### BS EN ISO 105-B02:2014



# **BSI Standards Publication**

# Textiles — Tests for colour fastness

Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02:2014)



This British Standard is the UK implementation of EN ISO 105-B02:2014. It supersedes BS EN ISO 105-B02:2013 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TCI/81, Colour fastness and colour measurement of textiles.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014. Published by BSI Standards Limited 2014

ISBN 978 0 580 84917 6

ICS 59.080.01

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2014.

Amendments issued since publication

Date Text affected

## **EUROPÄISCHE NORM**

August 2014

ICS 59.080.01

Supersedes EN ISO 105-B02:2013

#### **English Version**

# Textiles - Tests for colour fastness - Part B02: Colour fastness to artificial light: Xenon arc fading lamp test (ISO 105-B02:2014)

Textiles - Essais de solidité des coloris - Partie B02: Solidité des coloris à la lumière artificielle: Lampe à arc au xénon (ISO 105-B02:2014)

Textilien - Farbechtheitsprüfungen - Teil B02: Farbechtheit gegen künstliches Licht: Xenonbogenlicht (ISO 105-B02:2014)

This European Standard was approved by CEN on 14 June 2014.

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-CENELEC 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-CENELEC 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

#### **Foreword**

This document (EN ISO 105-B02:2014) 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 February 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

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-B02:2013.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

#### **Endorsement notice**

The text of ISO 105-B02:2014 has been approved by CEN as EN ISO 105-B02:2014 without any modification.

Contents		
Forew	vord	iv
1	Scope	1
2	Normative references	1
3	Principle	1
4	Terms and definitions	2
5	Materials and apparatus 5.1 Reference materials 5.2 Laboratory exposure devices	3
6	Preparation of test specimens	5
7	Exposure conditions	6
8	Procedure  8.1 Apparatus set-up  8.2 Adjustment of the effective humidity (see Clause 7 and Annex E)  8.3 Exposure methods	7 7
9	Assessment of colour fastness	16
10	Test report	17
Annex	x A (normative) Requirements for xenon arc exposure devices	20
Annex	x B (normative) Procedures for measuring the irradiance uniformity in the specimen exposure area (for apparatus manufacturers only)	23
Annex	x C (informative) Light exposure equivalents for blue wool lightfastness references L2 to L9	25
Annex D (informative) General information on colour fastness to light		26
Annex E (informative) Guidelines for conducting testing		28
Rihlingranhy		36

#### 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*.

This sixth edition cancels and replaces the fifth edition (ISO 105-B02:2013), of which it constitutes a minor revision.

ISO 105 consists of many parts designated by a part letter and a two-digit serial number (e.g. A01), under the general title *Textiles* — *Tests for colour fastness*. A complete list of these parts is given in ISO 105-A01.

### Textiles — Tests for colour fastness —

#### Part B02:

# Colour fastness to artificial light: Xenon arc fading lamp test

#### 1 Scope

This part of ISO 105 specifies a method intended for determining the effect on the colour of textiles of all kinds and in all forms to the action of an artificial light source representative of natural daylight (D65). The method is also applicable to white (bleached or optically brightened) textiles.

This method allows the use of two different sets of blue wool references. The results from the two different sets of references may not be identical.

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

ISO 105-B01:2014, Textiles — Tests for colour fastness — Part B01: Colour fastness to light: Daylight

ISO 105-B05, Textiles — Tests for colour fastness — Part B05: Detection and assessment of photochromism

ISO 105-B08, Textiles — Tests for colour fastness — Part B08: Quality control of blue wool reference materials 1 to 7

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

ISO 9370, Plastics — Instrumental determination of radiant exposure in weathering tests — General guidance and basic test method

CIE<sup>1)</sup> Publication No. 51, *Method for assessing the quality of daylight simulators for colorimetry* 

#### 3 Principle

A specimen of the textile to be tested is exposed to artificial light under controlled conditions, together with a set of reference materials. The colour fastness is assessed by comparing the change in colour of the test specimen with that of the reference materials used.

NOTE General information on colour fastness to light is given in <u>Annex D</u>.

1

<sup>1)</sup> Commission Internationale de l'Éclairage, CIE Central Bureau, Kegelgasse 27, A-1030, Vienna, Austria www.cie. co.at.