Designation: F 608 – 03

An American National Standard

Standard Test Method for Evaluation of Carpet Embedded Dirt Removal Effectiveness of Household/Commercial Vacuum Cleaners[1]

This standard is issued under the fixed designation F 608; 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 test method covers only a laboratory test for determining the relative carpet dirt removal effectiveness of household/commercial vacuum cleaners when tested under specified conditions.

1.2 This test method is applicable to household/commercial types of upright, canister, and combination cleaners.

1.3 The test method applies to embedded dirt removal from carpets, not the removal of surface litter and debris.

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:*

D 75 Practice for Sampling Aggregates[2]

E 11 Specification for Wire Cloth Sieves for Testing Purposes[3]

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods[3]

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method[3]

F 655 Specification for Test Carpets and Pads for Vacuum Cleaner Testing[4]

F 884 Test Method for Motor Life Evaluation of a Built-In (Central Vacuum) Vacuum Cleaner[4]

F 922 Test Method for Motor Life Evaluation of an Electric Motorized Nozzle[4]

F 1038 Test Method for Motor Life Evaluation of a Canister, Hand-held, Stick, and Utility Type Vacuum Cleaner Without a Driven Agitator[4]

F 1334 Test Method for Determining A-Weighted Sound Power Level of Vacuum Cleaners[4]

F 1409 Test Method for Straight-Line Movement of Vacuum Cleaners While Cleaning Carpets[4]

3. Terminology

3.1 *Definitions:*

3.1.1 *cleaning ability, dry*, *n*—the potential of a vacuum cleaner to remove dirt from a surface (sometimes referred to in the industry as *cleanability, dry*).

3.1.2 *model*, *n*—the designation of a group of vacuum cleaners having identical mechanical and electrical construction with only cosmetic or nonfunctional differences.

3.1.3 *population*, *n*—the total of all units of a particular model vacuum cleaner being tested.

3.1.4 *repeatability limit, r*—the value below which the absolute difference between two individual test results obtained under repeatability condition may be expected to occur with a probability of approximately 0.95 (95 %).

3.1.5 *repeatability standard deviation*, S_r—the standard deviation of test results obtained under repeatability conditions.

3.1.6 *reproducibility limit, R*—the value below which the absolute difference between two test results obtained under reproducibility conditions may be expected to occur with a probability of approximately 0.95 (95 %).

3.1.7 *reproducibility standard deviation*, S_R—the standard deviation of test results obtained under reproducibility conditions.

3.1.8 *sample*, *n*—a group of vacuum cleaners taken from a large collection of vacuum cleaners of one particular model which serves to provide information that may be used as a basis for making a decision concerning the larger collection.

3.1.9 *test run*, *n*—the definitive procedure that produces a singular measured result.

3.1.10 *unit*, *n*—a single vacuum cleaner of the model being tested.

4. Significance and Use

4.1 This test method provides an indication of the capability of the vacuum cleaner to remove embedded dirt from carpeting. This test method is based upon results of home cleaning tests so that, in most cases, a reasonable correlation exists between home and laboratory results. The amount of dirt picked up in the laboratory test may not be the same as in the

[1] This test method is under the jurisdiction of ASTM Committee F11 on Vacuum Cleaners and is the direct responsibility of Subcommittee F11.21 on Cleanability.

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[2] *Annual Book of ASTM Standards*, Vol 04.03.

[3] *Annual Book of ASTM Standards*, Vol 14.02.

[4] *Annual Book of ASTM Standards*, Vol 15.08.

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