

DETERMINATION OF SIZING CONTENT OF TEXTILE MATERIALS

Application

This method is used to determine the amount of sizing material which has been added to textile materials.

Apparatus Required

Desiccator - with drying agent
(e.g. calcium chloride)

Analytical Balance
Accuracy +/- 0.1 mg

Mechanically Convected Oven
Capable of maintaining a constant temperature of 105 +/- 2 °C.

Weighing Bottle

Chemicals Required

Distilled or Deionized Water

Enzyme Solution

The enzyme used for this test is known as a Neozyme Regular, a desizing agent containing proteolytic and diastatic enzymes, or equivalent. A solution of this enzyme is prepared with distilled water so that the concentration is between 0.3 and 0.35 %.

Source: Royce Chemical Co.
Carlton Hill, New Jersey

Cellulose Acetate

Wetting Agent

Deceresol O.T. or equivalent, 5 % solution.

Date	Action	Revisions
2001 01 30	Revised	Editorial – no technical change A. Cockman
2000 04 14		Editorial – no technical change A. Cockman
1994 09 13		

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Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Cut a 100 x 100 mm test specimen from the sample of material to be tested in such a manner that the angle of the cut will be 45 deg across the warp and weft threads.
2. Fix the corners of the test specimen with a drop of cellulose acetate to prevent unraveling of threads.
3. Place the test specimen in an open weighing bottle and dry to constant weight at 105 +/- 2 °C.
4. Cover the bottle, cool in the desiccator to 23 +/- 2 °C and weigh.
5. Place the specimen in a beaker and add distilled water (approximately 80 parts water to one part of cloth by weight). Add a few drops of wetting agent and boil for 30 minutes.
6. Rinse specimen alternately in warm and cold distilled water. After each rinsing, squeeze water out, using slight hand pressure. Use two warm (65 +/- 2 °C) and two cold (23 +/- 2 °C) rinses.
7. Place the specimen in a beaker, add Neozyme Regular solution (80 parts to one part of cloth by weight), warm and hold at 50 - 55 °C for 2 hours. Do not agitate.
8. Rinse the specimen in two separate portions of distilled water (80 parts water to one part of cloth, by weight, for each rinse). Boil for 30 minutes for each rinse.
9. Rinse in cold distilled water and squeeze out excess by hand.
10. Place in weighing bottle, dry at 105 +/- 2 °C to constant weight, cover, cool in the desiccator and weigh.

Evaluation

Compute the percentage sizing content as follows:

$$\text{Total Size \%} = \frac{\text{Loss in Weight}}{\text{Original Weight of Specimen}} \times 100$$

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.