-sensitive tape. The membrane sample is rolled back and forth twice with a pressure roller at a speed of 10 mm/s, as shown in Figure

3. The sample should be flat, without wrinkles or air bubbles.

6.3.2.2 The sample was pressed at a temperature of $(23\pm 2)^{\circ}\text{C}$ and a pressure of 70g/cm^2 for 20h to ensure the release film release material and Test for good contact between the adhesives in the tape. If necessary, the sample can be directly subjected to a temperature of $(70\pm 2)^{\circ}\text{C}$ and a pressure of 70g/cm^2 . Accelerated aging test. Press under pressure for 20 hours, but this should be specifically noted.

6.3.3 Control zone spline The pressure-sensitive tape used in the test was flatly bonded to a typical support without special treatment, and then rolled back and forth with a pressure roller at a speed of approximately 10 mm/s. Twice. The spline should be flat, without wrinkles or air bubbles.

6.3.4 Residual Adhesive Splines Completely peel off the release test specimen from the specimen that has been subjected to pressure conditions of $(23\pm 2)^{\circ}\text{C}$ and 70g/cm^2 and then conditioned. The pressure-sensitive tape used for testing is then flattened and applied to a typical support without special treatment. A pressure roller is then used to press the tape back and forth at a speed of approximately 10 mm/s. Roll twice. The sample should be flat, without wrinkles or air bubbles.

7.1 State Adjustment

7.1.1 Release test spline According to GB/T 2918, after releasing the pressure of 70g/cm^2 , the system should be conditioned under the conditions of $(23\pm 2)^{\circ}\text{C}$ and $(50\pm 5)\%$ relative humidity. 4h~4.5h.

7.1.2 Control zone spline According to GB/T 2918, the temperature should be adjusted for 30-40 minutes at $(23\pm 2)^{\circ}\text{C}$ and relative humidity of $(50\pm 5)\%$.

7.1.3 Residual Adhesive Splines According to GB/T 2918, the temperature should be adjusted for 30-40 minutes at $(23\pm 2)^{\circ}\text{C}$ and relative humidity of $(50\pm 5)\%$.

7.2 Test Environment According to GB/T 2918, the test environment is a temperature of $(23\pm 2)^{\circ}\text{C}$ and a relative humidity of $(50\pm 5)\%$.

8 Test Procedure