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PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

**Method for measuring performance of portable household electric room air
cleaners**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**METHOD FOR MEASURING PERFORMANCE OF PORTABLE
HOUSEHOLD ELECTRIC ROOM AIR CLEANERS**

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A PAS is a technical specification not fulfilling the requirements for a standard, but made available to the public.

IEC-PAS 62587 has been prepared by the Association of Home Appliance Manufacturers (AHAM) and processed by IEC technical committee 59: Performance of household and similar electrical appliances. It is based on ANSI/AHAM AC-1-2006

The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document

Draft PAS	Report on voting
59/499/PAS	59/506/RVD

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned will transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of 3 years starting from the publication date. The validity may be extended for a single 3-year period, following which it shall be revised to become another type of normative document, or shall be withdrawn.

INTRODUCTION

This Publicly Available Specification (PAS) contains test procedures for measuring the relative reduction by the air cleaner of particulate matter suspended in the air in a specified test chamber. It also prescribes a method for measuring the operating power and standby power of the air cleaner. The test procedures may be applied to any brand or model of portable household electric room air cleaners within the stated confines of the standard's limits of measurability for measuring performance

The annexes to this PAS are included for informative purposes only unless the annexes are noted as normative.

This PAS may involve hazardous materials, operations, and equipment. This PAS does not purport to address all of the safety problems associated with its use. It is the responsibility of whoever uses this PAS to consult and establish appropriate safety and health practices and determine the applicability of any regulatory limitations prior to use.

METHOD FOR MEASURING PERFORMANCE OF PORTABLE HOUSEHOLD ELECTRIC ROOM AIR CLEANERS

1 Scope and object

This Publicly Available Specification establishes a system of uniform, repeatable procedures and standard methods for measuring specified product characteristics of portable household electric room air cleaners.

The standard methods provide a means to compare and evaluate different brands of portable household electric room air cleaners regarding characteristics significant to product use.

The standard methods of measurement are not intended to inhibit improvement and innovation in product testing, design or performance.

This standard method applies to portable household electric room air cleaners as defined in Clause 3.

This standard method includes definitions and safety characteristics of portable household electric room air cleaners of the types indicated.

This standard method measures the relative reduction by the air cleaner of particulate matter suspended in the air in a specified test chamber. It also prescribes a method for measuring the operating power and standby power of the air cleaner.

This standard method has defined limits of measurability based on the statistical accuracy of the methods. Based on a 95 % confidence limit (2 standard deviations), a clean air delivery rate (CADR) (see 3.5) cannot be distinguished between zero (0) and a CADR rating less than those CADR limits shown below. Therefore, this PAS only applies to air cleaners with minimum CADR ratings of:

Dust	CADR = 10 cfm
Cigarette smoke	CADR = 10 cfm
Pollen	CADR = 25 cfm

The maximum CADR values are determined based on theoretical maximum limits. The theoretical maximum limits are determined by the maximum number of initial available particles, the acceptable minimum number of available particles, an average background natural decay rate (from statistical study), the size of the chamber, and the available minimum experiment time. CADR values greater than those listed will not have the necessary statistical data required by this method. Therefore, the document only applies to air cleaners with maximum CADR ratings of:

Dust	CADR = 400 cfm
Cigarette smoke	CADR = 450 cfm
Pollen	CADR = 450 cfm

The precision of this document as based on a 0 CADR air cleaner expressed as 2 standard deviation limits (95 %) are:

Dust	CADR = ± 10 cfm
Cigarette Smoke	CADR = ± 10 cfm
Pollen	CADR = ± 25 cfm

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM E747, *Standard Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution*