



Designation: F1411 – 11 (Reapproved 2018)

# Standard Practice for Presenting Selected Information on Vacuum Cleaners for Consumer Use<sup>1</sup>

This standard is issued under the fixed designation F1411; 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 practice identifies the method of presenting information on selected performance and physical characteristics of a residential vacuum cleaner.

1.2 This information is intended to assist the consumer in comparing selected characteristics of vacuum cleaner models.

1.3 It is also intended that this information be presented in a manner that is meaningful and understandable to the consumer.

1.4 The characteristics are selected from those for which ASTM test methods have been developed.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>2</sup>

- F395 Terminology Relating to Vacuum Cleaners
- F555 Test Method for Motor Life Evaluation of an Upright Vacuum Cleaner
- F558 Test Method for Measuring Air Performance Characteristics of Vacuum Cleaners
- F608 Test Method for Evaluation of Carpet Embedded Dirt Removal Effectiveness of Household/Commercial Vacuum Cleaners
- F888 Test Method for Measuring Maximum Function Volume of the Primary Dirt Receptacle in a Vacuum Cleaner
- F922 Test Method for Motor Life Evaluation of an Electric Motorized Nozzle

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee F11 on Vacuum Cleaners and is the direct responsibility of Subcommittee F11.93 on Consumer Information.

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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.

- F1038 Test Method for Motor Life Evaluation of a Canister, Hand-held, Stick, and Utility Type Vacuum Cleaner Without a Driven Agitator
- F1334 Test Method for Determining A-Weighted Sound Power Level of Vacuum Cleaners
- F1409 Test Method for Straight Line Movement of Vacuum Cleaners While Cleaning Carpets
- F2607 Test Method for Measuring the Hard Surface Floor-Cleaning Ability of Household/Commercial Vacuum Cleaners
- F2608 Test Method for Determining the Change in Room Air Particulate Counts as a Result of the Vacuum Cleaning Process
- F2756 Test Method for Determining Energy Consumption of Vacuum Cleaners

## 3. Method of Information Presentation

3.1 Information will be presented to consumers in the form of a buyer's guide.

3.2 The cleaner characteristics to be included in the buyer's guide are as follows:

- 3.2.1 Brand,
- 3.2.2 Model number,
- 3.2.3 Weight of cleaner,
- 3.2.4 Bag capacity,
- 3.2.5 Maximum cleaning distance from outlet,
- 3.2.6 Cleaning ability,
  - 3.2.6.1 Embedded dirt,
  - 3.2.6.2 Hard Surface Cleaning,
- 3.2.7 Maneuverability,
- 3.2.8 Maximum air power,
- 3.2.9 Quietness,
- 3.2.10 Durability, and
- 3.2.11 Dust Emissions as a Result of Vacuuming.

3.3 For an individual cleaner the information on weight of cleaner, bag capacity, and maximum cleaning distance from outlet should be presented as actual values obtained from the applicable test methods (see [Table 1](#)).

3.4 For an individual cleaner, the performance characteristics shown in [Table 2](#) should be rated in accordance with the

**TABLE 1 Cleaner Characteristics Not Requiring Boundaries**

Cleaner Characteristic	ASTM Test Method	Value
1. Operational weight of cleaner	F395	pounds
2. Bag capacity	F888	quarts (dry)
3. Maximum cleaning distance from outlet	F395	feet plus inches
4. Average energy consumed while cleaning carpet	F2756	kilowatt-hours

**TABLE 2 Cleaner Characteristics, Boundaries and Increments**

Cleaner Characteristics	ASTM Test Method	Value	Performance, Low	Boundaries, High	Performance Increments
I. Embedded dirt removal					
Level loop carpet	F608	%	0	90	9 %
Multi-level carpet	F608	%	0	70	7 %
Plush carpet	F608	%	0	60	6 %
Shag carpet	F608	%	0	15	1.5 %
Geometric Mean	F608	%	0	50	5 %
II. Maneuverability (Level loop, multi-level, plush, shag, and Geometric Mean)	F1409	ft-lbf	80 (or higher)	25	Ratings 2 to 10 are in increments of 5.5 ft-lbf. Rating 1 is anything higher than 80 ft-lbf.
III. Hard Surface Cleaning	F2607	%	0	100	10 %
IV. Maximum air power at end of hose (suction power)	F558	airwatts	0	275	27.5 W
V. Durability of motors	F1038 (straight air cleaners)	hours	0	720 (or higher)	Ratings 1 to 9 are in increments of 80 h.
	F555 (upright cleaners)	hours	0	720 (or higher)	Rating 10 is anything higher than 720 h.
	F922 (motorized nozzles)	hours	0	720 (or higher)	
VI. Quietness	F1334	sound power, dBA	greater than 91	lower than 75	Ratings 1 to 9 are in increments of 2 dBA.
VII. Dust Emissions	F2608	particles/ft <sup>3</sup>	0	50,000,000	Logarithmic Rankings

performance boundaries shown in Table 3. This rating represents a cleaner's performance for a given characteristic on a scale of 1 to 10 (the larger the number the better the performance).

3.4.1 The boundary values listed shall be considered the upper limit for each rating group. For example, a hard floor cleaning value of exactly 20.0 would result in a rating of 2, a value of 20.1 would result in a rating of 3.

3.4.2 Manufacturers who develop cleaners that exceed the high performance boundary shall be allowed to rate that characteristic as *Exceeds 10*. When this occurs, however, the manufacturer is asked to notify the Consumer Information Subcommittee to initiate a review of that characteristic's boundaries.

3.5 Embedded dirt, maneuverability, maximum air power, quietness, and durability tests must be conducted using the same settings (for example, nozzle height, motor speed, suction regulator, etc.) for each specific carpet.

3.6 The buyer's guide will conform to the following sample and specification:

3.6.1 Buyer's guide (see Fig. 1).

3.6.2 Buyer's guide specification (see Table 4).

#### 4. Keywords

4.1 buyers guide; consumer information; fact tag; vacuum cleaner