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(SWTF)

**Test method for colour fastness
to transfer of dye**

ICS 19.040; 59.080.01

Descriptors : textiles, dyeing, textile products, sublimation, colour-fastness tests

Reference number : JIS L 0854 : 2001 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as a result of proposal for revision of Japanese Industrial Standard submitted by the Suga Weathering Technology Foundation (SWTF) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law. Consequently **JIS L 0854 : 1975** is replaced with this Standard.

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Test method for colour fastness to transfer of dye

Introduction Though there is no ISO Standard corresponding to this Japanese Industrial Standard, this Japanese Industrial Standard is established as an effective test method from the standpoint of quality control of textile products in Japan. In this revision, the style of text was modified according to JIS Z 8301 and amendments are added to the apparatus and materials, the preparation of a composite test piece, the mass of a sample and the operation.

1 Scope This Japanese Industrial Standard specifies the test method for colour fastness of the dyed textile products to transfer of dye.

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS L 0801 *General principles of test methods for colour fastness*

JIS L 0803 *Standard adjacent fabrics for staining of colour fastness test*

3 Definitions For the main terms used in this Standard, the definitions in JIS L 0801 apply.

4 Principle A composite specimen is set in the perspiration tester. After dry heat treatment under the specified conditions, the discolouration of specimens and the degree of staining of standard adjacent fabrics are measured to judge the colour fastness.

5 Apparatus and materials

a) **Perspiration tester** The perspiration tester is an apparatus wherein several pieces of composite specimens are pinched with stainless steel sheets in between so as not to be shifted, and fixed under a specific pressure so that the composite specimens are held vertically, which conforms to the following specifications (see Fig. 1).

1) **Stainless steel sheet** A stainless steel-made sheet which has a smooth surface of approximately 115 mm × approximately 63 mm in size and 1.5 mm to 3 mm in thickness.

2) **Pressure part** That capable of applying a pressure of approximately 12.5 kPa⁽¹⁾ to a composite specimen kept horizontally or vertically.

Note ⁽¹⁾ When a pressure of approximately 12.5 kPa is applied to a specimen of 60 mm × 60 mm or 100 mm × 40 mm, a load of 45 N or 50 N is added respectively.

3) **Holding part** That capable of holding a composite specimen vertically during a test operation and enduring a temperature at 120 °C ± 2 °C.

b) **Standard adjacent fabrics** That specified in JIS L 0803 is used.

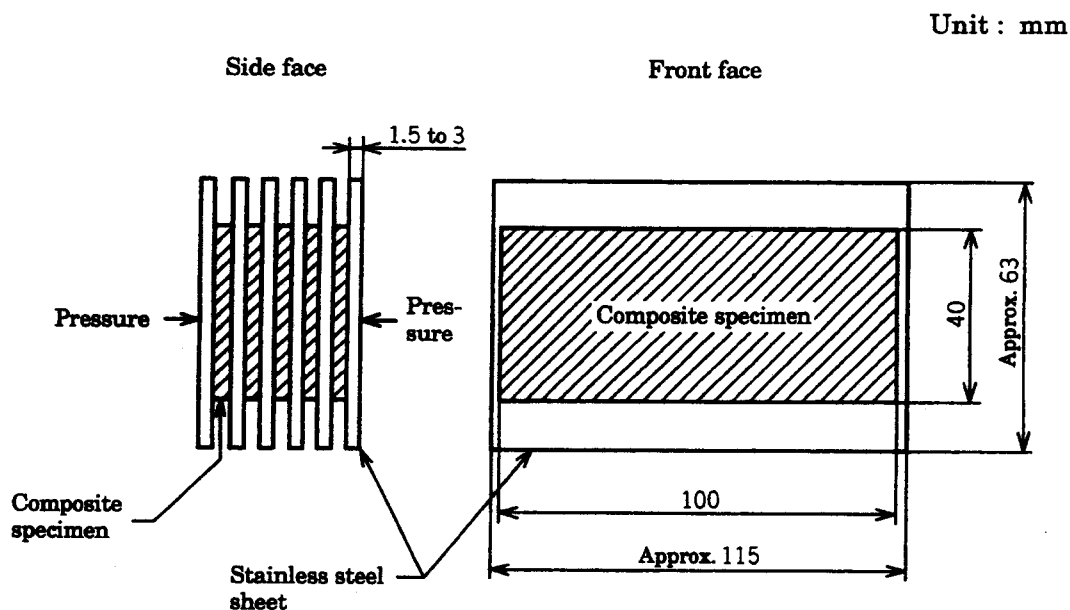


Fig. 1 Pressure-kept state of composite specimen
(An example for composite specimen of 100 mm × 40 mm)

6 Preparation of composite specimen The composite specimen shall be prepared in accordance with 5 in JIS L 0801 excepting items specified in the following a) to c). The second standard adjacent fabric shall be, as a rule, polyester.

- a) **In the case where the specimen is fabric** Place a specimen of 60 mm × 60 mm or 100 mm × 40 mm in size between two pieces of standard adjacent fabrics of the same size as that, and sew together one of the shorter sides⁽²⁾ to prepare the composite specimen.

Note ⁽²⁾ When the specimen is 60 mm × 60 mm in size, either side may be sewn.

- b) **In the case where the specimen is yarn** Take a specimen of approximately half the mass of two standard adjacent fabrics of 60 mm × 60 mm or 100 mm × 40 mm in size, place it by arranging between two standard adjacent fabrics, sew together the two opposed short sides⁽²⁾ so as to be able to hold yarn, and prepare the composite specimen. Alternatively, the composite specimen may be prepared according to a) by weaving the specimen yarn into a cloth of 60 mm × 60 mm or 100 mm × 40 mm and using it as the specimen.

- c) **In the case where the specimen is loose fibre** Take a specimen of approximately half the mass of two standard adjacent fabrics of 60 mm × 60 mm or 100 mm × 40 mm in size, comb and compress it to form a thin layer of 60 mm × 60 mm or 100 mm × 40 mm in size, and place it between two pieces of standard adjacent fabrics. Sew together the two opposed short sides⁽²⁾ to prepare the composite specimen.

7 Operation The operation shall be carried out as follows.

- a) Place composite specimens between stainless steel sheets⁽³⁾ and attach them to a perspiration tester.

- b) Load a weight or add a load on the perspiration tester so as to add a pressure of approximately 12.5 kPa to the composite specimen. Fix it in a state where a pressure is applied.
- c) Put the perspiration tester into a dryer kept at $120\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$, and dry heat-treat for 80 min.
- d) After dry heat treatment, immediately take out the composite specimen, spread separately the specimen and the standard adjacent fabrics, and allow to cool.

Note (3) In the case where many specimens are simultaneously tested, place a tin foil or an aluminium foil of 60 mm $\times$ 60 mm or 100 mm $\times$ 40 mm in size between the composite specimen and the stainless steel sheet to make thermal distribution even.

8 Assessment The assessment of the discolouration of specimens and the staining of the standard adjacent fabrics shall be carried out in accordance with 9 of JIS L 0801.

9 Recording The colour fastness to transfer of dye shall be recorded as follows in accordance with 10 of JIS L 0801.

Example :	Transfer to dye test	Discolouration	class 4
		Staining	class 3 (acetate), class 4 (polyester)
