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

GB/T 22040-2025

Replacing GB/T 22040-2008

**Technical requirements and test of weathering quality for
plastics of highway furnitures**

公路沿线设施塑料制品耐候性要求及测试方法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 22040-2008 "Weather resistance requirements and test methods for plastic products used in highway facilities" and GB/T 22040- Compared with 2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) The terms "artificial climate (xenon arc lamp) test", "ultraviolet-condensation test", "ultraviolet region", "fluorescent ultraviolet lamp" and "irradiance" have been deleted and definitions (see 3.1 to 3.5 of the 2008 edition);
- b) The technical requirements have been changed to include requirements for plastic products and external organic anti-corrosion coatings (see Chapter 5, 2008). Chapter 5 of the 2011 edition);
- c) The expression of performance retention rate has been changed (see Table 1, Table 2, Table 2 of the 2008 edition);
- d) The technical requirements for the resistance of plastic products to artificial accelerated aging by xenon arc lamps have been changed (see Table 1, Table 2 of the 2008 edition);
- e) Modified the technical requirements for the high temperature and humidity resistance and xenon arc lamp artificial accelerated aging performance of the external organic anti-corrosion coating (see Table 2, Table 2 of the 2008 edition);
- f) The requirements for aging performance rating of external organic anti-corrosion coatings

have been changed (see Table 3, Table 1 of the 2008 edition);

g) The requirements for thermal oxygen aging resistance and sulfur dioxide corrosion resistance have been deleted (see Table 2 of the 2008 edition);

h) Added the requirements for protection of the cutting area when preparing the specimen (see 6.1.1.1);

i) Changed the requirements for state adjustment (see 6.1.2, 6.1.2 of the 2008 edition);

j) Added the test method for appearance quality after testing (see 6.1.3);

k) Changes have been made to the temperature alternating resistance, high temperature and humidity resistance, cyclic salt spray corrosion resistance, wind and sand erosion resistance, and fluorescent UV resistance.

Test methods for artificial accelerated aging performance of xenon arc lamps, artificial accelerated aging performance of xenon arc lamps and resistance to natural exposure (see 6.2~ 6.8, 6.2, 6.3, 6.5, and 6.7 to 6.10 of the 2008 edition);

l) The test methods for resistance to thermal oxygen aging and resistance to sulfur dioxide have been deleted (see 6.4 and 6.6 of the 2008 edition);

m) The requirements for assessment items have been changed (see 6.9.2, 6.11.2 of the 2008 edition);

n) The contents of the inspection rules items have been changed (see Table 6, Table 4 of the 2008 edition);

o) The test report requirement has been deleted (see Chapter 8 of the 2008 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Standardization of Transportation Engineering Facilities (Highway) (SAC/TC223).

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This document was first published in 2008 and this is the first revision.

Plastic products for facilities along highways Weather resistance requirements and test methods

1 Scope

This document specifies the product classification, technical requirements, test methods and inspection rules for outdoor plastic products for highway facilities.

This document applies to the production and inspection of outdoor plastic products for facilities along highways.

2 Normative references

GB/T 1040.2

GB/T 1040.3

GB/T 1449

GB/T 1766

GB/T 2411

GB/T 2423.18

GB/T 2423.22

GB/T 2423.37

GB/T 2918

GB/T 3681.2

GB/T 12000

GB/T 16422.2

GB/T 16422.3

3 Terms and Definitions

There are no terms or definitions that require definition in this document.

4 Product Categories

According to the different product forms, plastic products for facilities along highways are generally divided into the following two categories.

- Plastic products (Class I products) mainly refer to plastic products with synthetic resin as the main body and glass fiber reinforced plastic products.

Such as. pipelines, pipe boxes, anti-glare panels, toll booths, sign bases, communication manhole covers, etc.

- External coating organic anti-corrosion coating (Class II products) mainly refers to the use of synthetic resin as the base material and other fillers as auxiliary materials, through

extrusion, Products coated on components by electrostatic spraying, fluidized bed dipping or plastic paste, such as external plastic coating of protective facilities and isolation facilities Layer, external plastic coating of electromechanical facilities, etc.

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