INTERNATIONAL STANDARD

ISO 105-X05

Fourth edition
1994-09-01

Textiles — Tests for colour fastness —

Part X05:
Colour fastness to organic solvents

Textiles — Essais de solidité des teintures —

Partie X05: Solidité des teintures aux solvants organiques

Reference number
ISO 105-X05:1994(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. 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-X05 was prepared by Technical Committee ISO/TC 38, *Textiles*, Subcommittee SC 1, *Tests for coloured textiles and colorants*.

This fourth edition cancels and replaces the third edition (ISO 105-X05:1987), of which it constitutes a technical 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 document, themselves designated "parts" but retaining their earlier alphanumeric designations. A complete list of these parts is given in ISO 105-A01.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Textiles — Tests for colour fastness —

Part X05:
Colour fastness to organic solvents

1 Scope

This part of ISO 105 specifies a method for determining the resistance of the colour of textiles of all kinds and in all forms to organic solvents. If dry cleaning is involved, use the method specified in ISO 105-D01:1993, *Textiles — Tests for colour fastness — Part D01: Colour fastness to dry cleaning.*

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-A03:1993, *Textiles — Tests for colour fastness — Part A03: Grey scale for assessing staining.*

ISO 105-F:1985, *Textiles — Tests for colour fastness — Part F: Standard adjacent fabrics.*

ISO 105-F10:1989, *Textiles — Tests for colour fastness — Part F10: Specification for adjacent fabric: Multifibre.*

3 Principle

A specimen of the textile in contact with adjacent fabrics is agitated in the solvent and dried. The change in colour of the specimen and the staining of the adjacent fabrics are assessed with the grey scales.

4 Apparatus and reagents

4.1 Suitable container, with means of agitation.

A 500 ml beaker or other suitable open container may be used for the test, agitation being by hand with a glass rod flattened at one end. A closed vessel agitated by shaking or tumbling on a hand- or motor-driven machine may also be used.

4.2 Specified solvent(s)

The test should be carried out with the solvent or solvents commonly employed in the country concerned.

4.3 Adjacent fabrics (see ISO 105-A01:1994, subclause 8.2).

Either:

4.3.1 A multifibre adjacent fabric complying with ISO 105-F10.

or:

4.3.2 Two single-fibre adjacent fabrics, complying with the relevant sections of F01 to F08 of ISO 105-F:1985.

One of the adjacent fabrics shall be made of the same kind of fibre as that of the textile to be tested, or that predominating in the case of blends, and the second piece made of the fibre as indicated in table 1, or, in the case of blends, of the kind of fibre second in order of predominance or as otherwise specified.

4.3.3 If required, a **non-dyeable fabric** (for example, polypropylene).

Table 1 — Single-fibre adjacent fabrics

If first piece is:	Second piece to be:
cotton	wool
wool	cotton
silk	cotton
linen	cotton
viscose	wool
acetate	viscose
polyamide	wool or viscose
polyester	wool or cotton
acrylic	wool or cotton

4.4 Grey scale for assessing change in colour, complying with ISO 105-A02, and **grey scale for assessing staining,** complying with ISO 105-A03.

5 Test specimen

5.1 If the textile to be tested is fabric, either

a) attach a specimen measuring 40 mm × 100 mm to a piece of the multifibre adjacent fabric (4.3.1), also measuring 40 mm × 100 mm, by sewing along one of the shorter sides, with the multifibre fabric next to the face of the specimen;

or

b) attach a specimen measuring 40 mm × 100 mm between the two single-fibre adjacent fabrics (4.3.2), also measuring 40 mm × 100 mm, by sewing along one of the shorter sides.

5.2 Where yarn or loose fibre is to be tested, take a mass of the yarn or loose fibre approximately equal to one-half of the combined mass of the adjacent fabrics and

a) place it between a 40 mm × 100 mm piece of the multifibre adjacent fabric and a 40 mm × 100 mm piece of the non-dyeable fabric (4.3.3) and sew them along all four sides (see ISO 105-A01:1994, subclause 9.3.3.4);

or

b) place it between a 40 mm × 100 mm piece of each of the two specified single-fibre fabrics and sew along all four sides.

6 Procedure

6.1 Agitate the composite specimen in the container (4.1) continuously for 30 min in the solvent (4.2), at room temperature, at a liquor ratio of 40:1. If the agitation is by hand, the specimen should be pressed against the container every 2 min with a glass rod (see 4.1), without removing the specimen from the solvent.

6.2 Squeeze excess solvent from the specimen and dry it by hanging it in air at a temperature of 80 °C ± 2 °C without unstitching. Take the precautions necessary for safety in drying flammable or explosive solvents.

6.3 Remove the stitching and assess the change in colour of the specimen and the staining of the adjacent fabrics by comparison with the grey scales (4.4).

7 Test report

The test report shall include the following information:

a) the number and year of publication of this part of ISO 105, i.e. ISO 105-X05:1994;

b) all details necessary for the identification of the sample tested;

c) the organic solvent used;

d) the numerical grey scale rating for the change in colour of the specimen;

e) if single-fibre adjacent fabrics were used, the numerical grey scale rating for staining of each kind of adjacent fabric used;

f) if a multifibre adjacent fabric was used, the type of multifibre adjacent fabric used and the numerical grey scale rating for staining each type of fibre in the multifibre adjacent fabric.

This page intentionally left blank

This page intentionally left blank

This page intentionally left blank

ICS 59.080.10

Descriptors: textiles, dyes, tests, chemical tests, determination, colour fastness, organic solvents.

Price based on 2 pages