

CCS N 04



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

GB/T 10586-2006

**Specification for damp heat testing chambers
(English Translation)**

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Foreword

This Standard was one of the serial standards of "Specifications for Environmental Test Equipment". Such serial standards consist of the following standards.

- GB/T 10586-2006 Specifications for Damp Heat Chambers;
- GB/T 10587-2006 Specifications for Salt Mist Testing Chambers;
- GB/T 10588-2006 Specifications for Mould Growth Testing Chambers;
- GB/T 10589-1989 Specification for Low Temperature Test Chambers;
- GB/T 10590-2006 Specifications for High and Low Temperature/Low Air Pressure Testing Chambers;
- GB/T 10591-2006 Specifications for High Temperature/Low Air Pressure Testing Chambers;
- GB/T 10592-1989 Specification for Low/High Temperature Test Chambers;
- GB/T 11158-1989 Specification for High Temperature Test Chambers.

This Standard replaced GB/T 10586-1989 Specification for Damp Heat Test Chambers. Compared with GB/T 10586-1989, this Standard has the major technical changes as follows.

- a) This standard adds a Clause "Terms and Definitions"; and the content adopts the

relevant parts of IEC 60068-3-5 and IEC 60068-3-6;

- b) According to the concept of temperature fluctuation in IEC 60068-3-5, the temperature fluctuation index is changed into 1°C (see Table 1 of this Edition);
- c) According to the requirements of temperature data recording in IEC 60068-3-5, the data is changed to record every minute (see 6.4 of this Edition);
- d) According to the temperature-rise rate test method in IEC 60068-3-5, modify the temperature-rise rate test method (see 6.4.3.8 of this Edition);
- e) The range of atmospheric pressure has been expanded in the environmental conditions of use (see 4.1 of this Edition);
- f) Propose the requirements for the quality of cooling water (see 4.3a) of this Edition);
- g) Expand the temperature and humidity adjustment range of Class-II products (see Table 1 of this Edition);
- h) Add the requirements for electrical insulation strength (see 5.3.1 of this Edition);
- i) The test of temperature and humidity performance is changed to be carried out under no-load conditions (see 6.2.2 of this Edition);
- j) Add the evaluation method and application information of the uncertainty for measurement of temperature deviation (see Appendix B of this Edition).

The Appendixes A and B of this Standard are informative.

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of Instrumentation Technology and Economy Institute, P.R.C.

Drafting organizations of this Standard. Shanghai Espec Environment Equipment Co., Ltd.; Chongqing Yinhe Testing Instrument Co., Ltd.; Guangzhou Electric Apparatus Research Institute; and Chongqing Wanda Instrument Co., Ltd. Participating drafting organizations of this Standard. Wuxi Sunan Test Equipment Co., Ltd.; Shanghai Laboratory Instrument Works Co., Ltd.; and Chengdu Tianyu Test Equipment Co., Ltd. Chief drafting staffs of this Standard. Lu Liming, Xu Qinglu, Liao Qing, Chen Yunsheng, Ni Yiming, Feng Mingkang, and Kuai Zhengxin.

The historical edition replaced by this Standard is as follows.

--- GB/T 10586-1989.

Specifications for Damp Heat Testing Chambers

1 Scope

This Standard specifies the terms and definitions, conditions of use, technical requirements, test methods, inspection rules and marking, packaging, and storage of damp heat test chambers (hereinafter referred to as "test chambers").

This Standard is applicable to test chambers that conduct damp heat tests on electrical, electronic and other products, parts and materials.

2 Normative References

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 191-2000 Packaging - Pictorial Marking for Handling of Goods (eqv ISO 780.1997)

GB/T 2423.3-1993 Basic Environmental Testing Procedures for Electric and Electronic Products - Test Ca. Damp Heat, Steady State (eqv IEC 60068-2-3.1984)

3 Terms and Definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 Test chamber

An enclosed box or space, thereof, some parts meet the specified test conditions.

3.2 Temperature setpoint

The desired temperature that is set by the test chamber control device.

3.3 Achieved temperature

After stabilization, the temperature at any point in the working space of the test chamber.

3.7 Temperature gradient

After stabilization, in any time interval, the maximum value of the difference between the average temperature of any two points in the working space.

3.8 Temperature rate of change

The rate of transition between two given temperatures measured in the centre of the working space, in °C/min.

3.9 Temperature variation in space

After stabilization, in any time interval, the difference between the average temperature of the centre of the working space and the average temperature of other points in the working space.

4.4 Test load conditions

The test load shall meet the following conditions at the same time.

5.1 Product performance

The test chamber is divided into two types. Class-I and Class-II according to its performance. See Table 1 for its performance indicators.

5.2.1 The inner wall of the working chamber shall be made of corrosion-resistant materials; and the surface shall be easy to clean.

5.2.8 Appearance coating layer shall be flat and smooth, with uniform colour, and there

shall be no traces of exposed bottom, blistering, layering or scratching.

5.3.1 The insulation resistance value between the terminal and the metal shell of the

chamber shall satisfy. more than 2Mohm in cold state, more than 1Mohm (measured by