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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Textiles — Tests for colour fastness —

Part X13:

Colour fastness of wool dyes to processes using chemical means for creasing, pleating and setting

Textiles — Essais de solidité des teintures —

Partie X13: Solidité des teintures sur laine aux traitements effectués avec des produits chimiques en vue du plissage et du fixage

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Reference number
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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-X13 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This third edition cancels and replaces the second edition (included in ISO 105-X: 1984), 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 X13:

Colour fastness of wool dyes to processes using chemical means for creasing, pleating and setting

1 Scope and field of application

This part of ISO 105 specifies a method for determining the resistance of the colour of wool textiles of all kinds to processes using chemical means in conjunction with steam for creasing, pleating and setting purposes.

2 References

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

Part A01 : General principles of testing.

Part A02 : Grey scale for assessing change in colour.

Part A03 : Grey scale for assessing staining.

3 Principle

A specimen of the textile, treated with the chemical solution, is placed in contact with specified adjacent fabrics and subjected to steam pressing. A comparison specimen, not treated with the chemical solution, is steam pressed simultaneously. The specimens are dried and any differences between the colour of the two specimens and the staining of the adjacent fabrics are assessed with the grey scales.

4 Apparatus and reagent

4.1 Steam press (see 8.1).

4.2 Apparatus capable of giving a fine, uniform spray, constructed from chemically inert materials.

4.3 Chemical solution, at the recommended concentration (see 8.2).

4.4 Glass plate, 15 cm × 10 cm, on which the specimen is laid for spraying.

4.5 Eight adjacent fabrics, each measuring 11 cm × 8 cm, four of wool serge and four normally of cotton limbric. When staining of a fibre other than cotton is of greater interest, the cotton limbric may be replaced by an alternative material having a smooth finish and made of this fibre.

4.6 Backing material, to protect press covers from dye staining (see 8.3).

4.7 Grey scales for assessing change in colour and staining (see clause 2).

5 Test specimens

5.1 If the textile to be tested is fabric, use two specimens 15 cm × 10 cm identically oriented.

5.2 If the textile to be tested is yarn, either knit it into fabric and treat as in 5.1 or form a layer of parallel lengths of mass approximately half the combined mass of the four adjacent fabrics (4.5), two of each kind, in the composite specimen (see 5.3). If the textile to be tested is loose fibre, comb and compress an amount approximately equal to half the combined mass of the adjacent fabrics into a sheet 15 cm × 10 cm.

5.3 Place each specimen between four adjacent fabrics, two of each kind, to form a composite specimen. Two composite specimens are required for each test, one to contain the treated specimen (see 5.4), the other to contain the comparison specimen (see 5.5).

5.4 Composite treated specimen : cover one-half of each side of the treated specimen with the wool serge adjacent fabric, the cloth on top of the specimen being pre-wetted (see 6.2). Cover the other half of each side with the cotton limbric adjacent fabric or alternative material (see 4.5). The composite specimen shall be backed on each side (see 4.6). The composite specimen with backing is illustrated in the figure.

5.5 Composite comparison specimen : this is identical with the composite treated specimen except that the specimen is not treated and the upper wool serge adjacent fabric is not pre-wetted.

6 Procedure

6.1 Assemble the composite comparison specimen.

6.2 Wet out one only of the four wool adjacent fabrics for 1 min in boiling distilled water, hydroextract to approximately 50 % expression and store in a suitable container (see 8.4).

NOTE — See sub-clause 10.4 of ISO 105-A01 concerning wetting out of wool specimens.

6.3 Weigh the remaining specimen, place it on the glass plate (4.4) with the surface to be assessed facing upwards and uniformly spray this surface with the chemical solution (see 8.2) to a mass increase of 100 %.

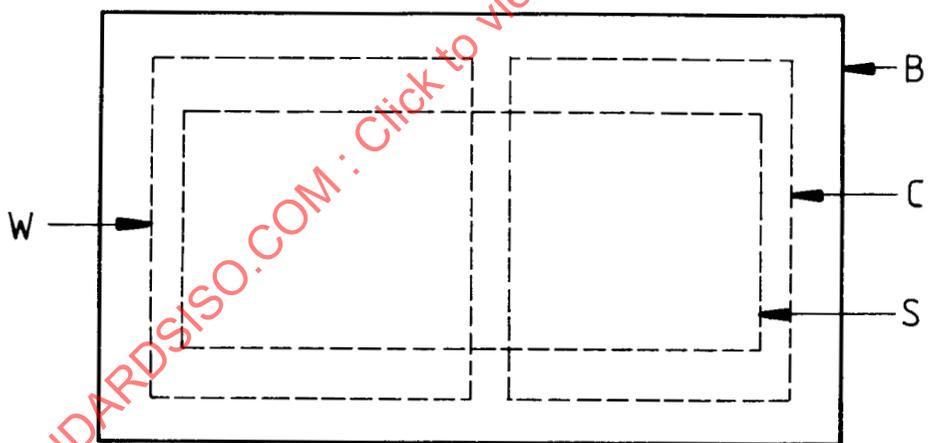
6.4 Assemble the composite treated specimen, sprayed surface up, with the wetted wool adjacent fabric on the sprayed surface.

6.5 Not more than 2 min after spraying, place both composite specimens side by side on backing material on the pre-heated press (see 8.1) and cover with backing material. Immediately close the press, steam for 30 s using top steam only, shut off the steam and hold in the press for 30 s with the press head closed. Open the press and apply vacuum for 10 s.

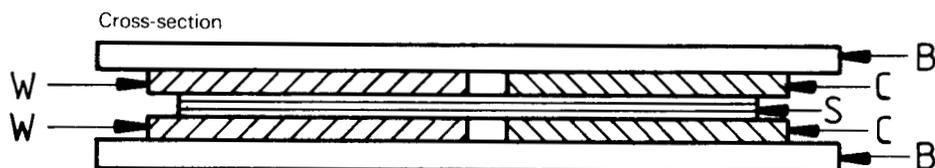
6.6 Remove the composite specimens from the press, open them out, and dry them by hanging them in air at a temperature not exceeding 60 °C.

6.7 Using the comparison specimen as the reference specimen, and not the original material as is normal, assess any difference in colour between the upper surfaces of the treated and comparison specimens which have been in contact with the smoother adjacent fabric (for example cotton) using the grey scale for assessing change in colour (see clause 2). Assess the staining of the adjacent fabrics which were in contact with the sprayed surface using the grey scale for assessing staining (see clause 2). Staining of the other adjacent fabrics in both specimens is not normally assessed but may provide useful information in certain cases.

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Composite specimen with backing



- S Specimen
- W Wool serge adjacent fabric (see 4.5 and 5.4)
- C Cotton limbric (or alternative) adjacent fabric (see 4.5 and 5.4)
- B Backing material (see 4.6)

Figure — Composite specimen

7 Test report

7.1 Report the numerical ratings for the difference in colour between treated and comparison specimens and for staining of the upper wool and cotton (or other) adjacent fabrics from the treated specimen.

7.2 Specify the chemical product and the concentration of the solution used.

8 Notes

8.1 Flat bed steam press with steam supply at a pressure of not less than 415 kPa. The press should be at its normal operating temperature to avoid anomalous results due to condensation. When starting from cold, the press should be run six times through the standard cycle (see 6.5) without test specimens.

8.2 This test procedure was established with monoethanolamine sesquisulfite in 5 % (V/V) aqueous solution

to which was added 0,3 % (V/V) of wetting agent (any may be used). The method may be adapted to the use of other chemical products, provided that allowance is made for any recommendations as to working concentration; 3 g of a wetting agent should be added per litre of the solution, irrespective of its composition.

8.3 Some dyes can even stain the press covers. The use of a plain backing material is therefore specified; thick cotton cloth or paper towelling has been found satisfactory.

8.4 The use of pre-wetted wool adjacent fabric, only on the sprayed surface of the specimen, gives more uniformity of any staining. The wool adjacent fabric in the composite comparison specimen shall not be pre-wetted, since this specimen is intended to reproduce the effect of steam pressing only. It will be found convenient to wet out the number of wool adjacent fabrics required for a series of tests in the manner described in 6.2 and to store these in a container such as a polyethylene bag to maintain the water content.

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