



# Standard Specification for Paper Used for Vacuum Cleaner Filter Bags<sup>1</sup>

This standard is issued under the fixed designation F430; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers procedures to be followed for qualifying papers to be used in the manufacture of vacuum cleaner bags and filters. The filtration efficiency of the paper is not evaluated with the use of these test methods.

1.2 The procedures appear in the following sections:

Procedure	Sections
Air Permeability (Test Method <a href="#">D737</a> )	3-5
Basis Weight (TAPPI Test Method T 410)	6-8
Bursting Strength (Mullen Test) (TAPPI Test Method T 403)	9-11
Internal Tearing Resistance (TAPPI Test Method T 414)	12-14
Tensile Breaking Strength (TAPPI Test Method T 494)	15-17

1.3 The values stated in inch-pound units are to be regarded as the standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

- 2.1 *ASTM Standards:*<sup>2</sup>  
[D737 Test Method for Air Permeability of Textile Fabrics](#)
- 2.2 *TAPPI Standards:*<sup>3</sup>  
[T 403 Bursting Strength of Paper](#)  
[T 410 Basis Weight of Paper and Paperboard](#)  
[T 414 Internal Tearing Resistance of Paper](#)  
[T 494 Tensile Breaking Strength of Paper and Paperboard \(using constant rate of elongation apparatus\)](#)

<sup>1</sup> These test methods are under the jurisdiction of ASTM Committee F11 on Vacuum Cleaners and is the direct responsibility of Subcommittee F11.23 on Filtration.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from the Technical Association of the Pulp and Paper Industry, One Dunwoody Park, Atlanta, GA 30341.

## AIR PERMEABILITY

### 3. Scope

3.1 This test method covers the direct determination of the air permeability of vacuum cleaner bag filter media by the calibrated orifice method.

### 4. Significance and Use

4.1 Air permeability is an important factor in the performance of vacuum cleaner bag filter media, because it is a direct indicator of the resistance to air flow. It may also indicate the size of vacuum cleaner bag needed to achieve the desired air flow volume.

4.2 Performance specifications, both industrial and military, have been set up on the basis of air permeability and are used in the purchase of materials where permeability is of interest.

4.3 Since air permeability is not a linear function of pressure differential between paper surfaces, all tests should be made at a prescribed pressure differential, 0.5 in. (12.7 mm) of water.

### 5. Procedure

5.1 Determine the air permeability of the paper in accordance with Test Method [D737](#).

## BASIS WEIGHT

### 6. Scope

6.1 This test method covers the determination of the basis weight of paper used in the manufacture of vacuum cleaner bags.

### 7. Significance and Use

7.1 The basis weight is a measure of the substance of the paper.

### 8. Procedure

8.1 Determine the basis weight of the paper in accordance with TAPPI Test Method T 410.

## BURSTING STRENGTH

### 9. Scope

9.1 This test method covers measurement of the bursting strength of paper having a bursting strength of not over 200 psi

(1.4 MPa) and occurring as a single or laminated sheet not over 0.025 in. (0.64 mm) in thickness.

#### **10. Significance and Use**

10.1 This test method is a measure of the degree of resistance to forces applied normal to the surface of the paper which might cause the paper to rupture.

#### **11. Procedure**

11.1 Determine the bursting strength of the paper in accordance with TAPPI Test Method T 403.

### **INTERNAL TEARING RESISTANCE**

#### **12. Scope**

12.1 This test method covers the determination of the average force in grams required to tear a single sheet of paper after the tear has been initiated.

#### **13. Significance and Use**

13.1 This test method is a measure of the resistance of a vacuum cleaner bag to tearing, and therefore spilling its contents.

#### **14. Procedure**

14.1 Determine the internal tearing resistance of the paper in accordance with TAPPI Test Method T 414.

### **TENSILE BREAKING STRENGTH**

#### **15. Scope**

15.1 This test method covers the determination of the tensile breaking strength of vacuum cleaner bag paper.

#### **16. Significance and Use**

16.1 Tensile strength is indicative of the serviceability of vacuum cleaner bag papers that are subjected to direct tensile stresses. Tensile strength measurements include the potential resistance to breaking when the paper web is subjected to strains during travel from the roll through the bag making and printing process.

#### **17. Procedure**

17.1 Determine the tensile breaking strength (dry) in accordance with TAPPI Test Method T 494.

#### **18. Keywords**

18.1 filtration; paper; vacuum cleaner

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