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T 1012

BALLOT NO. 04-SARG

DRAFT NO. 03

DATE 6/1/2023

WORKING GROUP
CHAIR Zhihua (Jerry) Guo

SUBJECT
CATEGORY Fiberglass Mat

RELATED
METHODS See "Additional Information"

CAUTION:
This Test Method may include safety precautions which are believed to be appropriate at the time of publication of the method. The intent of these is to alert the user of the method to safety issues related to such use. The user is responsible for determining that the safety precautions are complete and are appropriate to their use of the method, and for ensuring that suitable safety practices have not changed since publication of the method. This method may require the use, disposal, or both, of chemicals which may present serious health hazards to humans. Procedures for the handling of such substances are set forth on Safety Data Sheets which must be developed by all manufacturers and importers of potentially hazardous chemicals and maintained by all distributors of potentially hazardous chemicals. Prior to the use of this method, the user must determine whether any of the chemicals to be used or disposed of are potentially hazardous and, if so, must follow strictly the procedures specified by both the manufacturer, as well as local, state, and federal authorities for safe use and disposal of these chemicals.

Moisture content of fiber glass mats

(Five-year review of Official Method T 1012 om-15)

(Underscores, notes, and strikethroughs show changes from Draft 2)

1. Scope

This method covers the determination of the moisture content of fiber glass mat on a dry basis.

2. Applicable document

TAPPI T 1007 "Sample Location."

3. Summary

The moisture content of fiber glass mat is determined by placing the test specimen in a suitable oven and measuring the volatiles lost during heating and cooling, under the conditions specified; the volatiles are assumed to be moisture.

4. Significance

The moisture content of fiber glass mat is a physical property which may be of interest in the conversion of the material into a finished product.

5. Apparatus

5.1 *Oven*, mechanical convection type capable of maintaining a temperature of 220° ± 5°F (105° ± 3°C).

5.2 *Balance*, accurate to 0.001 g.

5.3 *Paper cutter or sample cutting device* of suitable size to cut 6 × 6 in. (152 × 152 mm) or same size sample as used to perform basis weight testing procedure.

5.4 *Desiccator* with desiccant of sufficient volume to contain the 6 × 6 in. (152 × 152 mm) or same size sample as used to perform basis weight testing procedure.

5.5 *Forceps* of sufficient size to retrieve the specimens from the oven.

6. Test specimen

6.1 Obtain samples in accordance with TAPPI T1007 "Sample Location."

6.2 Cut five or more 6 × 6 in. (152 × 152 mm) or same size sample as used to perform basis weight procedure across the width of the roll.

7. Procedure

7.1 Weigh each of the prepared specimens to the nearest 0.001 g and record this weight as *A*.

7.2 Place each of the specimens in the convection oven which has been stabilized at 220° ± 5°F (105° ± 3°C) for 5 ± 1/2 min (or to constant weight).

7.3 Remove specimens from the oven with forceps and place in desiccator (see Note 1) until cooled to room temperature.

NOTE 1: Experience has shown that the low mass of typical industrial mats facilitates rapid cooling in a normal laboratory environment. Therefore, a desiccator may not be necessary provided that convection current effects are avoided in weighing and that the weighing is done in a sufficiently short time to avoid significant reabsorption of water from the ambient atmosphere.

7.4 Remove each of the specimens and rapidly weigh to the nearest 0.001 g and record this weight as *B*.

7.5 Calculate the percent of moisture for each of the five specimens to the nearest 0.1% as follows:

$$[(A\text{-}B) \times 100] / A$$

Deleted: *B*

8. Report

8.1 Report the average percent moisture of the five specimens to the nearest 0.1%.

8.2 The report should include:

8.2.1 The average percentage of moisture.

8.2.2 The number of specimens tested for each determination.

8.2.3 The standard deviation for each specimen set.

9. Precision

9.1 On the basis of studies made in accordance with TAPPI T 1200 "Interlaboratory Evaluation of Test Methods to Determine TAPPI Repeatability and Reproducibility" test results, each representing an average of 5 determinations from the same sample (commercial 2.00 lb/100ft2 fiberglass mat), are expected to agree within the amounts stated below. The study included five laboratories.

9.1.1	Average moisture content	1.55 %
	Repeatability	14 % - 0.21 moisture %
	Reproducibility	15 % - 0.24 moisture %

9.2 Fiberglass mats are extremely sensitive to environmental conditions (temperature, humidity) and must be allowed to equilibrate before moisture testing. Moisture content of fiberglass mats tested immediately after manufacturing might differ after shipment to a laboratory.

10. Keywords

Fiber glass mats, Moisture content

11. Additional information

11.1 Effective date of issue: To be assigned

11.2 Changes in the 2015 edition were to clarify the sample size and to indicate that the test is to determine the moisture content of fiber glass mat on a dry basis.

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