



T 1006 sp-10

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Testing of fiber glass mats: use of modified TAPPI procedures for sampling and lot acceptance, stiffness, tear resistance, and thickness

1. Scope

The purpose of this standard practice is to list existing TAPPI test methods which provide procedures for sampling and lot acceptance, stiffness, tear resistance, and thickness, and to suggest modifications to these methods for use in the sampling and testing of fiber glass mats.

2. Sampling and lot acceptance

2.1 Use TAPPI T 400 "Sampling and Accepting a Single Lot of Paper, Paperboard, Containerboard, or Related Product."

2.2 The method of sampling and lot acceptance may be applied to each of the physical properties to be determined.

2.3 Any alternate sampling method, agreeable to both buyer and seller, may be employed.

3. Stiffness

3.1 Use TAPPI T 489 "Stiffness of Paper and Paperboard (Taber-type)."

3.2 Obtain samples in accordance with TAPPI T 1007 "Sample Location."

3.3 Test specimens shall be cut in each principal direction, machine direction and cross machine direction.

3.4 Conditioning: for referee testing, condition samples for 5 h at $77 \pm 2^\circ\text{F}$ ($25 \pm 1^\circ\text{C}$) and $50 \pm 3\%$ relative humidity.

3.5 Under routine circumstances, samples may be conditioned for 0.5 h and tested at ambient laboratory conditions.

3.6 Measure thickness in accordance with Section 6 of this method.

3.7 Report: include laboratory ambient temperature and relative humidity.

Approved by the Standard Specific Interest Group for this Test Method



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4. Tear resistance

- 4.1 Use TAPPI T 414 “Internal Tearing Resistance of Paper (Elmendorf-type method)” except:
- 4.2 Obtain sample in accordance with TAPPI T 1007 “Sample Location.”
- 4.3 Disregard Section 7.5. The line of tear of many fiber glass mats will not pass through the top of the specimen due to the nature of the mat.
- 4.4 Use either an 800- or 1600-g pendulum instrument and test with a single ply of mat so that the resultant scale reading on the instrument is between 20 and 80.
- 4.5 Test 10 individual test samples for each direction (MD & CD) and record the average of the individual results as the test result.
- 4.6 Report the average tear strength in each direction (MD and CD).
- 4.7 Report the standard deviation of the result in each direction (MD and CD).

5. Thickness

- 5.1 Use TAPPI T 411 “Thickness (Caliper) of Paper, Paperboard, and Combined Board,” except:
 - 5.1.1 The anvil shall have a diameter of 2.5 in. (64 mm) and the presser foot shall have a diameter of 2 in. (51 mm).
 - 5.1.2 The pressure used at measurement shall be 19.1 g/cm² or 387 g load for the 2-in. (51-mm) diameter presser foot.
 - 5.1.3 Obtain sample in accordance with TAPPI T 1007 “Sample Location.”
- 5.2 Other presser foot diameters and other pressures may be used if agreed upon between user and supplier. However, it is recognized that such differences may result in different reported values of thickness for the same sample of mat.

6. Precision

Statements of precision are applicable for each individual method referenced, and are stated in each referenced method.

7. Keywords

Fiber mats, Glass fibers, Sampling, Bend strength, Tear strength, Thickness, Stiffness

8. Additional information

Effective date of issue: to be assigned.

Your comments and suggestions on this procedure are earnestly requested and should be sent to the TAPPI Standards Department. ■