

INTERNATIONAL STANDARD

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Textiles — Tests for colour fastness —

Part B08:

Quality control of blue wool reference
materials 1 to 7

Textiles — Essais de solidité des teintures —

*Partie B08: Maîtrise de la qualité des matériaux de référence 1 à 7 de laine
teinte en bleu*



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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.

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.

International Standard ISO 105-B08 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*.

ISO 105 was previously published in thirteen "parts", each designated by a letter (e.g. "Part A"), with publication dates between 1978 and 1985. Each part contained a series of "sections", each designated by the respective part letter and by a two-digit serial number (e.g. "Section A01"). These sections are now being republished as separate documents, themselves designated "parts" but retaining their earlier alphanumeric designations. A complete list of these parts is given in ISO 105-A01.

Annexes A and B of this part of ISO 105 are for information only.

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Textiles — Tests for colour fastness —

Part B08:

Quality control of blue wool reference materials 1 to 7

1 Scope

This part of ISO 105 describes a method for carrying out quality control of production batches of the blue wool reference materials 1 to 7 which are to be used in the appropriate parts of ISO 105-B series of test methods for colour fastness to light.

The method specifies one procedure for instrumental assessment of the evenness of dyeing and two procedures for assessing the fading characteristics of the reference materials, one of which uses visual assessment techniques and the other instrumental assessment.

The characteristics of the reference material(s) under test then are compared with the characteristics of master reference material(s).

The method is applicable to all dyed wool fabrics intended for use as reference materials 1 to 7 (see ISO 105-B01:1994, subclause 4.1.1).

NOTES

1 This method is not suitable for blue wool reference 8, since the time required to fade to grey scale 4 and grey scale 3 contrasts would be inordinately long. An alternative method is under consideration for application to blue wool reference 8.

2 The method given is based on ISO 105-B02, which is considered internationally to be the most widely employed method for testing colour fastness to light and to be representative of all methods where the use of blue wool references is specified.

3 Information on levels of acceptance and storage conditions is given in annexes A and B respectively.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 105. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 105 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 105-A01:1994, *Textiles — Tests for colour fastness — Part A01: General principles of testing*.

ISO 105-A02:1993, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*.

ISO 105-B01:1994, *Textiles — Tests for colour fastness — Part B01: Colour fastness to light: Daylight*.

ISO 105-B02:1994, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*.

ISO 105-J03:1995¹⁾, *Textiles — Tests for colour fastness — Part J03: Calculation of colour differences*.

1) To be published.

3 Principle

Specimens from the reference material under test are examined as follows:

- a) spectrophotometric assessment of the evenness of dyeing;
- b) visual assessment of the fading characteristics in comparison with the appropriate master reference material (see 4.7);
- c) spectrophotometric assessment of the fading characteristics.

4 Apparatus

4.1 Spectrophotometer, capable of measuring reflectance values over the visible wavelength range 400 nm to 700 nm of samples of a size relevant to the test method (see 6.2.1).

4.2 Computer and associated software, capable of calculating colour differences in accordance with the conditions specified in 6.1.2 and 6.2.2.

4.3 Fading apparatus, containing a xenon arc light source capable of operating under conditions specified in ISO 105-B02:1994, subclause 4.2.1.

4.4 Opaque cover, of cardboard or other thin opaque material (see ISO 105-B02:1994, subclause 4.2.2).

4.5 Black-panel thermometer (see ISO 105-B02:1994, subclause 4.2.3.1).

NOTE 4 Black-panel thermometers are available from the manufacturers of fading apparatus.

4.6 Humidity test control (see ISO 105-B02:1994, subclause 4.1.3).

NOTE 5 For information on the sources of supply of humidity test controls, see ISO 105-A01:1994, clause 8, note 1.

4.7 Master reference material, appropriate to the material under test.

Sets of master reference materials are held in several countries for reference.

4.8 Grey scale for assessing change in colour, in accordance with ISO 105-A02.

NOTE 6 For information on the sources of supply of grey scales for assessing change in colour, see ISO 105-A01:1994, clause 8, note 1.

4.9 Colour-matching cabinet, equipped with illumination approximating natural daylight.

NOTE 7 Other types of illumination should not be used.

5 Preparation of test specimens

Prepare three specimens from each dyed piece of blue wool reference material under test. These specimens shall be approximately 300 mm in length across the full width of the material and shall be taken from the head end (H), the middle (M) and the tail end (T) of the piece.

6 Procedure

6.1 Evenness of dyeing

6.1.1 Fold the specimen under test as many times as necessary to form an opaque mass (at least four thicknesses are recommended) and mount it wrinkle-free in the spectrophotometer sample holder. Each of the three specimens shall be tested at the following three positions:

- a) in the centre (C);
- b) at a distance of 150 mm from the left-hand selvage (L);
- c) at a distance of 150 mm from the right-hand selvage (R).

6.1.2 Adjust the spectrophotometer to large aperture and the light beam to include the specular component and, if optional, the ultraviolet component, using illuminant D₆₅ and 10° observer.

NOTE 8 If these measurement conditions are unobtainable, report the measurement conditions used [see 7 e)].

6.1.3 Measure and record the reflectance values at the appropriate wavelengths. Take four readings for each measurement, rotating the specimen through 90° between readings, and use the mean of these four readings for the value of the measurement to be used in the calculations in 6.1.4.