# INITIAL EXPRESS TERMSFOR PROPOSED BUILDING STANDARDSOF THE CALIFORNIA ENERGY COMMISSIONREGARDING THE 2022 CALIFORNIA MECHANICAL CODE,

# CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART **4**

# (CEC 01-21)

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS (Based on model codes - Parts 2, 2.5, 3, 4, 5, 9, 10)

* Model Code language appears upright
* Existing California amendments appear in *italic*
* Amended model code or new California amendments appear *underlined & italic*
* Repealed model code language appears ~~upright and in strikeout~~
* Repealed California amendments appear in *~~italic and strikeout~~*
* Ellipsis ( ...) indicate existing text remains unchanged

# INITIAL EXPRESS TERMS

# Item 1Chapter 1, Section 1.1.8

**1.1.8 City, County, or City and County Amendments, Additions or Deletions.**

[…]

***1.1.8.2 Energy Code Requirements for Locally Adopted Energy Standards.*** *In addition to the provisions of Section 1.1.8.1 of this Part, the provisions of this section apply to cities, counties, and city and county amending adopted energy standards affecting buildings and structures subject to the California Energy Code, Part 6.*

*Applicable provisions of Public Resources Code Section 25402.1 and applicable provisions of Chapter 10 of the California Administrative Code, Part 1 apply to local amendment of energy standards adopted by the California Energy Commission.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 2Chapter 3, Section 311

**311.0 Heating or Cooling Air System.**

[…]

***311.5 Energy Code Requirements for Residential Air Filtration.*** *In mechanically ventilated residential buildings, air filters shall be provided to clean outdoor and return air prior to its delivery to occupied spaces where specified in Sections 120.1(b), 120.1(c), 150.0(m)12 and 160.2(b). The air filters shall comply with the California Energy Code requirements for labeling, ventilation system design and installation, air filter efficiency, and air filter pressure drop, as applicable.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 3Chapter 6, Section 601.2

**601.2 Sizing Requirements.**

[…]

***Section 601.2.1. Energy Code Residential Return Duct Sizing Requirements.*** *California Energy Code Tables 150.0-B and 150.0-C are applicable if specific Exceptions to Energy Code Sections 150.0(m)13B or D, 150.1(c)7Aib, or 150.2(b)Fiia are utilized.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 4Chapter 6, Section 603.9.2

**603.9.2 Duct Leakage Tests.**

[…]

***603.9.2.1 Energy Code Duct Leakage Tests for Residential Buildings.*** *See California Energy Code Section 150.0(m)(11) for duct leakage tests for low-rise residential; and Section 140.4(l) for duct leakage tests for other residential buildings.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 5Chapter 6, Section 603.10.1 (new location 603.9.2)

**603.9.2 Duct Leakage Tests.** Ductwork shall be leak-tested *by an installer and verified by a certified Testing, Adjusting, and Balancing Technician (certified by AABC, NEBB, or TABB) or certified Duct Air Leakage Technician (by the International Certification Board)* in accordance with the SMACNA HVAC Air Duct Leakage Test Manual. Representative sections totaling not less than 10 percent of the total installed duct area shall be tested. Where the tested 10 percent fails to comply with the requirements of this section, then 40 percent of the total installed duct area shall be tested. Where the tested 40 percent fails to comply with the requirements of this section, then 100 percent of the total installed duct area shall be tested. Sections shall be selected by the building owner or designated representative of the building owner. Positive pressure leakage testing shall be permitted for negative pressure ductwork. The permitted duct leakage shall be not more than the following:



Where:

Lmax = maximum permitted leakage, (ft3/min)/100 square feet [0.0001 (m2/s)/m2] duct surface area.

CL = *four or two* ~~six~~, duct leakage class, (ft3/min)/100 square feet [0.0001 (m3/s)/m2] duct surface area at 1 inch water column (0.2 kPa)*, consistent with SMACNA Seal Class A*. *Rectangular and oval ductwork shall be tested to leakage class four and round ductwork tested to leakage class two.*

P = test pressure, which shall be equal to the design duct pressure class rating, inch water column (kPa).

*Ductwork that will become inaccessible, including vertical ductwork that is located in shafts and horizontal ductwork located above hard ceilings, shall be prioritized in selection towards the 10% testing requirement.*

*In the case of supply-air systems without terminal boxes, 10% of the ductwork as determined by surface area shall be tested.*

*In the case of supply-air systems with terminal boxes, 10% of ductwork upstream and 10% of ductwork downstream of the terminal boxes as determined by surface area shall be tested and the leakage considered separately.*

*In the case of exhaust-air systems, 10% of the installed ductwork as determined by surface area shall be tested and the leakage considered separately from the supply-air system. In a building with multiple exhaust systems, at least two systems need to be tested to achieve the minimum 10% of surface area.*

***603.9.2.1 Duct Leakage Tests for ~~Residential~~ Buildings that Meet Air Distribution System Duct Leakage Sealing Criteria in Title 24, Part 6.*** *See California Energy Code Section 150.0(m)(11) for low-rise residential; and Section 140.4(~~1~~l) for duct leakage tests for other ~~residential~~ buildings.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 6Chapter 12, Section 1217.5.2

**1217.5.2 Insulation.**

[…]

***1217.5.2.1 Energy Code Insulation Requirements for Heated Slab Floors.*** *See California Energy Code Section 110.8(g) for additional insulation requirements for heated slab floors – a higher level of insulation is specified for Climate Zone 16, and more detailed installation requirements apply to all climate zones.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 7Chapter 12, Section 1217.7

**1217.7 Wall and Ceiling Panels.**

[…]

***1217.7.1 Energy Code Pipe Insulation Requirements.*** *See California Energy Code Sections 150.0(j)2 and 120.3(c) for general pipe insulation requirements based on fluid temperature and pipe diameter – where California Energy Code Table 120.3-A specifies insulation greater than R-12, the higher value applies.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code

# Item 8Chapter 12, Section 1220.4.5

**1220.4.5 Insulation.**

[…]

***1220.4.5.1******Energy Code Insulation Requirements for Heated Slab Floors.*** *See California Energy Code Section 110.8(g) and Table 110.8-A for additional insulation requirements for heated slab floors – a higher level of insulation is specified for Climate Zone 16, and more detailed installation requirements apply to all climate zones.*

**Notation:**

Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code

Reference(s): Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.8, and 25943, Public Resources Code