INTERNATIONAL STANDARD

ISO 105-S01

Second edition
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Textiles — Tests for colour fastness —

Part S01:
Colour fastness to vulcanization: Hot air

Textiles — Essais de solidité des teintures —

Partie S01: Solidité des teintures à la vulcanisation: Air chaud

Reference number
ISO 105-S01:1993(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-S01 was prepared by Technical Committee ISO/TC 38, *Textiles*, Sub-Committee SC 1, *Tests for coloured textiles and colorants.*

This second edition cancels and replaces the first edition (included in ISO 105-S: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.

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Textiles — Tests for colour fastness —

Part S01:
Colour fastness to vulcanization: Hot air

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 the action of a typical rubber compound, such as may be used in the proofing industry, and to its decomposition products, during vulcanization in hot air.

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-A02:1993, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour.*

ISO 139:1973, *Textiles — Standard atmospheres for conditioning and testing.*

3 Principle

A specimen of the textile is heated in direct contact with an (initially) unvulcanized rubber compound. The change in colour of the specimen is assessed with the grey scale.

4 Apparatus and materials

4.1 Oven, maintained at 125 °C ± 2 °C, with a fan to ensure uniformity of air temperature.

4.2 Sheet of uncured rubber compound, 2,5 mm ± 1,5 mm thick, consisting of the following:

100 parts pale crepe;

5 parts zinc oxide;

1 part stearic acid;

2 parts sulfur;

1 part mercaptobenzothiazole;

0,2 parts zinc diethyldithiocarbamate;

15 parts titanium oxide;

75 parts barium sulfate.

If it is necessary to transport the rubber compound, cover it with thin polyethylene film.

NOTE 1 It should be borne in mind that this test employs a basic rubber compound. Other compounding ingredients are frequently used in production and may have specific effects on colour fastness not revealed by this test.

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

4.4 Petroleum ether.

5 Test specimen

5.1 Remove any polyethylene film from the sheet of uncured rubber compound (4.2) and moisten the compound with petroleum ether (4.4).

5.2 If the textile to be tested is fabric, place a specimen measuring 40 mm × 100 mm on the sheet of uncured rubber compound. To ensure a uniform degree of adhesion, "roll" the specimen on to the rubber with a metal roller.

5.3 If the textile to be tested is yarn, knit it into a fabric and use a specimen measuring 40 mm × 100 mm, or stick a number of lengths flat and side by side on the rubber sheet to obtain the specified area of 40 mm × 100 mm.

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 and stick this to the rubber sheet (see 5.2).

6 Procedure

6.1 Hang the composite specimen in the oven (4.1) for 30 min at 125 °C ± 2 °C.

6.2 Cool the composite specimen for 4 h in a standard atmosphere for testing complying with ISO 139.

6.3 Assess the change in colour of the treated specimen by comparing it with a piece of the original dyeing laid on a sheet of vulcanized rubber, using the grey scale (4.3).

7 Test report

The test report shall include the following particulars:

a) the number and date of publication of this part of ISO 105, i.e. ISO 105-S01:1993;

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

c) the numerical rating for change in colour of the test specimen.

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