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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*

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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.

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 second edition cancels and replaces the first edition (included in ISO 105-E: 1978), 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.

# Textiles — Tests for colour fastness —

## Part E05:

### Colour fastness to spotting: Acid

#### 1 Scope and field of application

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 References

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

*Part A01: General principles of testing.*

*Part A02: Grey scale for assessing change in colour.*

#### 3 Principle

Drops of the acid solution 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** (see clause 2).

4.4 **Acetic acid**, solution containing 300 g of glacial acetic acid ( $\text{CH}_3\text{COOH}$ ) per litre.

4.5 **Sulfuric acid**, solution containing 50 g of concentrated sulfuric acid ( $\rho$  1,84 g/ml) per litre.

4.6 **Tartaric acid**, solution containing 100 g of crystalline tartaric acid per litre (this solution is provided specially for acetate-based textiles, instead of acetic acid).

#### 5 Test specimen

5.1 If the textile to be tested is fabric, use a specimen 10 cm × 4 cm.

5.2 If the textile to be tested is yarn, knit it into fabric and use a specimen 10 cm × 4 cm, or make a wick of parallel lengths 10 cm long and about 0,5 cm in diameter, tied near both ends.

5.3 If the textile to be tested is loose fibre, comb and compress enough of it to form a sheet 10 cm × 4 cm.

#### 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 should 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.

#### 7 Test report

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

#### 8 Note

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

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