



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

This standard is issued under the fixed designation F 1411; 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 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:

- F 395 Terminology Relating to Vacuum Cleaners<sup>2</sup>
- F 555 Test Method for Motor Life Evaluation of an Upright Vacuum Cleaner<sup>2</sup>
- F 558 Test Method for Measuring Air Performance Characteristics of Vacuum Cleaners<sup>2</sup>
- F 608 Test Method for Evaluation of Carpet Embedded Dirt Removal Effectiveness of Household/Commercial Vacuum Cleaners<sup>2</sup>
- F 888 Test Method for Measuring Maximum Functional Volume of the Primary Dirt Receptacle in a Vacuum Cleaner<sup>2</sup>
- F 922 Test Method for Motor Life Evaluation of an Electric Motorized Nozzle<sup>2</sup>
- F 1038 Test Method for Motor Life Evaluation of a Canister, Hand-Held, Stick, and Utility Type Vacuum Cleaner Without a Driven Agitator<sup>2</sup>
- F 1334 Test Method for Determining A-Weighted Sound Power Level of Vacuum Cleaners<sup>2</sup>
- F 1409 Test Method for Straight-Line Movement of Vacuum Cleaners While Cleaning Carpets<sup>2</sup>

<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> *Annual Book of ASTM Standards*, Vol 15.07.

### 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,
  - 3.2.7 Maneuverability,
  - 3.2.8 Maximum air power,
  - 3.2.9 Quietness, and
  - 3.2.10 Durability.

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 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, 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).

**TABLE 1 Cleaner Characteristics Not Requiring Boundaries**

Cleaner Characteristic	ASTM Test Method	Value
1. Operational weight of cleaner	F 395	pounds
2. Bag capacity	F 888	quarts (dry)
3. Maximum cleaning distance from outlet	F 395	feet plus inches

**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	F 608	%	0	100	10 %
Multi-level carpet	F 608	%	0	75	7.5 %
Push/saxony carpet	F 608	%	0	60	6 %
II. Maneuverability (Level loop, multi-level, and plush/saxony carpet)	F 1409	ft-lbf	72 (or higher)	0	Ratings 2 to 10 are in increments of 8 ft-lbf. Rating 1 is anything higher than 72 ft-lbf.
III. Maximum air power	F 558	airwatts	0	250	25 W
IV. Durability of motors	F 1038 (straight air cleaners)	hours	0	720 (or higher)	Ratings 1 to 9 are in increments of 80 h.
	F 555 (upright cleaners)	hours	0	720 (or higher)	Rating 10 is anything higher than 720 h.
	F 922 (motorized nozzles)	hours	0	720 (or higher)	
V. Quietness	F 1334	sound power, dB	greater than 91	lower than 75	Ratings 1 to 9 are in increments of 2 dB.

**TABLE 3 Rating Scale for Cleaner Characteristics Requiring Boundaries**

I. Embedded Dirt Removal (Test Method F 608)																						
Level loop carpet Scale 1 to 10 % Dirt pick-up	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>0</td><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td><td>100</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	0	10	20	30	40	50	60	70	80	90	100
1	2	3	4	5	6	7	8	9	10													
0	10	20	30	40	50	60	70	80	90	100												
Multilevel carpet Scale 1 to 10 % Dirt pick-up	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>0</td><td>7.5</td><td>15</td><td>22.5</td><td>30</td><td>37.5</td><td>45</td><td>52.5</td><td>60</td><td>67.5</td><td>75</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	0	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75
1	2	3	4	5	6	7	8	9	10													
0	7.5	15	22.5	30	37.5	45	52.5	60	67.5	75												
Plush/saxony carpet Scale 1 to 10 % Dirt pick-up	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>0</td><td>6</td><td>12</td><td>18</td><td>24</td><td>30</td><td>36</td><td>42</td><td>48</td><td>54</td><td>60</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	0	6	12	18	24	30	36	42	48	54	60
1	2	3	4	5	6	7	8	9	10													
0	6	12	18	24	30	36	42	48	54	60												
II. Maneuverability (F 1409)																						
Level loop, multilevel, and plush/saxony carpets Scale 1 to 10 Work (ft-lbf)	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>higher</td><td>72</td><td>64</td><td>56</td><td>48</td><td>40</td><td>32</td><td>24</td><td>16</td><td>8</td><td>0</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	higher	72	64	56	48	40	32	24	16	8	0
1	2	3	4	5	6	7	8	9	10													
higher	72	64	56	48	40	32	24	16	8	0												
III. Maximum Air Power (Test Method F 558)																						
Scale 1 to 10 Maximum airwatts	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>0</td><td>25</td><td>50</td><td>75</td><td>100</td><td>125</td><td>150</td><td>175</td><td>200</td><td>225</td><td>250</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	0	25	50	75	100	125	150	175	200	225	250
1	2	3	4	5	6	7	8	9	10													
0	25	50	75	100	125	150	175	200	225	250												
IV. Durability of Motor (Test Methods F 555 and F 1038)																						
Scale 1 to 10 Hours	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>0</td><td>80</td><td>160</td><td>240</td><td>320</td><td>400</td><td>480</td><td>560</td><td>640</td><td>720</td><td>or higher</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	0	80	160	240	320	400	480	560	640	720	or higher
1	2	3	4	5	6	7	8	9	10													
0	80	160	240	320	400	480	560	640	720	or higher												
V. Quietness (Test Method F 1334)																						
Scale 1 to 10 Sound Power	<table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>higher</td><td>91</td><td>89</td><td>87</td><td>85</td><td>83</td><td>81</td><td>79</td><td>77</td><td>75</td><td>lower</td></tr> </table>	1	2	3	4	5	6	7	8	9	10	higher	91	89	87	85	83	81	79	77	75	lower
1	2	3	4	5	6	7	8	9	10													
higher	91	89	87	85	83	81	79	77	75	lower												

3.7 The buyer’s guide is to be used in its entirety with no substitutions, deletions, or additions except as noted in the specification.

3.8 Suggested uses for the buyer’s guide would include fact tag, hang tag, wall charts, handouts, envelope stuffers, counter charts, and training materials.

**4. Keywords**

4.1 buyers guide; consumer information; vacuum cleaner