INTERNATIONAL STANDARD

ISO
105-X03

Third edition
1987-12-15

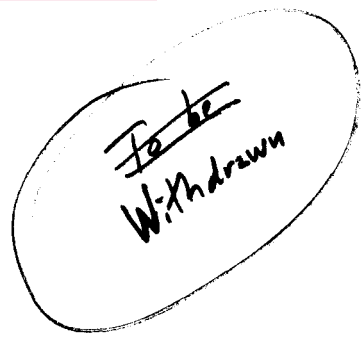
INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Textiles — Tests for colour fastness —

Part X03:
Colour fastness to chlorination

Textiles — Essais de solidité des teintures —

Partie X03: Solidité des teintures au chlorage acide



Reference number
ISO 105-X03 : 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-X03 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 X03:
Colour fastness to chlorination

1 Scope and field of application

This part of ISO 105 specifies a method for determining the resistance of the colour of textiles in all forms to the manufacturing operation in which an acid hypochlorite solution is used to prevent wool textiles from shrinking.

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

A specimen of the textile in contact with adjacent fabrics is treated successively with solutions of hydrochloric acid, sodium or lithium hypochlorite and sodium sulfite, rinsed and dried. The change in colour of the specimen and the staining of the adjacent fabrics are assessed with the grey scales. A test-control specimen is used.

4 Apparatus and reagents

4.1 Yarns of scoured unbleached undyed wool, undyed bleached cotton and other fibres as desired for assessment of staining, if fabrics or yarns are to be tested; comparable **adjacent fabrics** if loose fibres are to be tested.

4.2 Hydrochloric acid, solution containing 6 ml of hydrochloric acid (ϱ_{20} 1,16 g/ml) per litre.

4.3 *Either* :

Sodium hypochlorite (NaOCl), solution containing 1 g of active chlorine per litre.

To prepare this reagent, use sodium hypochlorite of the following composition :

- active chlorine : 140 to 160 g/l
- sodium chloride (NaCl) : 120 to 170 g/l
- sodium hydroxide (NaOH) : 20 g/l maximum
- sodium carbonate (Na_2CO_3) : 20 g/l maximum
- iron (Fe) : 0,01 g/l maximum

Or :

Lithium hypochlorite (LiOCl), solution containing 1 g of active chlorine per litre.

To prepare this reagent, use solid lithium hypochlorite, which contains approximately 300 g of LiOCl per kilogram. About 5 g of solid lithium hypochlorite dissolved in 1 litre of distilled water yields a solution of the prescribed concentration of 1 g of available chlorine per litre.

4.4 Sodium sulfite, solution containing 3 g of $Na_2SO_3.7H_2O$ per litre.

4.5 Test control : dyeing of CI Acid Blue 37 (Colour Index, 3rd Edition) on wool cloth (see clause 8).

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 stitches of the undyed yarns (4.1) at intervals of approximately 1 cm into a specimen of the fabric measuring 10 cm × 4 cm.

5.2 If the textile to be tested is yarn, knit it into fabric and make a composite specimen from it as in 5.1.

5.3 If the textile is loose fibre, comb and compress enough of it to form a sheet 10 cm × 4 cm, place the sheet between the wool and the cotton adjacent fabrics or other adjacent fabrics and sew the three together with stitching at intervals of 1 cm. The mass of the coloured textile should approximate that of the wool adjacent fabric.