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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Textiles — Tests for colour fastness —

Part E10:
Colour fastness to decatizing

Textiles — Essais de solidité des teintures —

Partie E10: Solidité des teintures au décatissage

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-E10 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.

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Textiles — Tests for colour fastness —

Part E10:
Colour fastness to decatizing

1 Scope and field of application

This part of ISO 105 specifies a method for determining the resistance of the colour of textiles to the action of steam, as employed in the decatizing of wool fabrics. Two tests, mild and severe, are given.

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

A specimen of the textile is wrapped round a perforated cylinder, and steam passed through it for 15 min. The change in colour of the dried specimen is assessed with the grey scale. Correct handling of the method is controlled by use of a test-control specimen tested under identical conditions.

4 Apparatus

4.1 Suitable decatizing apparatus

Such a device consists of an autoclave (see the figure) having an approximate capacity of 20 litres (for example 26 cm in diameter and 40 cm high) with a safe operating pressure of up to 400 kPa and an adjustable heat source (electric or gas). In the middle of the cover is a threaded opening. Fitted in this opening so that it is suspended inside the autoclave, below the cover, is a perforated cylinder 2 cm in diameter and 16 cm high. The lower end of the cylinder is closed by a round piece of sheet metal of 20 cm in diameter. A regulating valve and a pressure gauge, both connected with the perforated cylinder, are mounted on the upper side of the cover. A safety valve and a thermometer are mounted separately in the cover. (See 8.1.)

4.2 Cotton blanket cloth, boiled off, napped on both sides, of mass per unit area about 400 g/m^2.

4.3 Two cotton adjacent fabrics, each measuring 10 cm × 4 cm.

4.4 Test control: a dyeing of CI Mordant Brown 33 (Colour Index, 3rd edition; see 8.2).

4.5 Grey scale for assessing change in colour (see clause 2).

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 10 cm × 4 cm specimen, or form a layer of parallel lengths of it, place it between two cotton adjacent fabrics (4.3) and sew around all four sides to hold the yarn in place.

5.3 If the textile to be tested is loose fibre, comb and compress enough of it to form a layer 10 cm × 4 cm, place the sheet between two cotton adjacent fabrics (4.3) and sew around all four sides to hold the fibres in place.

5.4 Prepare a 10 cm × 4 cm specimen of the test-control dyeing (4.4).

6 Procedure

6.1 Prior to the first operation, i.e. without the test specimen or the test control, heat the apparatus (4.1) in order to prevent the formation of condensed water.

6.2 Carry out the operations described below in 6.3 and 6.4 with the specimens and the test control in parallel.

6.3 Wrap a length of the cotton blanket cloth (4.2) three times around the perforated cylinder of the decatizing apparatus. Place the test specimen and the test-control specimen around the wrapped cylinder and cover with three further wrappings of the blanket cloth.

Pass saturated, but dry, steam through the specimen for 15 min at one of the pressures given in the following table.

Table — Decatizing conditions

Decatizing	Steam pressure kPa	Temperature of entering steam °C
Mild	147	111
Severe	245	127

6.4 Dry the specimens by hanging them in air at a temperature not exceeding 60 °C. Yarn or loose fibre should be removed from between the two pieces of cotton adjacent fabric before drying.

6.5 Assess the change in colour of the test control with the grey scale. If the change is not equal to the following:

mild decatizing: 4J
severe decatizing: 3J

the test has not been carried out correctly, and the operations described in 6.1 to 6.4 inclusive should be repeated with a fresh test specimen and a fresh test-control specimen.

6.6 Assess the change in colour of the test specimen with the grey scale.

7 Test report

Report the numerical ratings for change in colour of the test specimen, specifying the severity of the test used, i.e. "mild" or "severe".

8 Notes

8.1 Other devices similar to that described in 4.1 may be used, provided that they give identical results.

8.2 **Test control.** A well wetted-out pattern of wool cloth is entered at 40 °C into a dye-bath containing 1 % CI Mordant Brown 33 (Colour Index, 3rd edition), 10 % sodium sulfate decahydrate ($Na_2SO_4.10H_2O$) and 3 to 5 % acetic acid (300 g/l), all percentages being calculated on the mass of the wool pattern. The liquor ratio is 40 : 1.

The dye-bath is raised to the boil in 30 min, and boiled for a further 30 min. If necessary, it is exhausted by careful addition of 3 to 5 % acetic acid (300 g/l). Boil for a further 15 min after addition of the acid. The dye-bath is cooled down by addition of cold water, and 0,5 % potassium dichromate dissolved in water is added. The dye-bath is raised to the boil again and boiled for 45 min. The pattern is removed, rinsed in cold, running tap water and dried.

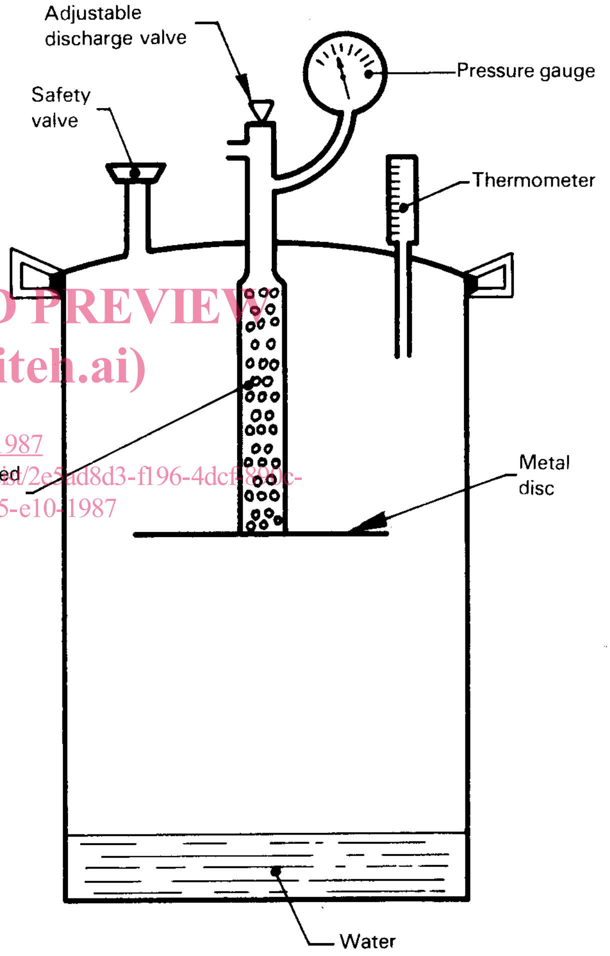

Figure — Decatizing apparatus

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