

ICS 13.120



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

GB/T 46307-2025

**Consumer product defect engineering analysis - Measurement
method for thermal hazard risk point**

消费品缺陷工程分析 危险温度点测量方法

Issued on: October 5, 2025

Implemented on: October 5, 2025

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

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Principle	2
5.Test Preparation	2
6.Instruments and Equipment 3 7 samples	4
8.Measurement Steps	5
8 Appendix B (Informative) Example 11 of Harsh Scenario Design References	12

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Product Defects and Safety Management (SAC/TC463). This document was drafted by: the Defective Product Recall Technology Center of the State Administration for Market Regulation and the Hubei Provincial Institute of Standardization and Quality. (Hubei WTO/T BT Notification and Consultation Center), China Electric Power Complete Equipment Co., Ltd., Guangdong Midea Home Appliances Manufacturing Co., Ltd., Hefei Hualing Co., Ltd., Shenzhen Presys Testing Technology Co., Ltd., Beijing Zhongren Testing Technology Service Co., Ltd., China Household... Electrical Appliance Research Institute, Anhui Provincial Institute of Product Quality Supervision and Inspection, China Energy Efficiency Technology (Beijing) Co., Ltd., Changhong Meiling Co., Ltd. TCL Kingstar Appliances (Huizhou) Co., Ltd., China National Institute of Standardization, Qingdao Haier Air Conditioner Co., Ltd., and Wuhu Midea Kitchen & Bathroom Appliances Manufacturing Co., Ltd. Manufacturing Co., Ltd., Hangzhou Robam Appliances Co., Ltd., Ninghua Yuetu Technology Co., Ltd., Feilong Home Appliances Group Co., Ltd., Zhuhai Gree Electric Appliances Hisense Air Conditioning Co., Ltd., HKC Corporation, Qingdao Hairong Commercial Cold Chain Co., Ltd., Hisense Air Conditioning Co., Ltd., Guangdong Midea Manufacturing Co., Ltd. Refrigeration Equipment Co., Ltd., Xiaomi Communications Technology Co., Ltd., Anhui Huacai Electric Co., Ltd., Zhejiang Xiabao Electric Co., Ltd., Sichuan Changhong Electric Subsidiary Holding Group Co., Ltd., Weikai Testing Technology Co., Ltd., the Fifth Research Institute of Electronics of the Ministry of Industry and Information Technology, and Guangdong Huisheng Inspection Technology Co., Ltd. Limited

Company. The main drafters of this document are. Liu Yingchun, Zhang Wenli, Jiang Haojing, Li Yan, Luo Zili, Li Yuan, Wang Yan, Wang Changlin, Dai Chaojuan, and Liu Wei. Shi Xiaowen, Liu Tianpeng, Yang Yuzhai, Xie Zhili, Zhou Xiaoqin, Song Li, Ding Jie, Feng Yongqin, Li Wenzhao, Yin Yan, Li Xiaolong, Jin Hanjie, Ding Hong Wang Zemei, Lü Wei, Li Ruiqi, Yao Qingmei, Ning Xiaobin, Qi Yong, Fu Bin, Gao Yipan, Zheng Chen, Chen Xiantong, Li Tao, Han Qiufeng, Kong Xiangfeng, Huo Zhiqiang Zhou Haixin, Zhao Guoyi, Li Wei, Fan Lingyun, Liang Mingkun, Xu Gonghu, Bie Qingfeng, Yu Fangwen, Liu Yiyang, Hu Wenbin, Fang Jiye, Zhong Ming, Chen Jun Xie Zhongheng.

In the process of analyzing and summarizing heat injury incidents caused by consumer products, the danger temperature point is an important hazard indicator for the occurrence of heat injury accidents. Characteristic factors. In defect engineering analysis, accurately identifying and measuring critical temperature points is particularly important for defect investigation and accident causation mechanism analysis. This can improve the accuracy and scientific rigor of product defect assessment and judgment, while also helping manufacturers prevent the risk of heat-related injuries from products, thus promoting production. Improve product quality, reduce harm to consumers caused by heat safety issues, and lower product safety hazards. This document aims to standardize the measurement methods for hazardous temperature points in defect engineering analysis of consumer products. The methods described in this document can improve the accuracy of hazardous product testing. Accuracy and consistency of temperature measurement at critical points. Consumer product defect engineering analysis Method for measuring dangerous temperature points

1 Scope

GB/T 46307-2025 is the Chinese national standard covering finding where a product gets dangerously hot - the thermocouple and thermal imaging survey under normal and fault conditions, the accessible surfaces and the contact time behind a burn, and the identification of the point that will fail first. It is a tool of the recall system: it establishes whether a product line has a defect. First edition, already in force. Issued on 5 October 2025, it has been in force since 5 October 2025.

This document describes the measurement methods and results analysis for hazardous temperature points of consumer products. This document applies to defect engineering analysis of consumer products or their components in cases of heat-related injuries. It can be used as a reference for product design and safety assessment. use. This document is not applicable to the engineering analysis of defects in consumer products that have resulted in frostbite.

2 Normative references

The contents of the following documents, through normative references within the text,

constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 16839.1-2018 Thermocouples - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 thermal damage Damage or injury to human health, or damage to property or the environment caused by heat during the use or consumption of the product.

3.2 heat distribution The temperature distribution characteristics of the product's surface, interior, or surrounding environment under normal or fault conditions.

3.3 In specific usage scenarios, areas where the product itself or the environment caused by the product's use may cause heat damage due to temperature. Note

1.The danger temperature point may not depend on the absolute maximum temperature that the product can reach. For example, the body temperature of an electric kettle can reach 90°C, but this is within the design limits. The functional high temperature is not considered a dangerous temperature point; if the temperature of the electric kettle handle is within the range of 43°C~48°C, and the consumer holds it for an extended period of time, it may pose a danger. If the temperature is too high, it may pose a risk of low-temperature burns, thus constituting a dangerous temperature point. Note

2.The environment caused by product use includes direct heat media, such as high-temperature liquids (boiling water), steam, flames, and heat radiation, such as the oven shell's heat to the cabinet. Heat conduction.

3.4 thermal runaway The process by which a consumer product's temperature continues to rise under certain conditions and it cannot maintain stability through its own regulation may cause a fire or explosion hazard.