INTERNATIONAL STANDARD

ISO 105-E05

Third edition
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Textiles — Tests for colour fastness —

Part E05 :
Colour fastness to spotting: Acid

Textiles — Essais de solidité des teintures —
Partie E05 : Solidité des teintures aux acides

Reference number
ISO 105-E05:1989(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 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-E05 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This third edition cancels and replaces the second edition (ISO 105-E05:1987), of which it constitutes a technical revision.

ISO 105 was previously published in 13 "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.

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Textiles — Tests for colour fastness —

Part E05 :
Colour fastness to spotting: Acid

1 Scope

1.1 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 the action of dilute solutions of organic and mineral acids.

1.2 Three tests differing in severity are provided. Any or all may be used, depending upon the nature of the fibre.

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-A01:1989, *Textiles — Tests for colour fastness — Part A01: General principles of testing.*

ISO 105-A02:1987, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour.*

3 Principle

Drops of a solution of acid are placed on the specimen, the surface of which is rubbed gently with a glass rod to ensure penetration. The changes in colour of the textile, while it is still wet and after drying, are assessed with the grey scale.

4 Apparatus and reagents

4.1 Pipette or **dropper.**

4.2 Glass rod, with rounded end.

4.3 Grey scale for assessing change in colour, complying with ISO 105-A02.

4.4 Acetic acid, solution containing 300 g of glacial acetic acid (CH_3COOH) per litre of water (4.7).

4.5 Sulfuric acid, solution containing 50 g of concentrated sulfuric acid (ρ 1,84 g/ml) per litre of water (4.7).

4.6 Tartaric acid, solution containing 100 g of crystalline tartaric acid per litre of water (4.7) (specially for acetate fibres).

4.7 Grade 3 water (see ISO 105-A01:1989, subclause 8.2).

5 Test specimen

5.1 Prepare a test specimen as described in 5.2 to 5.4 for each acid used.

5.2 If the textile to be tested is fabric, use a specimen measuring 40 mm × 100 mm.

5.3 If the textile to be tested is yarn, knit it into fabric and use a specimen measuring 40 mm × 100 mm, or make a wick of parallel lengths 100 mm long and about 5 mm in diameter, tied near both ends.

5.4 If the textile to be tested is loose fibre, comb and compress enough of it to form a sheet measuring 40 mm × 100 mm.

6 Procedure

6.1 Spot the specimen at room temperature with the appropriate solution so that, after working the solution into the specimen with the glass rod, a spot of diameter approximately 20 mm is formed. In the case of water-repellent fabrics, the amount of solution shall not exceed 0,5 ml.

6.2 Dry the specimen by hanging it in air at room temperature.

6.3 Assess the change in colour with the grey scale (4.3).

7 Test report

The test report shall include the following particulars:

a) the number and date of this part of ISO 105, i.e. ISO 105-E05:1989;

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

c) the numerical rating for change in colour of the specimen for each kind of acid used, and for change of colour when wet, if of interest.

8 Notes

The change in colour of the specimen may be observed after it has been wet for 10 min; it is of interest for the evaluation of dyestuffs.

It is recommended that the test for resistance to water spotting, specified in ISO 105-E07:1989 *Textiles — Tests for colour fastness — Part E07: Colour fastness to spotting: Water*, be also carried out to ascertain that the change in colour is not due to the action of water alone.

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Descriptors: textiles, dyes, tests, chemical tests, acid resistance tests, determination, colour fastness.

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