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

GB/T 42165-2022

**Leather - Tests for colour fastness - Colour fastness to
perspiration**

皮革 色牢度试验 耐汗渍色牢度

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Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 42165-2022 covers the colour fastness of leather to perspiration. The principle assembles a composite specimen: the leather and an adjacent fabric are each soaked in artificial perspiration, their test faces are then pressed together, and the composite is held in a suitable device at a set temperature for a period. Instruments and materials, sampling and specimen preparation, and the test procedure fill the middle of the document; sampling follows GB/T 39364, with the same provision as in the companion leather methods for material that cannot be cut at the standard locations because it is already part of a shoe or a garment. Assessment is made once the composite has dried, under the D65 source of GB/T 6151, using the grey scale for assessing staining to grade what has transferred onto the adjacent fabric and the grey scale for assessing discoloration to grade the change in the leather itself. A separate clause bounds the subjectivity of that judgement: results from

different assessors shall not differ by more than half a grade. The reporting clause fixes what a result must name, beginning with the document number and the sample name, serial number, type and test side. Leather producers, footwear and garment makers, and testing laboratories use it. An informative appendix records the structural changes against ISO 11641:2012.

This document describes the test method for the colour fastness to perspiration of leather.

This document is applicable to the test for colour fastness to perspiration of various types of dyed leather.

2 Normative references

The following documents contain the provisions which, through normative reference in this document, constitute the essential provisions of this document. For the dated referenced documents, only the versions with the indicated dates are applicable to this document; for the undated referenced documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 250 Textiles - Tests for colour fastness - Grey scale for assessing change in colour (GB/T 250-2008, ISO 105-A02:1993, IDT)

GB/T 251 Textiles - Tests for colour fastness - Grey scale for assessing staining (GB/T 251-2008, ISO 105-A03:1993, IDT)

GB/T 3922 Textiles - Tests for colour fastness - Colour fastness to perspiration (GB/T 3922-2013, ISO 105-E04:2013, MOD)

GB/T 6151 Textiles - Tests for colour fastness - General principles of testing (GB/T 6151-2016, ISO 105-A01:2010, MOD)

GB/T 6682 Water for analytical laboratory use - Specification and test methods (GB/T 6682-2008, ISO 3696:1987, MOD)

GB/T 7568.1 Textiles - Tests for colour fastness - Specification for wool adjacent fabric (GB/T 7568.1-2002, ISO 105-F01:2001, MOD)

GB/T 7568.2 Textiles - Tests for colour fastness - Standard adjacent fabrics - Part 2: Cotton and viscose

GB/T 7568.3 Textiles - Tests for colour fastness - Standard adjacent fabrics - Part 3: Polyamide (GB/T 7568.3-2008, ISO 105-F03:2001, MOD)

GB/T 7568.4 Textiles - Tests for colour fastness - Specification for polyester adjacent fabric (GB/T 7568.4-2002, ISO 105-F04:2001, MOD)

GB/T 7568.5 Textiles - Tests for colour fastness - Specification for acrylic adjacent fabric (GB/T 7568.5-2002, ISO 105-F05:2001, MOD)

GB/T 7568.6 Textiles - Tests for colour fastness - Specification for silk adjacent fabric (GB/T 7568.6-2002, ISO 105-F06:2000, MOD)

GB/T 7568.7 Textiles - Tests for colour fastness - Standard adjacent fabrics - Part 7: Multifibre (GB/T 7568.7-2008, ISO 105-F10:1989, MOD)

GB/T 7568.8 Textiles - Tests for colour fastness - Standard adjacent fabric - Part 8: Secondary acetate (GB/T 7568.8-2014, ISO 105-F07:2001, MOD)

GB/T 39364 Leather - Chemical, physical, mechanical and fastness tests - Sampling location (GB/T 39364-2020, ISO 2418:2017, MOD)

QB/T 2707 Leather - Physical and mechanical tests - Sample preparation and conditioning (QB/T 2707-2018, ISO 2419:2012, MOD)

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4 Principles

The leather sample and the adjacent fabric are soaked in artificial perspiration respectively, and then the test surface of the sample and the adjacent fabric are stuck closely to form a composite sample; it is placed in a suitable device and kept at a certain temperature and pressure for the specified time. After the leather sample and the adjacent fabric are dried, the discoloration grade of the leather sample and the staining grade of the adjacent fabric are assessed with the grey scale, respectively.

Coated leather can be tested directly or after the coating has been destroyed.

NOTE: Usually, the human perspiration just excreted is weakly acidic, but it will change to become

weakly alkaline (pH 7.5~8.5) under the action of micro-organisms. Alkaline perspiration has a more

obvious effect on leather color than acid perspiration, so this document usually uses alkaline artificial

perspiration to simulate actual perspiration for testing.

5.7 Fine-grained abrasive paper, P 180.

5.8 The grey scale used for assessing staining shall comply with the provisions of GB/T 251.

5.9 The grey scale used for assessing discoloration shall comply with the provisions of GB/T 250.

5.10 Die knife shall comply with the provisions of QB/T 2707, and the inner wall is a rectangle with dimensions (100 $\pm$ 2) mm x (40 $\pm$ 2) mm.

5.11 Vacuum desiccator.

5.12 Vacuum pump that is capable of making the vacuum dryer (5.11) reach a vacuum of 5 kPa (50 mbar) within 4 min.

5.13 pH meter, 0.01 grade.

5.14 Volumetric flask, 1000 mL.

5.15 hydrochloric acid solution, 2 mol/L.

6 Sampling and sample preparation

6.1 Sampling

The sampling shall be carried out according to the provisions of GB/T 39364. If it is not possible to take samples at standard locations (such as leather on shoes and garments), samples can be taken at any location within the usable area. The samples shall be representative and shall be noted in the test report.

6.2 Preparation of samples

The sample is taken by one of the following methods.

a) If the leather is tested without coating or directly with coating, cut a sample of (100 $\pm$ 2) mm x (40 $\pm$ 2) mm. If it is necessary to test the alkaline perspiration and acid perspiration at the same time, the samples shall be prepared separately.