



Standard Practice for Presenting Selected Information on Vacuum Cleaners for Consumer Use¹

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 (ϵ) 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.

2. Referenced Documents

2.1 *ASTM Standards*:²

- 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
- 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

¹ 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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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

- 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 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

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 ³	0	50,000,000	Logarithmic Rankings

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

TABLE 3 Rating Scale for Cleaner Characteristics Requiring Boundaries

I. Embedded Dirt Removal (Test Method F608)											
Level loop carpet	1	2	3	4	5	6	7	8	9	10	
Scale 1 to 10	0	9	18	27	36	45	54	63	72	81	90
% Dirt pick-up											
Multilevel carpet	1	2	3	4	5	6	7	8	9	10	
Scale 1 to 10	0	7	14	21	28	35	42	49	56	63	70
% Dirt pick-up											
Plush carpet	1	2	3	4	5	6	7	8	9	10	
Scale 1 to 10	0	6	12	18	24	30	36	42	48	54	60
% Dirt pick-up											
Shag carpet	1	2	3	4	5	6	7	8	9	10	
Scale 1 to 10	0	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
% Dirt pick-up											
Geometric Mean (Reported as Overall Carpet Cleaning)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
% Dirt pick-up	0	5	10	15	20	25	30	35	40	45	50
II. Hard Surface Cleaning (Test Method F2607)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
% Dirt pick-up	0	10	20	30	40	50	60	70	80	90	100
III. Maneuverability (Test Method F1409)											
Level loop, multilevel, plush, and shag carpets											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
Work (ft-lbf)	80	74.5	69	63.5	58	52.5	47	41.5	36	30.5	25
	<i>higher</i>										
Geometric Mean (Reported as Overall Maneuverability)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
Work (ft-lbf)	80	74.5	69	63.5	58	52.5	47	41.5	36	30.5	25
	<i>higher</i>										
IV. Maximum Air Power/Above-Floor Cleaning Potential (Suction Power) (Test Method F558)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
Air Watts	0	27.5	55	82.5	110	138	165	193	220	248	275
V. Durability of Motor (Test Methods F555 and F1038)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
Hours	0	80	160	240	320	400	480	560	640	720	<i>higher</i>
VI. Quietness (Test Method F1334)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
Sound Power (dBA)	<i>higher</i>	91	89	87	85	83	81	79	77	75	<i>lower</i>
VII. Dust Emissions (Test Method F2608)											
Scale 1 to 10	1	2	3	4	5	6	7	8	9	10	
Particles/ft ³	<i>higher</i>	50 000	16 000	5000	1600	500	160	50	16	5	0
(in thousands)											

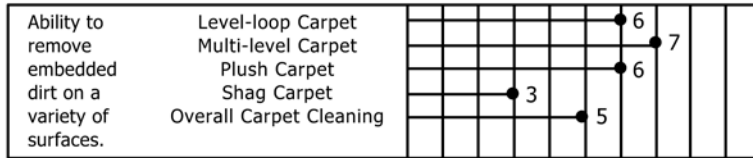
VACUUM CLEANER BUYER'S GUIDE

COMPANY NAME MODEL TYPE CLEANER

Weight 12 pounds/5.5 kilograms
 Bag Capacity 9 quarts/9.5 liters
 Maximum Cleaning Distance from Outlet 40 feet/14.4 meters
 Average Energy Consumed for Carpet Cleaning (10 m²) 0.292 kWh

Ratings based on a 1-10 scale, where 10 is best. Use the following ratings to compare this model with other vacuum cleaners on the same type carpet.

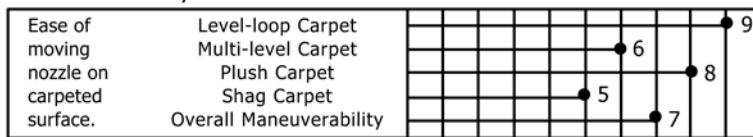
Carpet Cleaning Ability



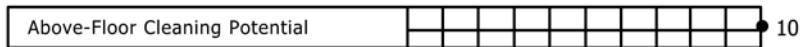
Hard Surface Cleaning Ability



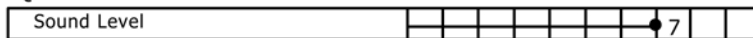
Maneuverability



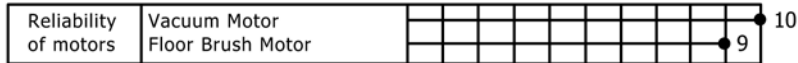
Maximum Hose Suction Power



Quietness



Durability



Dust Emissions



** These ratings are based on the results of laboratory tests carried out by the manufacturer using ASTM procedures.

Performance results in your home may vary from test results due to differences in carpets, type of soil, cleaning techniques or other factors.



FIG. 1 Sample Buyer's Guide

TABLE 4 Buyer's Guide Specifications

1. Size	A1 × 2 ratio of width to length. ^A										
2. Type Face	The Vacuum Cleaners Buyer's Guide type face can be any plain, easy to read type face, such as Helvetica, Universe, or Helios.										
3. Type Size	The minimum type size specified for each position of the Buyer's Guide is listed as follows: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Buyer's Guide Title</td> <td style="width: 50%;">14 point</td> </tr> <tr> <td>Definition: On a scale of 1 to 10, best = 10</td> <td>8 point</td> </tr> <tr> <td>Guide Information</td> <td>8 point</td> </tr> <tr> <td>Footnotes</td> <td>6 point</td> </tr> <tr> <td>Optional Manufacturer's Clarifying Statements on Warranty</td> <td>6 point</td> </tr> </table>	Buyer's Guide Title	14 point	Definition: On a scale of 1 to 10, best = 10	8 point	Guide Information	8 point	Footnotes	6 point	Optional Manufacturer's Clarifying Statements on Warranty	6 point
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Definition: On a scale of 1 to 10, best = 10	8 point										
Guide Information	8 point										
Footnotes	6 point										
Optional Manufacturer's Clarifying Statements on Warranty	6 point										
4. Color	Contrasting ink on white background, black ink preferred.										
5. Order of Characteristics	Use order provided in 3.2 .										
6. Abbreviations	None										
7. Power Nozzle Motor	Delete when not applicable.										
8. Optional Information	No additional information, including logos, are allowed on Buyer's Guide side or page.										

^A The Optional Manufacturer's Clarifying Statements on Warranty are not considered as part of the Buyer's Guide size specification.

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