	Division	Test Method ID	Version	Page: 1-4
	Apparel	PHM-AP0617	01	Effective Date: Feb. 25 th 2020
	Evaporation Rate in g/h			Effective Until: Further Notice
Document Owner: Advanced Creation - Testing – Lab Standards				
Document Author: Claudia Karl Manager Lab Standards		Document Approver: Dr. Michael Otto Senior Manager Lab Standards		
Applicability - Brand: Adidas, Reebok		Division: Apparel		

1. Objective

To determine the evaporation rate of the textile.

2. Scope

This test method applies to any material/product that is labeled with moisture management.

3. Referenced documents

GB / T 21655.1-2008

Textiles-Evaluation of Absorption and Quick-Drying
Part 1: Individual Combination Test Method

PHX-AP0701: Version 01

Dimensional Change Spirality Appearance Change After Laundering

ISO 105-A01:2010-01

General principles of testing

4. Terminology

According to GB / T 21655.1-2008

5. Hardware/Equipment

According to GB / T 21655.1-2008

6. Sample

According to GB / T 21655.1-2008

+Adidas Modification:

- 3 samples with size 10cmx10cm, which are smooth and without wrinkles

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7. Procedure

According to GB / T 21655.1-2008 (section 8.3)

+Adidas Modification:

- The test must be done before and after 5x washed/ 1x dried
- **Wash Procedure:** wash / tumble dry low process in accordance with the appropriate Home laundering method PHX-AP0701 (table 4) by selecting the “machine wash warm 40°C, normal cycle” programme.

+Adidas Modification:

- If specimen does not absorb after 30sec. the water, the water drop can be pressed into the specimen, using a glass rod. If the water still will not absorb into the specimen, stop the test and state that the test could not be performed due to poor absorption of the material.
- Weight reading shall be taken at least every 10 minutes for a total of at least 30 minutes.

8. Data collection, evaluation and reporting

8.1 Data collection and reporting

- Before wash: average result of evaporation rate E_v of the unwashed specimens is required for the aTP-system
- after 5x laundering (by at least 40°C): average result of evaporation rate E_v of the 5x washed/1x tumble dried specimen is required for the aTP system

8.2 Evaluation/measuring

According to GB / T 21655.1-2008 (section 8.3)

Translated extract:

- Calculate the water evaporation rate at each time interval as follows:

$$\Delta m_i = m - m_i$$

$$E_i = \frac{\Delta m_i}{m_0} \times 100$$

Δm_i = Water evaporation, (g)

m_0 = The initial specimen weight, (g)

m = Specimen after wetting

m_i = Specimen at a certain time after wetting and hanging, (g)

E_i = Water Evaporation Rate, (%)

- Create a “time-evaporation curve” using the calculated data (Figure 1)

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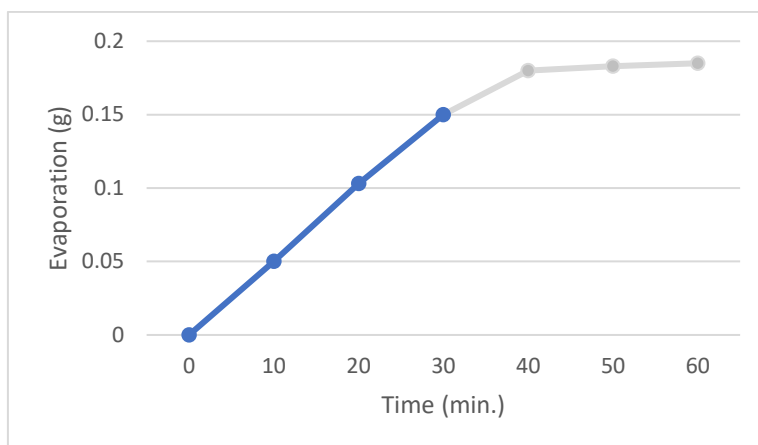


Figure 1 Time-Evaporation Curve

- Usually evaporation change will slow down obviously after some point in respect to evaporation curve. A tangent of the nearest straight line should be made on the curve before this point, and the slope of the tangent is moisture evaporation rate E_v (g / h).
- Calculate the slope between at least four points on the curve before the evaporation rate slows.
- Repeat the test for the other two specimens for a total of three results as well as repeating the test for the post-washed specimens (x3).
- Round the average of all three measurement to 0.01g/h, this is the average evaporation rate of the specimen.

9. Precision and bias

According to referenced documents.

10. Quality Assurance

According to referenced documents.

+Adidas Modification:

- The laboratory must take the full responsibility of the machines, devices and tools to be calibrated/controlled regularly in order to fulfill the required tolerance mentioned in the Adidas/Reebok test standards.

11. Safety

It is the user's responsibility to practice laboratory safety procedures in handling all materials in this test method. All national standards and rules and adidas laboratory guidelines and procedures shall be consulted and followed. This safety statement is not all-inclusive and is for informational purposes only. Refer to your country's safety guidelines for all safety regulations.

12. Document version history

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Version	Date	Author	Notes
01	2020-02-25	Claudia Karl	New test method to follow GB/T 21655.1 with some simplifications

13. Annex

GB / T 21655.1-2008



GBT 21655.1-2008
纺织品 吸湿速干性

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