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

GB/T 42223-2022

**Textiles - Tests for colour fastness - Colour fastness to rubbing
- Gakushin test method**

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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 is modified to adopt ISO 105-X19.2020 "Tests for Color Fastness of Textiles - Part X19. Color Fastness to Rubbing (Gakushin Law)".

The technical differences between this document and ISO 105-X19.2020 and their reasons are as follows.

---Adjusted the normative reference documents, and replaced the ISO reference documents with the corresponding domestic standards to adapt to the technical conditions of our country (see

Chapter 2), the specific adjustments are as follows.

- * Replace ISO 105-A03 with GB/T 251, which is equivalent to the international standard;
- * Replace ISO 105-A01 with GB/T 6151, which adopts international standards;
- * Replaced ISO 139 with GB/T 6529, which adopts international standards;
- * Replaced ISO 3696 with GB/T 6682, which adopts international standards;
- * Replace ISO 105-A04 with GB/T 32598, which adopts the international standard;
- * Replace ISO 105-F09 with GB/T 33729, which adopts international standards;

---Replaced the water-resistant fine sandpaper and changed it to the commonly used 600-mesh aluminum oxide water-resistant fine sandpaper, which is the same as the method standard for color fastness to rubbing of other textiles

quasi-coherent (see 5.5);

---Change the dry friction test condition from "test under ISO 139 standard atmosphere" to "test under GB/T 6529 standard atmosphere"

The changed conditions are more in line with the technical conditions of our country, and are in harmony with other standards for the color fastness to rubbing of textiles.

To (see 7.1.1);

--- Increased the requirements for fixing the cotton rubbing cloth to improve the consistency of the test results (see 7.1.3).

The following editorial changes have been made to this document.

--- Change the name of the standard to "Gakushin Method for Color Fastness Test of Textiles to Rubbing".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

1 Scope

This document describes the test method for determining the staining of textiles on other fabrics after rubbing, using a curved surface test rig (Gakushin method)

The method consists of two tests, one using a dry rubbing cloth and the other using a wet rubbing cloth.

This document applies to dyed or printed yarns, fabrics and textile articles made of all types of fibres, including floor coverings and other

Velvet fabric.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

GB/T 251 Gray Scale for Color Fastness Test of Textiles and Staining Evaluation (GB/T 251-2008, ISO 105-A03.1993,

IDT)

GB/T 6151 Textile color fastness test general rules (GB/T 6151-2016, ISO 105-A01.2010, MOD)

GB/T 6529 Standard atmosphere for conditioning and testing textiles (GB/T 6529-2008, ISO 139.2005, MOD)

GB/T 6682 Analytical laboratory water specifications and test methods (GB/T 6682-2008, ISO 3696.1987, MOD)

GB/T 32598 Tests for color fastness of textiles - Instrumental rating method for staining of adjacent fabrics (GB/T 32598-2016,

ISO 105-A04.1989, MOD)

GB/T 33729 Textile color fastness test cotton rubbing cloth (GB/T 33729-2017, ISO 105-F09.2009, MOD)

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4 principles

The sample on the curved sample table is rubbed back and forth with the cotton rubbing cloth fixed on the rubbing head. After the test is completed, use the evaluation staining

Evaluate the degree of staining of the cotton rubbing cloth with a gray scale or instrument.

5 Equipment and materials

5.1 Rubbing color fastness tester. including curved sample table, rubbing head, mechanical arm, cycle counter with automatic stop function, in accordance with the following

next request. Figure 1 and Appendix A give examples of suitable test apparatus for color fastness to rubbing.

a) Curved surface sample table. the radius of curvature (ρ) should be (200 ± 1) mm, reciprocating at a speed of 30 times/min, and the stroke is (120 ± 1) mm.

3) mm. The sample clamped on the curved surface sample table and the cotton friction cloth fixed on the friction head are made along the track of (100 ± 3) mm.

Linear reciprocating friction motion.