INTERNATIONAL STANDARD

ISO
105-X04

Third edition
1987-12-15

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Textiles — Tests for colour fastness —

Part X04:
Colour fastness to mercerizing

Textiles — Essais de solidité des teintures —

Partie X04: Solidité des teintures au mercerisage

Reference number
ISO 105-X04 : 1987 (E)

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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 105-X04 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This third edition cancels and replaces the second edition (included in ISO 105-X: 1984), of which it constitutes a minor revision.

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.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

Textiles — Tests for colour fastness —

Part X04:
Colour fastness to mercerizing

1 Scope and field of application

This part of ISO 105 specifies a method for determining the resistance of the colour of textiles to the action of concentrated solutions of sodium hydroxide used in mercerizing. The method is mainly applicable to cotton and to mixtures containing cotton.

2 References

ISO 105, *Textiles — Tests for colour fastness —*

Part A01 : General principles of testing.

Part A02 : Grey scale for assessing change in colour.

Part A03 : Grey scale for assessing staining.

3 Principle

3.1 A specimen of the textile in contact with a specified adjacent fabric is treated with sodium hydroxide solution, rinsed, acidified, rinsed again and dried. The change in colour of the specimen and the staining of the adjacent fabric are assessed with the grey scales.

3.2 As completely resistant specimens may show an apparent increase in depth of colour, these cannot be rated 5 by the normal method of assessment. In such cases, therefore, only the changes in hue and brightness can be assessed using the grey scale, without consideration of the increase in depth, and such assessments should be marked with an asterisk (*). The meaning of the asterisk should be explained in a foot-note.

Examples

5* : Increase in depth (not considered); no change in hue and brightness.

3-4 redder* : Increase in depth (not considered); the hue became redder matching grey scale 3-4.

2 bluer, duller* : Increase in depth (not considered); the shade changed in hue and brightness corresponding to grey scale 2.

3.3 Specimens the colour of which does not increase in depth shall be assessed in the normal manner and the results shall not be marked with an asterisk.

Example

2 weaker, bluer, duller : Loss in depth (considered) and change in both hue and brightness corresponding to grey scale 2.

4 Apparatus and reagents

4.1 Cotton adjacent fabric, at least 10 cm × 10 cm, for evaluating staining.

4.2 Frame, for holding specimen (see clause 8).

4.3 Sodium hydroxide (NaOH), solution, 300 g/l.

4.4 Sulfuric acid, solution containing 5 ml of concentrated sulfuric acid (ϱ 1,84 g/ml) per litre.

4.5 Acetic acid, solution containing 10 ml of glacial acetic acid per litre.

4.6 Grey scales for assessing change in colour and staining (see clause 2).

5 Test specimen

5.1 If the textile to be tested is fabric, sew a specimen measuring at least 10 cm × 10 cm to an equal sized piece of the adjacent fabric (4.1) around all four sides. Fasten this composite specimen to the frame (4.2) firmly, but without excessive tension.

5.3 If the textile to be tested is yarn or thread, wind an amount of it equal to the mass of the adjacent fabric on a rigid frame firmly, but without excessive tension, with the strands close together and parallel to provide an area at least 10 cm × 10 cm. Sew an equal sized piece of the adjacent fabric (4.1) to this area along the two sides which cross the strands.