International Standard

ISO 105-C12

Textiles — Tests for colour fastness —

Part C12: Colour fastness to industrial laundering

Textiles — Essais de solidité des coloris —

Partie C12: Solidité des coloris au lavage industriel

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 105-C12:2004), which has been technically revised.

The main changes are as follows:

— ISO 105-F:1985 was withdrawn and the test conditions of industrial laundering are seldom used for the fabrics mainly made of delicate fibres (for example silk or wool), therefore ISO 105-C12:2004/Cor 1:2007 has not been suitable to be incorporated into this method;

— addition of ISO 3696 and replacement of ISO 105-A01:1994 with ISO 105-A01 in Clause 2;

— revision of clause title from “Reagents” to “Reagents and materials” in Clause 5 (Former Clause 4);

— addition of “Other suitable detergent can be used if agreed upon between interested parties.” in 5.1 (former 4.1);

— clarification that 30 % is mass fraction in 5.3 (former 4.3);

— addition of sodium percarbonate as an optional reagent in 5.6, 8.1.3, Table 1 and A.1 (former 4.6, 7.1.3, Table 1 and A.1);

— replacement of “see 8.2 of ISO 105-A01:1994” with “in accordance with ISO 3696” in 5.7 (former 4.7);

— movement of “Adjacent fabrics” and “Grey scales” to the clause “Reagent and materials”;

— addition of the statement “using either a multifibre adjacent fabric or two single-fibre adjacent fabrics as specified in ISO 105-A01.” in 5.8 (former 5.4);

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— deletion of “Condition the sample for 24 h before assessing to allow for temporary colour change caused by heat.” in 6.6 (former 5.6);

— addition of “Balance, with a resolution of 0,01 g.” in Clause 6 (former Clause 5);

— addition of the dimension of the multifibre TV adjacent fabric as “80 mm × 100 mm” in 7.2 (former 6.2);

— revision of Figure 1;

— replacement of “mixer” with “mechanical stirrer” in 8.1 (former 7.1);

— replacement of “running tap water for 10 min” with “running tap water until being clean” and addition of a NOTE to check the cleanness degree of the rinsed test specimen in 8.2.2 (former 7.2.2);

— revision of the requirement for conditioning the test specimen in 8.2 (former 7.2);

— improvement of the contents in Test report;

— revision of Annex A from “informative” to “normative”;

— improvement of the Formula (A.1);

— updating of the Bibliography.

A list of all parts in the ISO 105 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The test method in this document is intended to reflect the effect of comprehensive laundering during industrial laundry procedures, as distinct from the domestic washing test methods as given in ISO 105-C06, ISO 105-C08 and ISO 105-C10. Four test conditions are described, one at (92 ± 2) °C intended for the evaluation of workwear and three, as given below, at (75 ± 2) °C, for the evaluation of bed and table linen and corporate wear:

— without the addition of peroxy bleach compounds;

— with the addition of hydrogen peroxide (for the bleaching of white workwear with coloured trimmings);

— with the addition of sodium perborate tetrahydrate (or sodium percarbonate) and tetra-acetylethylene diamine (TAED) (for the bleaching of white workwear with coloured trimmings).

NOTE The addition of TAED/perborate (or percarbonate) is a conveniently stable way of producing peracetic acid in situ.

This test method does not reflect the effect of optical brightening agents.

This method and the single cycle test methods described in ISO 105-C06 and ISO 105-C08 might not reproduce the effect of coloured fabrics treated with certain dye fixing agents and finishes after multiple (5 to 10) industrial washes.

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Textiles — Tests for colour fastness —

Part C12:
Colour fastness to industrial laundering

1 Scope

This document specifies methods for determining the resistance of the colour of textiles of all kinds exposed to all forms of industrial laundering procedures.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-A01, *Textiles — Tests for colour fastness — Part A01: General principles of testing*

ISO 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 105-A03, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining*

ISO 105-A04, *Textiles — Tests for colour fastness — Part A04: Method for the instrumental assessment of the degree of staining of adjacent fabrics*

ISO 105-A05, *Textiles — Tests for colour fastness — Part A05: Instrumental assessment of change in colour for determination of grey scale rating*

ISO 105-F02, *Textiles — Tests for colour fastness — Part F02: Specification for cotton and viscose adjacent fabrics*

ISO 105-F04, *Textiles — Tests for colour fastness — Part F04: Specification for polyester adjacent fabric*

ISO 105-F10, *Textiles — Tests for colour fastness — Part F10: Specification for adjacent fabric: Multifibre*

ISO 139, *Textiles — Standard atmospheres for conditioning and testing*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

A test specimen of the textiles in contact with specified adjacent fabrics is laundered, rinsed and dried. Test specimens are laundered under appropriate conditions of temperature, alkalinity, bleaching and mechanical

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