

ICS 87.040  
CCS G51



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

**GB/T 13492-2025**

Replacing GB/T 13492-1992

**Automotive coatings**

汽车用涂料

**Issued on: August 1, 2025**

**Implemented on: February 1, 2026**

**Issued by: State Administration for Market Regulation;  
Standardization Administration of China**

## Table of Contents

- 1 Scope
- 2 Normative References
- 3 Terms and Definitions
- 4 Product Classification
- 5 Requirements
- 6 Test Methods
- 6.3 Preparation of test templet
- 6.4.7 Storage stability Place approximately
- 7 Inspection Rules...

### 1 Scope

GB/T 13492-2025 is the Chinese national standard on automotive coatings, 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 G51. 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 specifies the product classification, requirements, test methods, inspection rules, marking, packaging, and storage of automotive coatings. This Document applies to solvent-based and water-based coatings applied at automotive OEM plants to the surface of the vehicle body/cabin and simultaneously applied body panels and components for decorative and protective purposes. This Document does not apply to electrophoretic coatings or powder coatings.

### 2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 1724-2019 Paints, varnishes and printing inks - Determination of fineness of grind

GB/T 1725 Paints, varnishes and plastics - Determination of non-volatile-matter content

GB/T 1727-2021 General methods for preparation of coating films

GB/T 1728 Determination of drying time of coating and putty films

GB/T 1731-2020 Determination of flexibility of coating and putty films

GB/T 1732 Determination of impact resistance of coating films

GB/T 1740 Determination of resistance to heat and humidity of paint films

GB/T 1766 Paints and varnishes - Rating schemes of degradation of coats

GB/T 1770 Rubbing test of coatings and putty films

GB/T 1865 Paints and varnishes - Artificial weathering and exposure to artificial radiation - Exposure to filtered xenon-arc radiation

GB/T 2794-2022 Determination for viscosity of adhesives

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

GB/T 5206 Paints and varnishes - Terms and definitions

### 3 Terms and Definitions

For the purposes of this Document, the terms and definitions given in GB/T 5206 and the following apply.

3.1 Intermediate paints In multi-layer coating, the paint that is applied between the primer layer and the topcoat layer.

3.2 Effect pigment paints Paints that contain pigments with metallic, pearlescent, and other effects.

3.3 Solid color paints without clear coats Solid color paint that does not require a finishing varnish.

3.4 Base coats Paint that requires a finishing varnish.

3.5 Dual-base coats Two base coats with different functions or effects that are applied using a "wet-on-wet" coating method need to be coated with a finishing varnish.

### 4 Product Classification

4.1 Based on the different dispersion mediums, automotive coatings are classified into solvent- based coatings and water-based coatings.

4.2 Based on the coating type, automotive coatings are classified into primers, intermediate

coats, and topcoats; thereof, the topcoats are further classified by category into solid color paints without clear coats, base coats, dual-base coats, and finishing varnish.

4.3 Based on the durability of composite coatings, automotive coatings are classified into Class I, Class II, and Class III.

## 5 Requirements

5.1 Primer performance requirements The primer performance shall meet the requirements of Table 1.

## 6 Test Methods

6.1 Sampling Sampling shall be conducted according to the provisions of GB/T 3186, or according to an agreed method. The sample size shall be determined based on the testing requirements Each test sample shall be inspected and prepared according to the provisions of GB/T 20777, and the final test sample shall be prepared in the "to be tested" state.

6.2 Test environment Unless otherwise specified, the temperature and relative humidity of the curing environment for self-drying paint test panels shall comply with the provisions of GB/T 9278. Drying time, cross-cut test, impact resistance, flexibility, bending test, cupping test, pencil hardness, gloss, DOI value, and orange peel test shall be conducted under the conditions specified in GB/T 9278; other items shall be tested according to the conditions specified in the relevant test method standards.

### 6.3 Preparation of test templet

6.3.1 Selection and treatment of substrate Unless otherwise specified, the substrate types for primer and intermediate paint test templates are shown in Table 5; the substrate types for topcoat test templates are shown in Table 6; and the substrate types for composite coating test templates are shown in Table 7. Unless otherwise specified, the material and treatment of tinplate and cold-rolled steel sheets used in the tests shall meet the requirements of GB/T 9271. For gloss, DOI value, and orange peel tests, the substrate is cold-rolled steel sheet with a surface roughness  $R_{\text{alpha}} \leq 0.3 \mu\text{m}$  (controlled using a roughness measuring instrument with an accuracy of  $0.05 \mu\text{m}$  or higher). For salt spray resistance and cyclic corrosion alternating tests, the substrate is cold-rolled steel sheet. In addition to treatment according to the provisions of GB/T 9271, it shall also undergo phosphate treatment. After phosphate treatment, the steel sheet shall undergo a 2-hour neutral salt spray test according to the provisions of GB/T 10125. The surface of the phosphate steel sheet shall show no damage after the test. The agreed substrate type and substrate treatment method shall be specified in the report.

6.3.2 Requirements for preparation of panel Unless otherwise specified, the test panel for primer and intermediate paint shall be prepared according to Table 5; the test panel for

topcoat according to Table 6; and the test panel for composite coatings according to Table

7. Any panel preparation method different from that specified in this Document shall be specified in the report. Paint film thickness shall be measured according to one of the methods specified in the provisions of GB/T 13452.2.

#### **6.4.7 Storage stability Place approximately**

0.5 L of sample into a suitable plastic or glass container, leaving approximately 10% space inside. Seal the container and place it in an environment at the agreed temperature. After the agreed time, remove the container and place it at  $(23 \pm 2)^\circ\text{C}$  for 3 h. If it is a multi-component coating, test the paint component for "sedimentation", "viscosity", and "fineness"; and test the curing agent component for "viscosity". Settling properties shall be tested according to GB/T 6753.3; viscosity according to

7.1 of GB/T 2794-2022; fineness according to 6.4.3; cross-cut test according to 6.4.9; impact resistance according to 6.4.10; and flexibility according to 6.4.11.

6.4.8 Drying time The test shall be conducted according to the provisions of GB/T 1728. For self-drying types, after an agreed time, surface drying shall be conducted according to Method B for surface drying time; and actual drying shall be conducted according to Method A for actual drying time. If the coating is dry, it shall be rated as "pass". For baked types, baking shall be carried out at an agreed temperature and time; and the actual drying time shall be conducted according to Method A. If the coating is actually dry, it shall be rated as "pass".

6.4.9 Cross-cut test The test shall be conducted according to the provisions of GB/T 9286. It is recommended to use a manual multi-blade cutting tool for cutting; remove loose coating from the cut area using transparent pressure-sensitive tape with a width of 25 mm and an adhesion strength of  $(10 \pm 1) \text{ N/25 mm}$ .

6.4.10 Impact resistance The test shall be conducted according to the provisions of GB/T 1732.

6.4.11 Flexibility The test shall be conducted according to the provisions of Clause 4 in GB/T 1731-2020.

6.4.12 Cupping test It shall be conducted according to the provisions of GB/T 9753.

6.4.13 Polishability It shall be conducted according to the provisions of GB/T 1770; sandpaper grade model, abrasion speed, and number of abrasion cycles shall be agreed upon by the supplier and the purchaser.

6.4.14 Compatibility with subsequent coatings Prepare test panels for the primer and intermediate paint according to the provisions in Table 5. Apply the next coating according to product requirements. If it is easy to apply and does not exhibit peeling, after drying and curing according to the product requirements of the next coating, visually inspect the paint