SLOVENSKI STANDARD
oSIST prEN ISO 7906:2022

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Usnje - Preskušanje obstojnosti barve - Splošna načela preskušanja (ISO/DIS 7906:2022)

Leather - Tests for colour fastness - General principles of testing (ISO/DIS 7906:2022)

Leder - Farbechtheitsprüfungen - Allgemeine Grundsätze der Prüfung (ISO/DIS 7906:2022)

Cuir - Essais de solidité des coloris - Principes généraux s'appliquant aux essais (ISO/DIS 7906:2022)

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Leather — Tests for colour fastness — General principles of testing —

Part :
General principles of testing

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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 documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 the Fastness Tests Commission of the International Union of Leather Technologists and Chemists Societies (IUF Commission, IULTCS) in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

IULTCS, originally formed in 1897, is a world-wide organization of professional leather societies to further the advancement of leather science and technology. IULTCS has three Commissions, which are responsible for establishing international methods for the sampling and testing of leather. ISO recognizes IULTCS as an international standardizing body for the preparation of test methods for leather:

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.

Leather — Tests for colour fastness — General principles of testing —

Part :
General principles of testing

1 Scope

This document provides general guidance to the evaluation of leather fastness tests. Procedures included in this Standard are common to most of the fastness test methods.

This document provides a common basis for testing and reporting colour fastness. The uses and limitations of the methods are pointed out, several terms are defined, an outline of the form of the methods is given and the contents of the clauses constituting the methods are discussed. Procedures common to a number of the methods are discussed briefly.

Colour fastness means the resistance of the colour to the different agents to which these materials may be exposed during manufacture and their subsequent use. The change in colour and staining of undyed adjacent fabrics or other materials are assessed as fastness ratings. Other visible changes in the leather under test, for example surface effects, change in gloss or shrinkage, are considered as separate properties and reported as such.

The leather fastness test methods can be used not only for assessing leather and related materials, such as coated leather and leather board, but also for the eventual assessment of the colour fastness of leather dyes. When such a method is so used, the dye is applied to a specified retanned leather or crust leather in defined depths of colour by stated procedures and the material is then tested in the usual way.

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-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-B01, *Textiles — Tests for colour fastness — Part B01: Colour fastness to light: Daylight*

ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*

ISO 105-B06, *Textiles — Tests for colour fastness — Part B06: Colour fastness and ageing to artificial light at high temperatures: Xenon arc fading lamp test*

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

ISO 2418, *Leather — Chemical, physical and mechanical and fastness tests — Sampling location*

ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

ISO 2588, *Leather — Sampling — Number of items for a gross sample*

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

ISO 15115, *Leather — Vocabulary*

ISO 22700, *Leather — Measuring the colour and colour difference of finished leather*

ISO 17502, *Leather — Determination of surface reflectance*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15115 apply.

ISO and IEC maintain terminology 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 General principle

This method allows the evaluation of the eventual colour change and / or migration to which a leather or related material such as coated leather or leather board specimen may be exposed by means of chemicals, radiation, temperature, weathering and / or interaction with adjacent materials, expressed in relative fastness numbers.

5 Outline of form of the methods

The headings of the principal clauses of the individual test methods are as follows:

“Introduction”

“Scope”

“Normative references”

“Terms and definitions”

“Principle”

“Apparatus”, “Reagents” or “Reference materials”

“Test specimen”

“Procedure”

“Test report”

6 The “Scope” clause

This method is intended to be used for the evaluation of colour change and / or staining on leather and related materials such as coated leather, leather board, etc., and the eventual adjacent materials subject to migration in terms of colour and / or appearance alteration.

7 The “Normative references” clause

Under this heading is given a complete list of other documents which are indispensable for the application of the method.

8 The “Terms and definitions” clause

Under this heading are definitions of any terms that may not be clear and eventual limitations to the scope.

9 The “Principle” clause

Under this heading is given a concise statement of the principle of the method to enable the user to decide whether it is appropriate for the desired scope.

10 The “Apparatus”, “Reagents” or “Reference materials” clause(s)

10.1 General

Under these headings, either individually or combined, the equipment and supplies required for the test are described.

10.2 Test solutions

10.2.1 Test solutions shall be prepared using Grade 3 water complying with ISO 3696.

10.2.2 The concentrations of baths or solutions are given in millilitres per litre (ml/l) or grams per litre (g/l).

10.2.3 The qualities of chemicals to be used are given in each method.

10.2.4 For crystalline substances, the amount of water of crystallization is given and, for liquids, the relative density at 20 °C.

10.3 Adjacent materials

Adjacent materials are used for assessing staining both under static and dynamic test conditions. Adjacent materials may be specific fabrics, plastic materials, metals or leathers as specified in the single test methods. Adjacent materials are usually in a natural not coloured state. In case of fabrics, it can be made of an undyed cloth, of a single or of several generic kinds of fibres. Adjacent plastics maybe made of standard or industrial polymers.

10.3.1 Single-fibre adjacent fabrics, if not otherwise specified, should be of plain weave, medium mass per unit area and free from chemically damaged fibres, finished residual chemicals, dyes or fluorescent whitening agents.

10.3.2 Properties of the single-fibre adjacent fabrics are given under the different adjacent fabric specifications.

10.3.3 Multifibre adjacent fabrics are made of yarns of various generic kinds of fibres, each of which forms a strip of at least 1,5 cm width providing even thickness of the fabric. It is intended that the staining properties of generic fibres used in single fibre and multifibre adjacent fabrics be identical.

The staining properties of these fabrics should be verified by the supplier. There are two standardized multifibre adjacent fabrics, whose contents differ:

a) Type DW (Diacetate-Wool): secondary acetate, bleached cotton, polyamide, polyester, acrylic, wool (see ISO 105-F10);

b) Type TV (Triacetate-Viscose): triacetate, bleached cotton, polyamide, polyester, acrylic, viscose (see ISO 105-F10).

10.3.4 Suitable plastic adjacent materials such as plasticized poly(vinyl chloride) (PVC), thermoplastic polyurethane (TPU), ethylene vinyl-acetate (EVA), etc., are defined in the specific standards. In the case of contact with non-standard polymeric materials, such as specific polymers, an accurate description shall be given in the test report.

10.3.5 Single metals or alloys such as silver, copper, brass, etc., can be used as adjacent materials in specific standards. Detailed information of the metal or alloy composition used shall be given in the test report if not already specified in the single standard.

10.3.6 Leather can be used as adjacent material for specific compatibility tests, such as linings, or leather-on-leather applications. In this case an accurate description of the contact material shall be given in the test report.

10.4 Coating substances

Polymeric coating such as acrylics, polyurethanes, nitrocellulose, etc., may be used in specific standardsfor assessing eventual migration or staining. In this case it is recommended the addition of a white pigment or a base coat to cover the colour of the leather specimen. Details of coating composition applied shall be given in the test report.

10.5 Standard reference for fading

A standard reference for fading is a dyed fabric of appearance similar to the test control (see 11.1.4), showing the colour to which the test control should fade during the test and shall be specified in each single standard.

10.6 Standard reference for rubbing and soiling

Dynamic fastness tests materials such as rubbing felts and fabrics, soiling fabrics, etc., shall be specified in each single standard.

10.7 Selection and use of adjacent fabrics

10.7.1 General

Two alternative procedures for selection of adjacent fabrics are provided, and details of the type of adjacent fabrics used shall be given in the test report (see Clause 16), including dimensions, since there may be differences in test results when multifibre adjacent fabrics are used instead of single-fibre adjacent fabrics.

10.7.2 Types of adjacent fabric

Either of the following adjacent fabric types may be used:

a) Single fibre adjacent fabrics. Each single fabric type shall be placed in contact with the side of the specimen and tested separately.