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NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 12490-2014

Replacing GB/T 12490-2007

Textiles - Tests for colour fastness - Colour fastness to domestic and commercial laundering

Issued on: September 03, 2014 **Implemented on: March 01, 2015**

Issued by: **General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;**

Standardization Administration of the People's Republic of China.

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Foreword

This Standard is drafted according to the rules specified in GB/T 1.1-2009.

This Standard replaces GB/T 12490-2007 *Textiles - Tests for colour fastness - Colour fastness to domestic and commercial laundering.* Compared with GB/T 12490-2007, the main technical changes of this Standard are as follows:

— In Chapter 2, GB/T 7568.2, GB/T 7568.3 and GB/T 7568.7 are quoted; GB/T 7565, GB 11403 and GB 11404 are replaced; and GB/T 6682, FZ/T 01023, FZ/T 01024 and ISO 105-F07 are added;

— Note in 4.1 is adjusted to be the main body;

— Modify the composition and content of AATCC standard detergent WOB in 4.4;

— In 6.6, add the stipulation of water temperature at 40 °C; delete “then wash in running water to clean”;

— In 6.10, add the optional methods of sample discoloration evaluated by instrument AND adjacent fabric staining;

— Add 6.11;

— Add 2 items of j) and k) in Chapter 7.

Using re-drafting method, this Standard modifies and adopts ISO 105-C06:2010 *Textiles - Tests for colour fastness - Part C06: Colour fastness to domestic and commercial laundering.* Compared with ISO 105-06:2010, the main differences in this Standard are as follows:

— International standards in the normative reference document was replaced by corresponding Chinese standards, and the reference document GB/T 13765 is added;

— Note and footnote are added in Table 1;

— Notes about AATCC and ECE in 4.4.2 and 4.4.3 are deleted;

— Add 4.13;

— Add note in 6.9;

— Add item k) in Chapter 7.

This Standard was proposed by China Textile Industry Association.

This Standard shall be under the jurisdiction of the basic norm branch of National Textile Technical Committee for Standardization (SAC/TC 209/SC 1).

Responsible drafting organizations of this Standard: Shanghai Entry-Exit Inspection and

Textiles - Tests for colour fastness – Colour fastness to domestic and commercial laundering

1 Scope

This Standard specifies the methods for determining the colour fastness to domestic and commercial laundering of various kinds of normal household articles. Industrial and hospital articles may be subjected to special laundering procedures which may be more severe in some aspects.

The colour loss and staining resulting from desorption and/or abrasive action in one single (S) test closely approximates to one commercial or domestic laundering. The results of one multiple (M) test may in some cases be approximated by the results of up to five domestic or commercial launderings at temperatures not exceeding 70 °C. The M tests are more severe than the S tests because of an increase in mechanical action.

These methods of this Standard do not reflect the effect of optical brightener that is present in commercial washing products.

These methods of this Standard are designed for the detergents and bleach systems given. Other detergents and bleach systems may require different conditions and levels of ingredients.

2 Normative references

The articles contained in the following documents have become part of this Document when they are quoted herein. For the dated documents so quoted, all the modifications (including all corrections) or revisions made thereafter shall be 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 6151 Textiles - Tests for colour fastness - General principle of testing (GB/T 6151-1997, eqv ISO 105-A01:1994)

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

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 13765 Textiles - Tests for colour fastness - Specification for STANDARD adjacent fabric of linen and ramie

FZ/T 01023 Instrumental assessment of the degree of staining of adjacent fabrics

FZ/T 01024 Instrumental assessment methods of the degree of discoloration

ISO 105-F07 Textiles - Tests for colour fastness - Part F07: Specification for secondary acetate adjacent fabric

3 Principle

A specimen of the textile in contact with specified adjacent fabric or fabrics is laundered, rinsed and dried. Specimens are laundered under appropriate conditions of temperature, alkalinity, bleaching and abrasive action such that the result is obtained in a conveniently short time. The abrasive action is accomplished by the use of a low liquor ratio and an appropriate number of steel balls. The change in colour of the specimen and the staining of the adjacent fabric or fabrics are assessed by comparison with the grey scales or instrumentally.

4 Apparatus, materials and reagents

4.1 Suitable mechanical device: It consists of a water bath containing a rotatable shaft which supports, radially, stainless steel containers – the diameter is (75 ± 5) mm; the height is (125 ± 10) mm; the capacity is (550 ± 50) ml; the bottom of the containers is (45 ± 10) mm from the centre of the shaft. The shaft/container assembly is rotated at a frequency of (40 ± 2) r/min. The temperature of the water bath is thermostatically controlled to maintain the test solution at the prescribed temperature ±2 °C.

6.6 For all tests, remove the composite specimen at the end of the wash and rinse twice for 1 min in two separate 100 ml portions of water (4.8) at 40 °C.

6.7 In certain cases where the practice is to sour at the end of the washing operation, the following optional operation may be conducted.

Treat each composite specimen in a 100 ml portion of acetic acid reagent (4.12) for 1 min at 30 °C. Then, rinse each composite specimen in a 100 ml portion of water (4.8) for 1 min at 30 °C.

6.8 For all methods, extract the excess water from the composite specimen.

6.9 For all methods, dry the specimen by hanging it in air at a temperature not exceeding 60°C, with the parts in contact only at the line of stitching.

NOTE: In case of uneven colour bleeding along interlining stitching line, take resample for test, tear off the sample and the stitch, and dry them separately in the air.

6.10 Assess the change in colour of the specimen and the staining of the adjacent fabric using the grey scales (4.9 and 4.10) or instrumentally.

6.11 If testing is performed at temperatures other than those listed in the method, it must first be agreed upon between the interested parties and detailed in the report.

7 Test report

The test report shall include the following information:

a) a reference to this Standard;

b) all details necessary for complete identification of the sample tested;

c) the instrumental and/or numerical grey scale rating for the change in colour of the specimen;

d) if single-fibre adjacent fabrics were used, the instrumental and/or numerical grey scale rating for staining of each kind of adjacent fabric used;

e) if a multifibre adjacent fabric was used, the type of multifibre adjacent fabric used and the instrumental and/or numerical grey scale rating for staining of each type of fibre in the multifibre adjacent fabric;

f) the number of the method of test used (as listed in Table 4);

g) whether steel balls were used in some of the A or B tests;

h) whether souring treatment in acetic acid reagent as described in 6.7 was conducted;

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