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**Consumer product defect engineering analysis - Test method
for sharpness of edges**

消费品缺陷工程分析 锐利边缘测试方法

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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 was proposed and coordinated by the National Technical Committee for Product Defects and Safety Management Standardization (SAC/TC463).

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Introduction

In the process of analyzing and summarizing mechanical injury incidents caused by consumer products, it was found that sharp edges are a major cause of mechanical injuries caused by consumer products.

The sharp edges of consumer products are often found on the market, causing serious cuts to consumers.

The engineering analysis test mainly evaluates the injury risk by simulating injury scenarios. Market regulators and producers are prone to disagreement on the evaluation results.

This is not conducive to the implementation of consumer product defect investigation and recall work, so it is urgent to standardize the defect engineering analysis test of sharp edges of consumer products. method.

This document is intended to standardize the defect engineering analysis test method for sharp edges of consumer products. The main principle is to use materials that simulate human skin to The sharpness of the tested edge is quantitatively evaluated based on the degree of penetration of the simulated skin material by contacting the accessible edge of the consumer product with a certain force and speed.

level, ensuring the repeatability and consistency of the sharp edge defect engineering analysis results, effectively reducing the differences between market regulators and manufacturers, and reducing Reduce the harm caused to consumers by sharp edges.

The issuing authority of this document draws attention to the fact that when declaring compliance with this document, it may involve 6.2, Chapter 8, Annex A and Annex B and

new Use of patents related to intelligent sharp edge tester and edge sharpness assessment method (patent application number 202411846367.5).

The issuing organization of this document takes no position on the authenticity, validity and scope of this patent.

The patent holder has promised to the issuing agency of this document that he is willing to cooperate with any applicant under reasonable and non-discriminatory terms and conditions.

The patent holder's statement has been filed with the issuing authority of this document.

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Please note that in addition to the above patents, some of the contents of this document may still involve patents. The issuing agency of this document does not assume the responsibility for identifying patents. responsibility.

Consumer Product Defect Engineering Analysis Sharp Edge Test Method

1 Scope

This document describes the test method and analysis of the results for the sharpness of accessible edges on consumer products.

This document is applicable to the investigation and analysis of defects in consumer products.

The sharp edge test is performed as reference.

This document is not applicable to the testing of functional sharp edges of consumer products.

2 Normative references

GB 6675.2

GB/T 16842

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Detachable part

Parts or components of consumer products that require consumers to assemble or remove or open without tools, or that are required by the instructions for use.

Please look for parts that require tools to remove.

Note. This includes removable parts specified in the product standard.

3.2 accessible edge

The edge that can be touched by fingers during normal use and reasonable foreseeable abuse.

3.3 Sharp edge

The reachable edge that may cause injury during normal use and reasonably foreseeable abuse.

4 Principle

The edge being tested is judged to be a touchable edge by using a touchable probe, and a sharp edge tester covered with three layers of test tape is used to simulate a human The scene where the skin touches the edge of the consumer product, moves a certain distance at a speed of 0.02m/s~0.05m/s on the touchable edge of the consumer product Finally, the sharpness of the edge is assessed by checking the penetration of the test tape.

5 Environmental conditions

Simulate the environmental conditions and scenarios in which consumer products are actually used.