INTERNATIONAL STANDARD

ISO 105-Z02

Second edition
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Textiles — Tests for colour fastness —

Part Z02:
Colour fastness to metals in the dye-bath: Iron and copper

Textiles — Essais de solidité des teintures —

Partie Z02: Solidité des teintures aux métaux dans les bains de teinture: Fer et cuivre

Reference number
ISO 105-Z02:1993(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-Z02 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-Z: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 Z02:
Colour fastness to metals in the dye-bath: Iron and copper

1 Scope

This part of ISO 105 specifies a method for determining the effect, on the colour of a dye, of dyeing in the presence of metals (iron and copper or their salts) either used in the construction of dyeing machinery or resulting from water and steam used in dyeing.

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.*

3 Principle

The difference in colour between dyeings made in the presence and in the absence of salts of the metal is assessed with the grey scale.

4 Apparatus and reagents

4.1 Three pieces of undyed light wool fabric, of a size suitable for laboratory dyeing.

4.2 Three dye-baths, and solutions usual for the dye.

4.3 Copper(II) sulfate solution, containing 0,2 % $CuSO_4.5H_2O$ on the mass of one piece of wool (4.1).

4.4 Ammonium iron(III) sulfate solution, containing 0,5 % $(NH_4)_2SO_4.Fe_2(SO_4)_3.24H_2O$ on the mass of one piece of wool (4.1).

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

5 Test specimens

See 4.1.

6 Procedure

6.1 Make three dyeings of the fabric at the standard depth of colour on the wool fabric using the normal method for the dye under examination. Before entering the fabric, add ammonium iron(III) sulfate solution

to one of the dye-baths and copper(II) sulfate solution to another and bring the liquor ratio in each bath to 40:1.

6.2 Compare the colours of the dyeings made in the presence of copper(II) sulfate and of iron(III) sulfate with that of the dyeing made in their absence and assess the difference with the grey scale (4.5).

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-Z02:1993;

b) the dye used;

c) the method and the strength of the dyeing;

d) the numerical rating for change in colour.

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Descriptors: textiles, dyeing, dyes, tests, dyeing tests, determination, colour fastness.

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