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Proposed Regulatory Language

California Code of Regulations
Title 20. Public Utilities and Energy
Division 2. State Energy Resources Conservation and Development Commission
Chapter 4. Energy Conservation
Article 4. Appliance Efficiency Regulations
Sections 1601-1609
As related to air filters

Amendments to the existing code that were made public with the Notice of Proposed Action published on March 15, 2022, are shown in strikethrough (~~example~~) to indicate deletions and underlined (example) to indication additions. Additional amendments being proposed and made public with the Public Notice published on August 29, 2022, are shown in double strikethrough (~~example~~) to indicate deletions and double underline (example) for additions. Additional amendments being proposed for a second 15-day public comment period are shown in bold-italics strikethrough (~~***example***~~) to indicate deletions and bold-italics wavy-underline (***example***) to indicate additions.

Section 1601. Scope

This Article applies to the following types of new appliances, if sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles, or other mobile equipment. Unless otherwise specified, each provision applies only to units manufactured on or after the effective date of the provision.

NOTE: For the applicability of these regulations to appliances installed in new building construction, see sections 110.0 and 110.1 of Part 6 of Title 24 of the California Code of Regulations.

…[skipping (a) and (b)]

(c) Central air conditioners, which are electrically powered unitary air conditioners and electrically powered unitary heat pumps, except those designed to operate without a fan; and gas-fired air conditioners and gas-fired heat pumps, air filters ~~for residential buildings for use in forced-air heating or forced-air cooling equipment~~, and heat pump water-heating packages.

…[skipping "(d) Portable air conditioners, evaporative coolers…", through end of section]

Note Authority cited: Sections 25213, 25218(e), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26, and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Reference: Sections 25216.5(d), 25402(a)-25402(c), 25402.5.4, and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1602. Definitions

…[skipping (a) and (b)]

(c) Air Conditioners, Air Filters, and Heat Pump Water-Heating Packages.

…[skipping "Air Conditioner" and "Air-cooled air conditioner"]

"Air filter" means ~~an~~a disposable or reusable air-cleaning device with ~~***air***~~ filtering media encased in a frame of a nominal depth of no greater than 6.0 inches ~~installed in forced air heating or cooling equipment and~~ used for removing particulate matter from the air and designed for installation in residential ducted ~~***forced-air ventilation, heating, or cooling***~~ systems.

(1) Air filter does not include:

(A) Electronic air cleaners;

(B) Filter media sold as rolls~~***, i.e.,***~~ not encased in a frame;

(C) Air filters designed and sold exclusively for installation in products other than residential ducted ~~***forced-air***~~ systems.

…[skipping "Air filter depth" to "Air-source heat pump"]

"Basic model" of an air filter means all units of a given type of air filter, irrespective of the face area dimensions, that have the same depth and the same construction, including type and grade of air filter media, pleat spacing, pleat height, pleat support, and filter frame pattern.

…[skipping "Basic model" of a federally regulated central air… to "Dust holding capacity~~Maximum rated airflow rate~~"]

"Electronic air cleaner" means electrically powered filtration equipment that uses high voltage electrostatic principles to collect particulate matter. It may be of single-stage or multi-stage configuration. Part or all of the charging and/or collecting sections may be manually cleanable, automatically cleanable, or disposable.

"Minimum efficiency reporting value (MERV)" of an air filter means the composite particle efficiency metric defined in ANSI/ASHRAE Standard 52.2-~~2012~~2017.

…[skipping "Multi-head mini-split system" to "Particle size"]

"Particle size efficiency" of an air filter, also known as "particle size removal efficiency", means the fraction (percentage) of particles that are captured on the air filter. Particle size efficiency is measured in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (μm). Particle size efficiency is abbreviated as "PSE" in the required ~~labels~~ marking for air filters.

…[skipping "Premium motor"]

"Pressure drop" of an air filter means the drop in static pressure versus air flow rate across air filter media in the forced-air ventilation, heating or cooling ~~equipment~~ system.

…[skipping "Room air conditioner" through (x)"Landscape Irrigation Equipment"]

The following documents are incorporated by reference in Section 1602.

…[skipping FEDERAL STATUTES AND REGULATIONS to ADOBE SYSTEMS INCORPORATED]

Number	*Title*
	AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
ANSI/ASHRAE Standard 52.2-2017	Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

…[skipping ANSI C78.1-1991 (R1996) to end of section]

Note: Sections 25213, 25128(e), 25402(a)-25402(c) and 25960, Public Resources Code; and sections 16, 26 and 30, Governor's Exc. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25402(a)-25402(c), 25402.5.4 and 25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1604. Test Methods for Specific Appliances

…[skipping (a) and (b)]

(c) Central Air Conditioners, Air Filters, and Heat Pump Water-Heating Packages.

...[skipping (1) and (2)]

(3) Air Filters.

(A) The test methods for air filters are shown in Table C-2. Manufacturers shall test each basic model of air filter at dimensions determined by the manufacturer.

Table C-2: Air Filter Test Methods

Appliance Performance Criteria	**Test Method**
Air Filter Pressure Drop	~~AHRI 680-2009*~~ AHRI Standard 680 (I-P)-2017* or ~~ANSI/ASHRAE Standard 52.2-2012~~ ANSI/ASHRAE Standard 52.2-2017
Minimum Efficiency Reporting Value (MERV)	~~ANSI/ASHRAE Standard 52.2-2012~~ANSI/ASHRAE Standard 52.2-2017
Air Filter Particle Size Efficiency	~~AHRI 680-2009*~~ AHRI Standard 680 (I-P)-2017* or ANSI/ASHRAE Standard 52.2-2017 ~~ANSI/ASHRAE Standard 52.2-2012~~
Dust Holding Capacity	~~AHRI 680-2009*~~AHRI Standard 680 (I-P)-2017* or ANSI/ASHRAE Standard 52.2-2017 ~~ANSI/ASHRAE Standard 52.2-2012~~
* MERV not reportable for models being tested to AHRI Standard 680 (I-P)-2017 ~~AHRI 680-2009~~ only	

(B) The following procedure shall be used to calculate the airflow rate value in cubic feet per minute at an initial resistance pressure difference of 0.1 inches water column:

1. The value or airflow rate at an initial resistance of 0.1 inches water column shall be determined from a least-squares fit to airflow rate in cfm, as a function of initial resistance static pressure difference in inches water column, using:

$Q = C \times dP^n$, where Q=airflow rate in cfm, dP=initial resistance pressure difference in inches water column, and C and n are the coefficients determined in the least squares fit.

2. The data used for this fit shall be the following ordered pairs: (0,0), (initial resistance value 1, airflow rate value 1), (initial resistance value 2, airflow rate value 2), (initial resistance value 3, airflow rate value 3), (initial resistance value 4, airflow rate value 4), (initial resistance value 5,

airflow rate value 5 (only applicable when using the ANSI/ASHRAE Standard 52.2-2017 test procedure))

3. The value for airflow rate at an initial resistance of 0.1-inch water column shall be calculated as: $Q = C \times 0.1^n$

~~Manufacturers shall test small, medium, and large size filters for each grade.~~

…[skipping (c)(4) through (x)]

The following documents are incorporated by reference in section 1604.

Number	*Title*

…[skipping FEDERAL TEST METHODS and UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)]

AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (AHRI)

AHRI ~~680-20092009~~Standard 680 (I-P)-2017	~~2009~~2017 Standard for Performance Rating of Residential Air Filter Equipment

…[skipping the rest of AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (AHRI)]

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/ASHRAE Standard 52.2-2017	Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

...[skipping the rest of AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) through AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)]

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

~~ASHRAE 52.2-2012~~	~~Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size~~

…[skipping ANSI/ASHRAE 118.2-1993 to end of section]

Note: Authority cited: Sections 25213, 25218(e), 25402(a)-25402(c), and 25960, Public Resources Code; and sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25402(a)-25402(c), and

25960, Public Resources Code; and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1606. Filing by Manufacturers; Listing of Appliances in Database

(a) Filing of Statements.

Each manufacturer shall electronically file with the Executive Director through the MAEDbS a statement for each appliance that is sold or offered for sale in California. The statement shall contain all the information described in paragraphs (2) through (4) of this subsection and shall meet all of the requirements of paragraph (1) of this subsection and all other applicable requirements in this Article.

The effective dates of this section shall be the same as the effective dates shown in section 1605.1, 1605.2 or 1605.3 of this Article for appliances for which there is an energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article. For appliances with no energy efficiency, energy consumption, energy design, water efficiency, water consumption, or water design standard in section 1605.1, 1605.2, or 1605.3 of this Article, the effective date of this section shall be one year after they are added to section 1601 of this Article, unless a different effective date is specified.

EXCEPTIONS to Section 1606(a) of this Article: Section 1606(a) of this Article is not applicable to:

1. external power supplies,

2. small electric motors,

3. á la carte chargers meeting the EXCEPTON noted in section 1605.3(w)(2) of this Article, or

4. general service lamps

(1) General Rules.

…[skipping (A) to (H)]

<u>(I) Air Filters. The statement for air filters shall be for each basic model of air filter tested under section 1604(c)(3) of this Article.</u>

...[skipping (a)(2) through (a)(3)(D)]

Table X: Data Submittal Requirements

…[skipping "All Appliances" to B "Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps"]

C	Air Filters manufactured on or after ~~April 1, 2019~~ ~~December 1, 2022~~ ~~*April*~~ *July* 1, **2024~~2023~~**	~~Air filter sizes tested~~	~~Small, medium, and large~~
		~~Minimum Efficiency Reporting Value (MERV) (reportable for models tested to ASHRAE 52.2-2012 only)~~	~~1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, N/A~~
		~~Particle Size Efficiency for 0.3 to 1.0 µm particle size~~	
		~~Particle Size Efficiency for 1.0 to 3.0 µm particle size~~	
		~~Particle Size Efficiency for 3.0 to 10.0 µm particle size~~	
		~~Test Procedure used to determine air filter efficiency performance~~	~~AHRI 680-2009, or ASHRAE 52.2-2012~~
		~~Air Filter Length~~	
		~~Air Filter Width~~	
		~~Air Filter Depth~~	
		~~Air Filter Face Area~~	
		~~Face Velocity Utilized for the test procedure~~	~~Value in feet per minute or N/A~~
		~~Airflow Rate value 1~~	
		~~Airflow Rate value 2~~	
		~~Airflow Rate value 3~~	
		~~Airflow Rate value 4~~	
		~~Airflow Rate value 5-Maximum Rated Airflow Rate~~	
		~~Initial Resistance at air flow rate value 1~~	~~Test results to one-hundredths of an~~

			~~Inch of Water Column~~
		~~Initial Resistance at airflow rate value 2~~	~~Test results to one-hundredths of an Inch of Water Column~~
		~~Initial Resistance at airflow rate value 3~~	~~Test results to one-hundredths of an Inch of Water Column~~
		~~Initial Resistance at airflow rate value 4~~	~~Test results to one-hundredths of an Inch of Water Column~~
		~~Initial Resistance at airflow rate value 5~~	~~Test results to one-hundredths of an Inch of Water Column~~
		~~Final Resistance at the point where test is terminated and results determined~~	~~Test results to one-hundredths of an Inch of Water Column~~
		~~Dust Holding Capacity at the maximum rated airflow rate as published by the manufacturer~~	~~Test results in multiples of one gram.~~
		~~Airflow Rate value determined at an Initial Resistance of 0.1 Inch of Water Column~~	
		Length of tested air filter (inches)	
		Width of tested air filter (inches)	
		Depth of tested air filter (inches)	
		Face Area of tested air filter (square inches)	
		Test Procedure used	AHRI Standard 680 (I-P)-2017, ANSI/ASHRAE

			Standard 52.2-2017
		Face Velocity Utilized for the test procedure (feet per minute)	
		Minimum Efficiency Reporting Value (MERV) (if ANSI/ASHRAE Standard 52.2-2017 was used)	
		~~***Particulate Matter (PM) Efficiency for PM 1.0***~~ Particle Size Efficiency for 0.3 to 1.0 µm particle size (percentage)	
		Particle Size Efficiency for 1.0 to 3.0 µm particle size (percentage)	
		Particle Size Efficiency for 3.0 to 10.0 µm particle size (percentage)	
		Airflow Rate value 1 (cubic feet per minute)	
		Airflow Rate value 2 (cubic feet per minute)	
		Airflow Rate value 3 (cubic feet per minute)	
		Airflow Rate value 4 (cubic feet per minute)	
		Airflow Rate value 5 (cubic feet per minute) (Maximum Airflow Rate if ANSI/ASHRAE Standard 52.2-2017 was used)	
		Calculated Airflow Rate value at an Initial Resistance of 0.1 inches water column (cubic feet per minute)~~7~~	
		Initial Resistance at air flow rate value 1 (inches water column)	
		Initial Resistance at airflow rate value 2 (inches water column)	

		Initial Resistance at airflow rate value 3 (inches water column)	
		Initial Resistance at airflow rate value 4 (inches water column)	
		Initial Resistance at airflow rate value 5 (inches water column) (if ANSI/ASHRAE Standard 52.2-2017 was used)	
		Final Resistance at the point where test is terminated and results determined (inches water column)	
		Dust Holding Capacity ~~***at the maximum rated airflow rate as published by the manufacturer***~~ (grams)	

…[skipping C All Central Air Conditioners… through end of Table X...]

The following documents are incorporated by reference in section 1606.

…[skipping CALIFORNIA ENERGY COMMISSION through FEDERAL STATUTES AND REGULATIONS]

Number	*Title*
AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUTE (AHRI)	
AHRI Standard 680 (I-P)-2017	2017 Standard for Performance Rating of Residential Air Filter Equipment
AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)	
ANSI/ASHRAE Standard 52.2-2017	Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size

…[skipping NATIONAL ELECRTICAL MANUFACTURER'S ASSOCIATION (NEMA) through the end of section]

Note: Authority cited: Sections 25213, 25218(e), 25402(a)-25402(c) and 25960, Public Resources Code; and sections 16, 26 and 30, Governor's Exec. Order No. B-29-15 (April 1, 2015). Reference: Sections 25216.5(d), 25402(a)-25402(c),

25402.5.4 and 25960, Public Resources Code: and section 16, Governor's Exec. Order No. B-29-15 (April 1, 2015).

Section 1607. Marking of Appliances

…[skipping (a) through (c)]

(d) Energy Performance Information

...[skipping (1) through (10)]

~~(11) Air Filters. Each unit of air filters manufactured on or after April 1, 2019 shall be marked, permanently and legibly, on an accessible and conspicuous place on the edge of the filter itself or on the pleats, in characters of font size 12, with the information specified in either section (A) or (B) below as applicable to the air filter model:~~

~~(A) Air filters for which the reported information is determined in accordance with the AHRI standard 680-2009 shall be marked with the following information:~~

~~1. Particle size efficiency (PSE) of the unit in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (µm).~~

~~2. Initial resistance for the range of airflow rates as published by the manufacturer, including the maximum rated airflow rate. The selected airflow rates shall be in multiples of 400 cfm. If the maximum rated airflow rate is not a multiple of 400 cfm, then report initial resistance at multiples of 400 cfm, and any fraction thereof, to include the maximum rated airflow rate as described in subsections a, b, c, d, e below.~~

~~a. Airflow Rate Value 1 (val 1) = 400 cubic feet per minute (cfm). If 400 cfm is not within the manufacturer's published range of airflow rates for the filter, value = N/A.~~

~~b. Airflow Rate Value 2 (val 2) = 800 cubic feet per minute (cfm). If 800 cfm is not within the manufacturer's published range of airflow rates for the filter, value = N/A.~~

~~c. Airflow Rate Value 3 (val 3) = 1200 cubic feet per minute (cfm). If 1200 cfm is not within the manufacturer's published range of airflow rates for the filter, value = N/A.~~

~~d. Airflow Rate Value 4 (val 4) = 1600 cubic feet per minute (cfm). If 1600 cfm is not within the manufacturer's published range of airflow rates for the filter, value = N/A~~

~~e. Airflow Rate Value 5 (val 5) = Maximum Rated Airflow Rate (cfm).~~

~~3. Mark the non-reported MERV information field as "N/A."~~

(B) Air filters for which reported information is determined in accordance with ASHRAE Standard 52.2-2012 shall be marked with the following information:

1. Particle size efficiency (PSE) of the unit in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (µm).
2. Initial resistance for the range of airflow rates as published by the manufacturer, including the maximum rated airflow rate. The airflow rate values shall be the maximum rated airflow rate, and the values for 50%, 75%, 100% and 125% of the test airflow rate value determined in accordance with ASHRAE 52.2-2012. as described in subsections a, b, c, d, e below.
   a. Airflow Rate Value 1 (val 1) = 50% of the test airflow rate in cubic feet per minute (50% of airflow rate value 3).
   b. Airflow Rate Value 2 (val 2) = 75% of the test airflow rate in cubic feet per minute (75% of airflow rate value 3).
   c. Airflow Rate Value 3 (val 3) = 100% test airflow rate in cubic feet per minute; determined as equal to selected test face velocity (feet per minute) multiplied by the air filter face area (square feet).
   d. Airflow Rate Value 4 (val 4) = 125% of the test airflow rate in cubic feet per minute (125% of airflow rate value 3.
   e. Airflow Rate Value 5 (val 5) = Maximum Rated Airflow Rate (cfm).
3. Minimum Efficiency Reporting Value (MERV).

The information shall be disclosed in the format in Table Z.

Table Z
Sample Air Filter Marking

MERV	*(µm) PSE (%)*	*0.30-1.0*	*1.0-3.0*	*3.0-10*	*Airflow Rate (CFM)*	*[val 1]*	*[val 2]*	*[val 3]*	*[val 4]*	*[val 5]*	*Max Rated Airflow
[value]		[value]	[value]	[value]	Initial Resistance (IWC)	[value]	[value]	[value]	[value]	[value]	

If the marking on the air filter is not legible through its retail packaging, then the packaging shall also be labeled with the same information and in the same format as Table Z. The

~~requirements of this section shall not preclude manufacturers from providing additional information.~~

(11) Air Filters. Each unit of air filters manufactured on or after ~~December 1, 2022~~ ***~~April 1, 2023~~ July 1, 2024,*** shall be marked, permanently and legibly, on an accessible and conspicuous place on the ***edge of the filter itself or on the pleats*** ~~edge of the filter itself or on the pleats~~***~~, filter retail package~~*** in characters of font size 12 or larger, with the information specified in either section (A) or (B) below as applicable to the air filter unit. ***~~In addition, each unit of air filters manufactured on or after January 1, 2026, shall be marked, permanently and legibly, on an accessible and conspicuous place on the edge of the filter frame in font size 12 or larger characters, with the calculated airflow rate value at an Initial Resistance of 0.1 inches water column (cubic feet per minute), and with either the filter's particle size efficiency in the 0.3 to 1.0 micrometer range or the filter's MERV rating.~~*** ~~If the marking on the air filter is not legible through its retail packaging, then the packaging shall also be marked with the same information and in the same format.~~ Sample air filter ~~markings~~ package labels and air filter frame markings are shown in Tables Z-1 ***and,*** ~~and~~ Z-2***~~, and Z-3~~***.

(A) Air filters for which the basic model has been tested in accordance with AHRI Standard 680 (I-P)-2017.

1. Air filters that have been tested and for which the reported information is determined in accordance with the AHRI Standard 680 (I-P)-2017 shall be marked with the following information:

a. Particle size efficiency (PSE) of the unit in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (μm).

b. Initial resistance for the range of airflow rates as published by the manufacturer, including the maximum rated airflow rate. The airflow rate values shall be the values for 25%, 50%, 75%, and 100% of the maximum rated airflow rate determined in accordance with AHRI Standard 680 (I-P)-2017 as described in subsections (i), (ii), (iii), (iv) below.

(i) Airflow Rate Value 1 (val 1) = 25% of the maximum rated airflow rate in cfm (25% of airflow rate of value 4).

(ii) Airflow Rate Value 2 (val 2) =50% of the maximum rated airflow rate in cfm (50% of airflow rate of value 4).

(iii) Airflow Rate Value 3 (val 3) = 75% of the maximum rated airflow rate in cfm (75% of airflow rate of value 4).

(iv) Airflow Rate Value 4 (val 4) = 100% of the maximum rated airflow rate in cfm.

2. Air filter sizes that have not been tested shall be marked with information that is based on the information for an air filter of the same basic model which has been tested per section 1604(c)(3) of this Article in accordance with the AHRI Standard 680 (I-P)-2017 and certified to the Energy Commission per section 1606(a)(1)(I) of this Article. Information for an air filter that has not been tested shall be determined at a face velocity that is identical to the face velocity used for the test procedure for the tested air filter of the same basic model. Air filters that have not been tested shall be marked with the following information:

a. Particle size efficiency (PSE) of the unit in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (μm). The PSE values for an air filter that has not been tested shall be identical to the PSE values determined for a tested air filter of the same basic model.

b. Initial resistance values for the range of airflow rate values 1 through 4. The initial resistance values for an air filter that has not been tested shall be identical to the initial resistance values 1 through 4 determined for a tested air filter of the same basic model.

c. Airflow rate values 1 through 4 for an air filter that has not been tested shall each be equal to the corresponding airflow rate values 1 through 4 from a tested air filter of the same basic model multiplied by the face area of the filter that has not been tested and divided by the face area of the tested air filter of the same basic model.

(B) Air filters for which the basic model has been tested in accordance with ANSI/ASHRAE Standard 52.2 2017.

1. Air filters that have been tested and for which the reported information is determined in accordance with ANSI/ASHRAE Standard 52.2-2017 shall be marked with the following information:

a. Particle size efficiency (PSE) of the unit in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (μm).

b. Initial resistance for the range of airflow rates as published by the manufacturer, including the maximum rated airflow rate. The airflow rate values shall be the maximum rated airflow rate, and the values for 50%, 75%, 100% and 125% of the test airflow rate value determined in accordance with ANSI/ASHRAE 52.2-2017 as described in subsections (i), (ii), (iii), (iv), (v) below.

(i) Airflow Rate Value 1 (val 1) = 50% of the test airflow rate in cfm (50% of airflow rate value 3).

(ii) Airflow Rate Value 2 (val 2) = 75% of the test airflow rate in cfm (75% of airflow rate value 3).

(iii) Airflow Rate Value 3 (val 3) = 100% of the test airflow rate in cfm; determined as equal to selected test face velocity (feet per minute) multiplied by the air filter face area (square feet).

(iv) Airflow Rate Value 4 (val 4) = 125% of the test airflow rate in cfm (125% of airflow rate value 3).

(v) Airflow Rate Value 5 (val 5) = Maximum Rated Airflow Rate in cfm-as published by the manufacturer.

c. Minimum Efficiency Reporting Value (MERV). The value shall be a whole number between 1 and 16.

2. Air filter sizes that have not been tested shall be marked with information that is based on the information for an air filter of the same basic model which has been tested per section 1604(c)(3) of this Article in accordance with the ANSI/ASHRAE Standard 52.2-2017 and certified to the Energy Commission per section 1606(a)(1)(I) of this Article. Information for an air filter that has not been tested shall be determined at a face velocity that is identical to the face velocity used for the test procedure for the tested air filter of the same basic model. Air filters that have not been tested shall be marked with the following information:

a. Particle size efficiency (PSE) of the unit in three particle size ranges: 0.3-1.0, 1.0-3.0, 3.0-10 micrometers (μm). The PSE values for an air filter that has not been tested shall be identical to the PSE values determined for a tested air filter of the same basic model.

b. Initial resistance values for the range of airflow rate values 1 through 5. The initial resistance values for an air filter that has

not been tested shall be identical to the initial resistance values 1 through 5 determined for a tested air filter of the same basic model.

c. Airflow rate values 1 through 5. Airflow rate values 1 through 5 for an air filter that has not been tested shall each be equal to the corresponding airflow rate values 1 through 5 from a tested air filter of the same basic model multiplied by the face area of the filter that has not been tested and divided by the face area of the tested air filter of the same basic model.

d. Minimum Efficiency Reporting Value (MERV). The MERV for an air filter that has not been tested shall be identical to the value determined for a tested air filter of the same basic model. The value shall be a whole number between 1 and 16.

Table Z-1: Sample Air Filter **~~Marking~~** ~~*Package Label*~~*Marking* (AHRI Standard 680 [I-P]-2017)

(µm)	0.30-1.0	1.0-3.0	3.0-10	Airflow Rate (CFM)	[val 1]	[val 2]	[val 3]	[val 4]*	*Max Rated Airflow
PSE (%)	[val]	[val]	[val]	Initial Resistance (IWC)	[val]	[val]	[val]	[val]	

Table Z-2: Sample Air Filter **~~Marking~~** ~~*Package Label*~~*Marking* (ANSI/ASHRAE Standard 52.2-2017)

MERV	(µm)	0.30-1.0	1.0-3.0	3.0-10	Airflow Rate (CFM)	[val1]	[val2]	[va3]	[val4]	[val5]*	*Max Rated Airflow
[val]	PSE (%)	[val]	[val]	[val]	Initial Resistance (IWC)	[val]	[val]	[val]	[val]	[val]	

~~*Table Z-3: Sample Air Filter Frame Markings*~~

~~*Sample Airflow Marking*~~	~~*Sample Filration Marking*~~
~~*Airflow: [val]*~~	~~*0.30 – 1.0 µm PSE: [val]*~~ ~~*or*~~ ~~*MERV: [val]*~~

...[skipping (12) through the end of the section]

Note: Authority cited: Sections 25213, 25218(e), 25402(a)-25402(c) and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25402(a)-25402(c) and 25960, Public Resources Code.