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

GB/T 1749-2025

Replacing GB/T 1749-1979

Determination of consistency of pastes and putties

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020, Directives for standardization - Part

1. Rules for the structure and drafting of standardizing documents. This document replaces GB/T 1749-1979, Method of test for consistency of pastes and putties; compared with GB/T 1749-1979, in addition to structural adjustments and editorial modifications, the main technical changes are as follows:

- a) Add "Scope", "Terms and definitions", "Sample", "Precision" and "Test report" (see Chapter 1, Chapter 3, Chapter 5, Chapter 8 and Chapter 9);
- b) Change the requirements for glass plate, weight, stopwatch and spatula (see 4.2, 4.3, 4.4, 4.7; Chapter 1 of the 1979 edition);
- c) Add requirements for temperature-controlled box and thermometer (see
- d) Change the "Test procedure" (see Chapter 6; Chapter 2 of the 1979 edition);
- e) Change the "Expression of results" (see Chapter 7; Chapter 2 of the 1979 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying patents. This document was proposed by China Petroleum and Chemical Industry Federation. This document shall be under the jurisdiction of National Technical Committee 5 on Paints & Pigments of Standardization Administration of China (SAC/TC 5). Drafting organizations of this document. Zhejiang Yu Tong New Materials Co., Ltd., Guohengxin (Changzhou) Testing and Certification Technology Co., Ltd., Amb Paint (Anhui) Co. LTD., Zhejiang Zhiqiang Paint Co.,

Ltd., Biuged Laboratory Instruments (Guangzhou) Co., Ltd., CNOOC Changzhou Paint and Coatings Industry Research Institute Co., Ltd., Zhejiang Xizerong Paint Co., Ltd., Wuxi Lianbang Coating Co., Ltd., AUPUP Electronic Commerce Co., Ltd., Changzhou Institute of Technology, Heilongjiang Institute of Quality Supervision and Inspection. Main drafters of this document. Cao Bihui, Peng Jusheng, Kang Chunsheng, Yang Yaliang, Yu Wenli, Liu Weiming, Dai Feiyang, Guan Chao, Lu Yufeng, Ma Chenwei, Wu Xuan, Pan Shuangxi, Zhang Yuheng, Sun Zeyu, Ma Kaixiang. The previous versions of this document and the documents which are replaced by this document are as follows: Determination of consistency of pastes and putties

1 Scope

GB/T 1749-2025 is the Chinese national standard on determination of consistency of pastes and putties, in the field of paint and colour industries. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 1 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 February 2026. Classification: ICS 87.040, CCS G 50. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes a method for determining the consistency by measuring the diameter of the product spread after a certain amount of time when a load of a specified mass is applied to the surface of a fixed volume of viscous product. This document applies to the determination of consistency of viscous products such as pastes and putties.

2 Normative references

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

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

GB/T 5206, Paints and varnishes - Terms and definitions

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

3 Terms and definitions

For the purpose of this document, terms and definitions given in GB/T 5206 apply.

4 Apparatus

4.1 Pump The pump consists of a pump housing and a pump plug. The pump housing and the pump plug shall be made of corrosion-resistant metallic materials that are not affected by the test product. The inner surface of the pump housing and the outer surface of the pump plug shall be smooth, without cutting marks, cracks, protrusions and burrs. The inner diameter of the pump housing shall be (29.7 ± 0.2) mm, and the depth shall be (29.0 ± 0.2) mm. The pump plug shall fit perfectly into the pump housing. The pump housing and the pump plug are shown in Figure

1. The pump housing shall have a certain wall thickness to ensure that the pump housing does not deform during use. The graduation value shall not be less than

0.1 s.

4.5 Temperature-controlled box It may keep the test samples, pumps, glass plates and weights at a specified or agreed temperature (see Clause 6).

4.6 Thermometer The graduation value shall not be less than 0.2 °C.

4.7 Spatula Made of steel, tapered blade, 140 mm ~ 150 mm in length, 20 mm ~ 25 mm at the widest point, and no less than

12.5 mm at the narrowest point.

5 Test sample

According to the provisions of GB/T 3186, take a representative sample of the tested product. According to the provisions of GB/T 20777, inspect and prepare test samples.

6 Test procedure

6.1 Perform two parallel tests.

6.2 Unless otherwise agreed, carry out the test at a temperature of (23 ± 2) °C.

6.3 Pre-condition the sample, pump (4.1), glass plate (4.2) and weight (4.3) in a temperature-controlled box (4.5) to (23.0 ± 1.0) °C or an agreed temperature.

6.4 Place glass plate B (smooth side facing up) on a horizontal surface and place the pump housing in the center of glass plate B. Before filling the sample, measure the sample temperature using a thermometer (4.6) to ensure that the sample temperature is within (23.0 ± 1.0) °C or the agreed temperature range. Fill the pump housing completely with the sample (leaving no gaps), and scrape off any excess sample.

6.5 Use the pump plug to press the sample out of the pump housing (see Figure 3); use a

spatula (4.7) to cut off the cylindrical sample along the bottom of the pump plug and place it in the center of glass plate B; then align glass plate A (smooth side down) with glass plate B and gently place it flat on the sample; then press the weight on the center of glass plate A (see Figure 4; simultaneously start a stopwatch or other timing device (4.4); after 60 seconds, remove the weight and immediately read the diameter of the sample spread according to the concentric circle scale of glass plate A. If the sample spread is elliptical, take the average of its major and minor axes to the nearest