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CEYLON STANDARD 204: 1973

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DETERMINATION OF DIMENSIONAL STABILITY OF WARP-KNITTED AND WOVEN FABRICS MADE FROM NYLON 6.6 (BOILING WATER TEST) (METRIC UNITS)

ලංකා ප්‍රමිති කාර්යාංශය

BUREAU OF CEYLON STANDARDS

DETERMINATION OF DIMENSIONAL STABILITY OF WARP - KNITTED AND WOVEN FABRICS MADE FROM NYLON 6·6 (BOILING WATER TEST) (METRIC UNITS)

C. S. 204 : 1973

Gr.3

BUREAU OF CEYLON STANDARDS
53, Dharmapala Mawatha,
COLOMBO 3.

Ceylon Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract.

BUREAU OF CEYLON STANDARDS
53, Dharmapala Mawatha,
Colombo 3.

Telephone: 26055, 26054, 26051 **Telegrams: "PRAMIKA"**

CEYLON STANDARD FOR THE DETERMINATION OF DIMENSIONAL STABILITY OF WARP-KNITTED AND WOVEN FABRICS MADE FROM NYLON 6·6 (BOILING WATER TEST) (Metric Units)

FOREWORD

This Ceylon Standard has been prepared by the Drafting Committee on Textile Test Methods. It was approved by the Textiles Divisional Committee of the Bureau of Ceylon Standards, and was authorised for adoption and publication by the Council of the Bureau on 9th July 1973.

Polyamide-fibre fabrics are put through a setting process which stabilises them to the combined effects of heat and moisture. The resultant stability depends on the setting conditions. It is frequently desirable to determine the extent to which a fabric has been set in order to assess its stability for particular purposes.

All standard values given in this method are in SI units.

In the preparation of this standard, valuable assistance derived from the publications of the British Standards Institution is acknowledged.

1. SCOPE

This Ceylon Standard describes a method of test for the determination of the dimensional stability of warp knitted and woven fabrics made from continuous filament nylon 6·6 yarn. This method is not suitable for the determination of the dimensional stability of these fabrics on washing.

2. PRINCIPLE

After immersing the specimen in boiling water for 30 minutes any change in dimensions is determined.

3. APPARATUS

The following apparatus is required.

3·1 A vessel of suitable size to hold the specimen and the water during boiling. A stainless steel or similar smooth-surfaced vessel of 10 litre capacity is suitable.

3·2 Means for raising and maintaining the temperature of water in the vessel (see Clause 3·1) at boiling point.

3·3 A sheet of 6mm plate glass not less than 800mm long and not less than 150mm wide, on the under surface of which is marked a scale graduated in centimetres and millimetres, the scale running parallel to and approximately equi distant from the long sides of the glass plate. The scale may be engraved on the glass or it may be printed on a thin transparent film, which is fastened to the glass plate in such a way as to cover its entire under surface uniformly. Handles should be fitted at the ends of the plate, but they should be attached in such a way that they do not project below the lower surface of the plate.

3·4 A measuring table having a horizontal smooth flat surface (plate glass in preferred), both the length and the width of the table being at least 80mm greater than those of the glass plate referred to in Clause 3·3.

3·5 Two pieces of absorbent material (eg. turkish towelling) greater in size than the size of the specimen to be tested.

3·6 A non-staining mesh tray greater in size than the size of the specimen tested.

3·7 Equipment for producing and maintaining the standard atmosphere for testing textiles.

4. CONDITIONING AND TESTING ATMOSPHERE

Conditioning and testing shall be conducted in the standard atmosphere for testing textiles i. e. 65±5% relative humidity and 27±2°C temperature as defined in C. S. 16*.

5. TEST SPECIMEN

5·1 Cut an uncreased specimen of approximately 1 metre square with edges parallel to the warp and weft or wale and course directions, respectively. Do not take it from within 1 metre of either end of a piece.

5·2 Expose the specimen without tension to the standard atmosphere for testing textiles until it is in equilibrium with the atmosphere. A period of 16 hours is usually sufficient to ensure this.

* C. S. 16: Standard atmospheres for conditioning and testing textiles.

5 3 In both warp and weft or wale and course directions, make three pairs of marks on the specimen as shown in Fig. 1. The distance between the marks in each pair shall not be less than 500mm and should be preferably as great as the width of the specimen permits. The minimum distance of any mark from a selvedge or cut edge of the specimen shall be 50mm. Suitable marks may be made by sewing fine threads of contrasting colour into the fabric or by means of indelible ink.

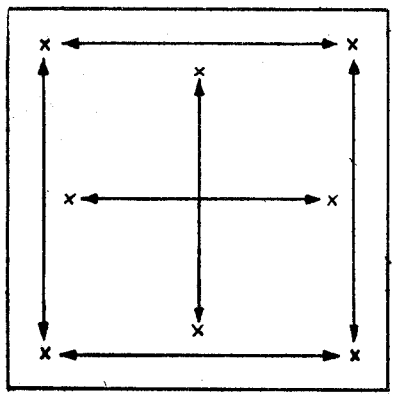

Fig. I–Method of marking the specimen.

6. TEST PROCEDURE

6 1 Conduct all measurements in the standard atmosphere for testing textiles. (See Clause 4).

6·2 Lay the conditioned specimen flat, but without being stretched, on the measuring table, and measure the distances between the pairs of reference marks to the nearest 0·5mm by means of the graduated glass plate (see Clause 3·3). The plate should be lowered onto the fabric, which will ensure that the fabric is flat when measured.

Immerse the specimen in sufficient boiling water to prevent undue creasing of the fabric (normaly a water/cloth ratio of not less than 50: 1 will be convenient) and continue boiling for 30 minutes, Remove the fabric from water and place it flat between two layers

of absorbent material, pressing gently with the hand, so as to absorb excess moisture. Allow the fabric to dry and condition it by exposing it freely to the conditioning atmosphere (see Clause 5·2) on a non-staining mesh tray until the specimen is in equilibrium with the standard atmosphere. Remeasure the fabric as described above.

7. CALCULATION AND EXPRESSION OF RESULTS

Record the changes in dimension in both warp and weft or wale and course directions as percentages of the original dimensions. Calculate the means of the three results in each direction to the nearest 0·1 per cent. Indicate whether the changes in dimensions are extensions or shrinkage by using a positive sign to denote extension and negative sign to denote shrinkage.

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The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI *which includes surveillance inspection of the factory, testing of both factory and market samples.*

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