



NSAI
Standards

Irish Standard
I.S. EN ISO 105-A01:2010

Textiles - Tests for colour fastness - Part A01: General principles of testing (ISO 105-A01:2010)

I.S. EN ISO 105-A01:2010

Incorporating amendments/corrigenda issued since publication:

<i>This document replaces:</i> EN ISO 105-A01:1995	<i>This document is based on:</i> EN ISO 105-A01:2010 EN ISO 105-A01:1995	<i>Published:</i> 15 January, 2010 25 October, 1996
This document was published under the authority of the NSAI and comes into effect on: 12 February, 2010		ICS number: 59.080.01
NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

English Version

Textiles - Tests for colour fastness - Part A01: General principles of testing (ISO 105-A01:2010)

Textiles - Essais de solidité des coloris - Partie A01:
Principes généraux pour effectuer les essais (ISO 105-
A01:2010)

Textilien - Farbechtheitsprüfungen - Teil A01: Allgemeine
Prüfgrundlagen (ISO 105-A01:2010)

This European Standard was approved by CEN on 9 January 2010.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....3

Foreword

This document (EN ISO 105-A01:2010) has been prepared by Technical Committee ISO/TC 38 "Textiles" in collaboration with Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 105-A01:1995.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 105-A01:2010 has been approved by CEN as an EN ISO 105-A01:2010 without any modification.

This page is intentionally left BLANK.

I.S. EN ISO 105-A01:2010
**INTERNATIONAL
STANDARD**

**ISO
105-A01**

Sixth edition
2010-01-15

**Textiles — Tests for colour fastness —
Part A01:
General principles of testing**

Textiles — Essais de solidité des coloris —

Partie A01: Principes généraux pour effectuer les essais



Reference number
ISO 105-A01:2010(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 General principle	2
4 Outline of form of the methods	2
5 The “Scope” clause	2
6 The “Normative references” clause	2
7 The “Terms and definitions” clause	3
8 The “Principle” clause	3
9 The “Apparatus”, “Reagents” or “Reference materials” clause(s)	3
10 The “Test specimen” clause	5
11 Conditioning	6
12 The “Procedure” clause	7
13 Fastness of dyes	7
14 Assessment of colour fastness	8
15 Conditions of viewing and illumination in assessing colour fastness	9
16 Test report	9
Bibliography	10

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 105-A01 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*.

This sixth edition cancels and replaces the fifth edition (ISO 105-A01:1994), which has been revised to list the current ISO 105 standards, Clause 2 has been editorially revised, and other editorial revisions have been made to update the fifth edition.

ISO 105 consists of the following parts, under the general title *Textiles — Tests for colour fastness*:

General principles:

- *Part A01: General principles of testing*
- *Part A02: Grey scale for assessing change in colour*
- *Part A03: Grey scale for assessing staining*
- *Part A04: Method for the instrumental assessment of the degree of staining of adjacent fabrics*
- *Part A05: Instrumental assessment of change in colour for determination of grey scale rating*
- *Part A06: Instrumental determination of 1/1 standard depth of colour*
- *Part A08: Vocabulary used in colour measurement*
- *Part A11: Determination of colour fastness grades by digital imaging techniques (under development)*

Colour fastness to light and weathering:

- *Part B01: Colour fastness to light: Daylight*
- *Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*
- *Part B03: Colour fastness to weathering: Outdoor exposure*
- *Part B04: Colour fastness to artificial weathering: Xenon arc fading lamp test*

- *Part B05: Detection and assessment of photochromism*
- *Part B06: Colour fastness and ageing to artificial light at high temperatures: Xenon arc fading lamp test*
- *Part B07: Colour fastness to light of textiles wetted with artificial perspiration*
- *Part B08: Quality control of blue wool reference materials 1 to 7*
- *Part B10: Artificial weathering — Exposure to filtered xenon-arc radiation (under development)*

Colour fastness to washing and laundering:

- *Part C06: Colour fastness to domestic and commercial laundering*
- *Part C07: Colour fastness to wet scrubbing of pigment printed textiles*
- *Part C08: Colour fastness to domestic and commercial laundering using a non-phosphate reference detergent incorporating a low temperature bleach activator*
- *Part C09: Colour fastness to domestic and commercial laundering — Oxidative bleach response using a non-phosphate reference detergent incorporating a low temperature bleach activator*
- *Part C10: Colour fastness to washing with soap or soap and soda*
- *Part C12: Colour fastness to industrial laundering*

Colour fastness to dry cleaning:

- *Part D01: Colour fastness to dry cleaning using perchloroethylene solvent*
- *Part D02: Colour fastness to rubbing: Organic solvents*

Colour fastness to aqueous agents:

- *Part E01: Colour fastness to water*
- *Part E02: Colour fastness to sea water*
- *Part E03: Colour fastness to chlorinated water (swimming-pool water)*
- *Part E04: Colour fastness to perspiration*
- *Part E05: Colour fastness to spotting: Acid*
- *Part E06: Colour fastness to spotting: Alkali*
- *Part E07: Colour fastness to spotting: Water*
- *Part E08: Colour fastness to hot water*
- *Part E09: Colour fastness to potting*
- *Part E10: Colour fastness to decatizing*
- *Part E11: Colour fastness to steaming*
- *Part E12: Colour fastness to milling: Alkaline milling*

ISO 105-A01:2010(E)

- *Part E13: Colour fastness to acid-felting: Severe*
- *Part E14: Colour fastness to acid-felting: Mild*
- *Part E16: Colour fastness to water spotting on upholstery fabrics*

Standard adjacent fabrics:

- *Part F01: Specification for wool adjacent fabric*
- *Part F02: Specification for cotton and viscose adjacent fabrics*
- *Part F03: Specification for polyamide adjacent fabric*
- *Part F04: Specification for polyester adjacent fabric*
- *Part F05: Specification for acrylic adjacent fabric*
- *Part F06: Specification for silk adjacent fabric*
- *Part F07: Specification for secondary acetate adjacent fabric*
- *Part F09: Specification for cotton rubbing cloth*
- *Part F10: Specification for adjacent fabric: Multifibre*

Colour fastness to atmospheric contaminants:

- *Part G01: Colour fastness to nitrogen oxides*
- *Part G02: Colour fastness to burnt-gas fumes*
- *Part G03: Colour fastness to ozone in the atmosphere*
- *Part G04: Colour fastness to oxides of nitrogen in the atmosphere at high humidities*

Measurement of colour and colour differences:

- *Part J01: General principles for measurement of surface colour*
- *Part J02: Instrumental assessment of relative whiteness*
- *Part J03: Calculation of colour differences*
- *Part J05: Method for the instrumental assessment of the colour inconstancy of a specimen with change in illuminant (CMCCON02)*

Colour fastness to bleaching agencies:

- *Part N01: Colour fastness to bleaching: Hypochlorite*
- *Part N02: Colour fastness to bleaching: Peroxide*
- *Part N03: Colour fastness to bleaching: Sodium chlorite (mild)*
- *Part N04: Colour fastness to bleaching: Sodium chlorite (severe)*

— *Part N05: Colour fastness to stoving*

Colour fastness to heat treatments:

— *Part P01: Colour fastness to dry heat (excluding pressing)*

— *Part P02: Colour fastness to pleating: Steam pleating*

Colour fastness to vulcanization:

— *Part S01: Colour fastness to vulcanization: Hot air*

— *Part S02: Colour fastness to vulcanization: Sulfur monochloride*

— *Part S03: Colour fastness to vulcanization: Open steam*

Miscellaneous tests:

— *Part X01: Colour fastness to carbonizing: Aluminium chloride*

— *Part X02: Colour fastness to carbonizing: Sulfuric acid*

— *Part X04: Colour fastness to mercerizing*

— *Part X05: Colour fastness to organic solvents*

— *Part X06: Colour fastness to soda boiling*

— *Part X07: Colour fastness to cross-dyeing: Wool*

— *Part X08: Colour fastness to degumming*

— *Part X09: Colour fastness to formaldehyde*

— *Part X10: Assessment of migration of textile colours into polyvinyl chloride coatings*

— *Part X11: Colour fastness to hot pressing*

— *Part X12: Colour fastness to rubbing*

— *Part X13: Colour fastness of wool dyes to processes using chemical means for creasing, pleating and setting*

— *Part X14: Colour fastness to acid chlorination of wool: Sodium dichloroisocyanurate*

— *Part X16: Colour fastness to rubbing—Small areas*

— *Part X18: Assessment of the potential to phenolic yellowing of materials*

Colorant characteristics:

— *Part Z01: Colour fastness to metals in the dye-bath: Chromium salts*

— *Part Z02: Colour fastness to metals in the dye-bath: Iron and copper*

— *Part Z03: Intercompatibility of basic dyes for acrylic fibres*

- *Part Z04: Dispersibility of disperse dyes*
- *Part Z05: Determination of the dusting behaviour of dyes*
- *Part Z06: Evaluation of dye and pigment migration*
- *Part Z07: Determination of application solubility and solution stability of water-soluble dyes*
- *Part Z08: Determination of solubility and solution stability of reactive dyes in the presence of electrolytes*
- *Part Z09: Determination of cold water solubility of water-soluble dyes*
- *Part Z10: Determination of relative colour strength of dyes in solution*
- *Part Z11: Evaluation of speckiness of colorant dispersions*

Textiles — Tests for colour fastness —

Part A01: General principles of testing

1 Scope

This part of ISO 105 provides general information about the methods for testing colour fastness of textiles for the guidance of users. 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 of textiles 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 are assessed as fastness ratings. Other visible changes in the textile material under test, for example surface effects, change in gloss or shrinkage, are considered as separate properties and reported as such.

The methods can be used not only for assessing colour fastness of textiles but also for assessing colour fastness of dyes. When a method is so used, the dye is applied to the textile in specified depths of colour by stated procedures and the material is then tested in the usual way.

For the most part, individual methods are concerned with colour fastness to a single agent, as the agents of interest in a particular case, and the order of application, will generally vary. It is recognized that experience and future developments in practice can justify procedures in which two or more agents are combined.

The conditions in the tests have been chosen to correspond closely to treatments usually employed in manufacture and to conditions of ordinary use. At the same time, they have been kept as simple and reproducible as possible. As it cannot be hoped that the tests will duplicate all the conditions under which textiles are processed or used, the fastness ratings are interpreted according to the particular needs of each user. They provide, however, a common basis for testing and reporting colour fastness.

2 Normative references

The following referenced documents are indispensable for the application 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*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-