

Translated English of Chinese Standard: GB/T1731-2020

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 87.040

G 50

GB/T 1731-2020

Replacing GB/T 1731-1993, GB/T 1748-1979

Determination of flexibility of coating and putty films

漆膜、腻子膜柔韧性测定法

Issued on: November 19, 2020

Implemented on: October 01, 2021

Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of
China.

Table of Contents

Foreword.....	3
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	5
4 Determination of flexibility of coating films	6
5 Determination of flexibility of putty films	9
6 Test report	11

Determination of flexibility of coating and putty films

1 Scope

This Standard specifies the determination of flexibility of coating and putty films by a flexibility tester. Use the smallest spindle diameter that does not cause damage to the coating and putty films to represent the flexibility of the coating and putty films.

This Standard applies to the determination of flexibility of coating and putty films.

2 Normative references

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

GB/T 3186, Paints, varnishes and raw materials for paints and varnishes - Sampling

GB/T 9271, Paints and varnishes standard panels for testing

GB/T 9278, Temperatures and humidities for conditioning and testing of paint specimens

GB/T 13452.2, Paints and varnishes - Determination of film thickness

GB/T 20777, Paints and varnishes - Examination and preparation of samples for testing

GB/T 37356, Paints and varnishes - Lighting and procedure for visual assessments of coatings

3 Terms and definitions

The following terms and definitions are applicable to this document.

3.1 Flexibility

The ability of the coating film or putty film to deform along with its substrate without damage.

According to the provisions of GB/T 20777, inspect and prepare test samples.

4.3 Test panel

4.3.1 Substrate

Unless otherwise specified, the substrate shall be tinplate. The tinplate shall meet the technical requirements of GB/T 9271; the dimensions are 120 mm × 25 mm × (0.20 mm ~ 0.30 mm).

4.3.2 Substrate processing and test panel coating

Unless otherwise specified, process each piece of substrate according to GB/T 9271; then, apply coating of the test product or system according to the specified method.

4.3.3 Drying and conditioning

Each coated test panel shall be dried (or baked) and maintained under the specified conditions for the specified time. Test panels that are not maintained under the conditions that are specified in GB/T 9278, such as drying, shall be conditioned for at least 16 h under the conditions that are specified in GB/T 9278 before the test.

4.3.4 Thickness of coating films

The thickness of the coating films shall be specified or agreed. The determination of the thickness of coating films shall be performed according to one of the methods to determine the thickness of dry films that are specified in GB/T 13452.2, in micrometers (μm) or millimeters (mm).

4.4 Test procedure

4.4.1 Number of tests

Perform three tests on the same spindle.

4.4.2 Test environment

Unless otherwise agreed, the test shall be performed under the environment that is specified in GB/T 9278.

4.4.3 Test

Place the coating films of the test panel upwards; use both hands to press the test panel on the spindle of the specified diameter of the flexibility tester of coating films (4.1.1); use two thumbs to bend the test panel around the spindle at a steady speed within 2 s ~ 3 s. After bending the test panel, the two thumbs

3 -- Spindle 1;

4 -- Spindle 2.

Figure 3 -- Schematic diagram of the flexibility tester of putty films

5.1.2 Magnifier

4x magnifier.

5.1.3 Waterproof abrasive paper

Suitable waterproof abrasive paper, such as No. 120, No. 180, No. 320, No. 400, No. 500 waterproof abrasive paper.

5.2 Sample

According to the provisions of GB/T 3186, take representative samples of the tested product (or each product in the multi-coating system).

According to the provisions of GB/T 20777, inspect and prepare test samples.

5.3 Test panel

5.3.1 Substrate

Unless otherwise specified, the substrate shall be tinplate. The tinplate shall meet the technical requirements of GB/T 9271; the dimensions are 155 mm × 70 mm × (0.20 mm ~ 0.30 mm).

5.3.2 Substrate processing and test panel coating

Unless otherwise specified, process each piece of substrate according to GB/T 9271; then, apply coating of the test product or system according to the specified method.

5.3.3 Drying and conditioning

Each coated test panel shall be dried (or baked) and maintained under the specified conditions for the specified time. Test panels that are not maintained under the conditions that are specified in GB/T 9278, such as drying, shall be conditioned for at least 16 h under the conditions that are specified in GB/T 9278 before the test.

5.3.4 Thickness of putty films

The dry film or wet film thickness of putty films shall be specified or agreed; the determination of dry film thickness shall be performed according to one of the determination method of dry film thickness that are specified in GB/T 13452.2.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----