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

GB/T 12000-2017

**Plastics-Determination of the effects of exposure to damp
heat,water spray and salt mist**

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(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 12000-2003 "Determination of the effects of plastic exposure to damp heat, water spray and salt spray", and GB/T 12000-Compared with 2003, the main technical changes are as follows.

--- Revised the referenced documents in the "Regulatory References" chapter (see Chapter 2, Chapter 2 of the 2003 edition);

--- Revised the relevant content of the chapter "Test environment and equipment", the chapter name was changed to "general test conditions" (see Chapter 4, 2003 edition) Chapter 4);

--- Added a detailed description of the requirements for test equipment (see 4.1);

--- Revised the content of the damp heat test conditions (see 4.2.1, 4.1.1 of the 2003 edition);

--- Revised the content of the salt spray test conditions (see 4.2.3, 2003 version 4.1.3);

--- Modified the "Status Adjustment" related content, changed the status adjustment time to "at least 86h" and removed the requirements of the air pressure condition (See 4.3.1, 4.4 of the 2003 edition).

This standard uses the translation method equivalent to ISO 4611:2010 "Measurement of the effects of plastic exposure to damp heat, water spray and salt spray".

The documents of our country that have a consistent correspondence with the international documents referenced in this standard are as follows.

---GB/T 1034-2008 Determination of water absorption of plastics (ISO 62:2008, IDT) this standard was proposed by the China Petroleum and Chemical Industry Federation.

This standard is under the jurisdiction of the Technical Committee on Aging Methods of the National Plastics Standardization Technical Committee (SAC/TC15/SC5).

This standard was drafted. Guangzhou Synthetic Materials Research Institute Co., Ltd., Zhonglan Chenguang Chemical Research and Design Institute Co., Ltd., Guangzhou Special Bearing Pressure Equipment Testing Institute, Beijing Tianzhu Auxiliary Co., Ltd., Beijing Huasu Chenguang Technology Co., Ltd., Tongdao Technology Chengdu Co., Ltd. the company.

Introduction

0.1 There are many test methods for exposing plastics to different etchants that act simultaneously, such as natural weathering. Other test methods Used to evaluate the effects of individual etchants separately, such as specific chemicals and radiation tests that are resistant to certain spectral ranges.

For some applications, the best approach may be to evaluate not only the performance of the material in a humidified environment with critical saturated vapor pressure, but also the performance in the presence of the liquid phase was evaluated.

Under these conditions, not only the absorption of water or the leaching of certain components in the composite can be observed, but also due to hydrolysis the degradation phenomenon caused by the use and the oozing of the plasticizer.

Sometimes it may be necessary to evaluate the properties of materials in the presence of highly corrosive electrolyte solutions, such as sodium chloride solution (salt mist) is a marine environment the main etchant present, which is especially important for marine applications. It is well known that sodium chloride solution concentrates on the basic components of plastics.

The compound has no significant erosion effect, and because the osmotic pressure of the salt solution is high, the absorption of the salt solution by the plastic is generally higher than that of the pure water.

Less, but it cannot be inferred that the salt solution does not erode the composite containing fillers, reinforcing agents or pigments.

In addition, for finished or semi-finished products consisting mainly of plastic materials but containing certain metal components, the effect of evaluating salt spray may be very important. These metal components include embedded modules, thin composite foils, surface coatings made by electroplating or other methods, or by extrusion A metal core coated with plastic, such as a plastic paste or a fluidized bed powder.

0.2 Methods and equipment for obtaining the above reproducible erosive environment are well known and are already in the international standard for other materials.

It is described in the IEC standard for electronic components. With proper maintenance and adjustment, the equipment and methods described in these standards are the same.

The same applies to plastics.

0.3 This standard is only given to the general equipment in selecting the appropriate equipment, obtaining the above exposure conditions and sample preparation methods, and evaluating performance.

Sexual guidance, specific details are specified in different ISO and IEC publications.

Regarding the representation of the results, this standard is as far as possible in accordance with the current test methods for exposure to chemicals (see ISO 175) and exposure to nature.

Test methods for climate or artificial light sources (see ISO 4582).

0.4 These tests provide data on the effects of the above exposures on materials, but do not directly infer the phase between test results and performance.

Relevance.

Plastic exposed to damp heat, water spray and Determination of influence in salt spray

1 Scope

1.1

This standard specifies the conditions under which plastics are exposed to damp heat, water spray and salt spray, as well as some important performance changes after a given exposure period.

Evaluation method.

1.2

This standard is generally applicable to all plastic standard samples, products or components.

1.3

This standard specifies the following measurement methods.

- Quality change;
- Size and appearance changes;
- Other physical performance changes.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

ISO 62 plastic moisture absorption measurement (Plastics-Determination of waterabsorption)