NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 2918-2018

Plastics -- Standard atmospheres for conditioning and testing

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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 2918-1998 Plastics - Standard atmospheres for conditioning and testing. Compared with GB/T 2918-1998, the main technical changes except for editorial modifications are as follows:

-- Chapter 2 "2 Normative References" is added (see Chapter 2);

-- The use conditions of standard atmospheres at all levels such as "23/50 is applicable to non-tropical regions, and 27/65 is applicable to tropical regions" and the stipulation that "to obtain comparable data, the standard atmosphere of 23/50 shall be used" are added (see Chapter 5);

-- The calibration frequency is added (see Chapter 6);

-- The method for determining the sample conditioning time when equilibrium cannot be reached for a long time is modified (see Appendix A).

This standard was redrafted and modified in relation to ISO 291:2008 Plastics - Standard atmospheres for conditioning and testing.

The technical differences between this standard and ISO 291:2008 and their reasons are as follows:

-- Regarding normative references, the adjustments with technical differences are made in this standard to adapt to Chinese technical conditions. The adjustments are concentrated in Chapter 2 "Normative references". The specific adjustments are as follows:

? ISO 62 is replaced with GB/T 1034 which is identical to the international standard;

-- The content of 8.1 NOTE 2 is modified into a paragraph;

-- The content of 8.1 NOTE 3 is modified into a paragraph.

This standard also made the following editorial changes.

-- The informative Appendix B "Background information" of ISO 291:2008 is deleted;

-- References are deleted.

This standard was proposed by the China Petroleum and Chemical Industry Federation.

Plastics - Standard atmospheres for conditioning and testing

1 Scope

This standard specifies the specifications for conditioning and testing plastics and all types of specimens under constant environmental conditions.

This standard applies to plastics and all types of specimens.

This standard does not include special environments for certain special tests or materials or for simulating certain specific climatic conditions.

2 Normative references

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

GB/T 1034 Plastics - Determination of water absorption (GB/T 1034-2008, ISO 62:2008, IDT)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 standard atmosphere

Preferably, a constant environment with specified air temperature and humidity and limited ranges of atmospheric pressure and air circulation rate. The air contains no significant added components and the environment is not affected by any significant added radiation.

NOTE 1: The standard atmosphere enables the sample or specimen to reach and maintain the specified state.

NOTE 2: The standard atmosphere is equivalent to the average environmental conditions of the laboratory and can be established in a (environmentally controlled) conditioning cabinet, box or room.

3.2 conditioning atmosphere

A constant environment in which samples or specimens are kept before experiments are

8.1 Conditioning

The conditioning time is specified in the relevant materials.

When there is no applicable standard specifying the conditioning time, it shall be implemented as follows:

a) Unless otherwise specified, for standard atmospheres 23/50 and 27/65, not less than 88 h;

b) Unless otherwise specified, for room temperature between 18 °C and 28 °C, not less than 4 h.

NOTE 1: For plastic materials, the time required to reach moisture equilibrium is generally longer than the time required to reach temperature equilibrium.

If the sample cannot reach moisture equilibrium after conditioning according to a), the

conditioning time is longer than t70 specified in GB/T 1034 (t70 depends on the square of the thickness), and the time required to reach equilibrium meets the requirements of Appendix A.

For special tests and plastics or specimens known to reach temperature and humidity equilibrium quickly or slowly, a shorter or longer conditioning time may be specified in the corresponding material standard in accordance with the requirements of Appendix A.

8.2 Experimentation

Unless otherwise specified, the conditioned specimens shall be tested in the same environment or temperature as that for conditioning. In any case, the test shall be carried out immediately after the specimens are removed from the conditioning atmosphere.

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