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Textiles — Effect of dry heat on fabrics under low pressure —

Part 1:
Procedure for dry-heat treatment of fabrics

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Textiles — Effet de la chaleur sèche sur des tissus sous basse pression —

Partie 1: Procédé pour le traitement à la chaleur sèche de tissus

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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ISO 9866 consists of the following parts, under the general title *Textiles — Effect of dry heat on fabrics under low pressure*:

— *Part 1: Procedure for dry-heat treatment of fabrics*

— *Part 2: Determination of dimensional change in fabrics exposed to dry heat*

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Textiles — Effect of dry heat on fabrics under low pressure —

Part 1:
Procedure for dry-heat treatment of fabrics

1 Scope

This part of ISO 9866 specifies a method for the dry-heat treatment of fabrics for use in assessing the dimensional stability and other heat-related properties of fabrics (see e.g. ISO 9866-2:1991, *Textiles — Effect of dry heat on fabrics under low pressure — Part 2: Determination of dimensional change in fabrics exposed to dry heat*).

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 9866. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9866 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

3 Principle

A specimen of fabric is heated by contact with a plane, hot surface under accurately known conditions.

4 Apparatus

4.1 Press, consisting of a plane heated metal plate whose temperature can be adjusted with the range 100 °C to 210 °C with an accuracy of ± 2 °C, and a horizontal bed. When closed, the press exerts a known, uniform pressure, accurate to ± 25 %, between the plate and bed. The bed is covered with flexible and compressible cladding[1] of low thermal conductivity and heat capacity, which is capable of conforming to slight variations in the thickness of specimens or of the gap between plate and bed. The cladding shall be unaffected by the highest temperature used, and shall not absorb moisture.

4.2 Specimen holder, consisting of a thin flexible sheet of material, with low friction and low heat capacity[2], which is larger than the heated plate and is supported at its edges by a light frame which does not impede contact between the plate and bed.

5 Atmospheres for conditioning and testing

Unless otherwise indicated, the following atmospheres, as specified in ISO 139, shall be used:

a) for preconditioning, an atmosphere having a relative humidity of 10 % or lower and a temperature of 50 °C or lower;

b) for conditioning and testing, an atmosphere having a relative humidity of (65 ± 2) % and a temperature of (20 ± 2) °C or (27 ± 2) °C.

1) A silicone foam rubber layer, supported on a low-density textile wadding, has proved suitable for this purpose.

2) A sheet of 0,15 mm thickness polytetrafluoroethylene with glass fibre reinforcement and a total mass per unit area of 250 g/m^2 has been found suitable.

6 Procedure

6.1 Set the press (4.1) at the test temperature specified in the relevant test method. Leave the press closed until it reaches a steady temperature.

6.2 Place a preconditioned [see clause 5 a)] fabric specimen on the specimen holder (4.2). Open the press, place the holder and specimen in position on the bed, and close the press. Immediately after the time specified in the relevant test method has elapsed, open the press and remove the specimen and holder.

6.3 If required, condition the specimen in the standard atmosphere [see clause 5 b)] for 4 h or until equilibrium is reached.

7 Test report

The test report shall include the following information:

a) the number and year of publication of this International Standard, i.e. ISO 9866-1:1991;

b) all details necessary for the identification of the sample(s) treated;

c) the test conditions used: temperature, pressure, treatment time, and (if relevant) specimen dimensions and the side of the specimen in contact with the heater.

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