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| Title 24, Part 6, Section 120.1(b)2 **Attached Dwelling Unit** (Ventilation)**.** All dwelling units shall meet the requirements of ANSI/ASHRAE Standard 62.2-2016 Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified by Title 24, Part 6, Section 120.1(b)2A.iv |

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| **A. Dwelling Mechanical Ventilation - General Information** | | |
| 01 | Dwelling Unit Name |  |
| 02 | Building Type |  |
| 03 | Project Scope |  |
| 04 | Total Conditioned Floor Area of Dwelling Unit  (For addition projects the conditioned floor area equals existing area plus addition area) |  |
| 05 | Number of Bedrooms in Dwelling Unit  (For addition projects the number of bedrooms equals the existing bedrooms plus addition bedrooms) |  |
| 06 | Ventilation System Type |  |
| 07 | Ventilation Operation Schedule |  |



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| **B. Ventilation - Total Ventilation Rate - MCH-27b – High-rise Residential Multifamily Ventilation**  A mechanical supply system, exhaust system, or combination thereof shall provide whole-building ventilation with outdoor air each hour at no less than the rate in 120.1(b)2A.iv | | | | |
| 01 | Total Required Ventilation rate, (Qtot) | |  | |

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| **C. Installed Ventilation - Total Ventilation Rate**  A mechanical supply system, exhaust system, or combination thereof shall provide whole-building ventilation with outdoor air each hour at no less than the rate in 120.1(b)2A.iv | | | | |
| 01 | 02 | 03 | 04 | 05 |
| Fan Name | Fan Location | Runtime (Min/Hr) | Installed Mechanical Ventilation Rate (CFM) | Equivalent Continuous Ventilation (CFM) |
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| 06 | Total Installed Equivalent Continuous Ventilation (CFM) | | |  |

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| **D. Additional Envelope Requirements** | | |
| 01 | Envelope Leakage |  |

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| **E. Additional Central Ventilation System Balancing Requirements** | | |
| 01 | Maximum Ventilation Flow (CFM) |  |

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| **F. Compliance Statement** | |
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| **G. Determination of HERS Verification Compliance**  All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance | |
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| **H. Other Requirements** | |
| **The items listed below (6.1 through 6.6 and 6.8 through 6.9) correspond to the information given in ASHRAE 62.2 Section 6 "Other Requirements". Refer also to Chapter 4.6 of the Residential Compliance Manual (Section 4.6.8) for information describing these "Other Requirements". The signature of the Responsible Person in the declaration statement below certifies that the building complies with these requirements specified in ASHRAE 62.2 Section 6.1 through 6.9 if applicable.** | |
| 01 | * 1. **Adjacent Spaces and Transfer Air.** Measures shall be taken to minimize air movement across envelope components to dwelling units from adjacent spaces such as garages, unconditioned crawlspaces, unconditioned attics, and other dwelling. Supply and balanced ventilation systems shall be designed and constructed to provide ventilation air directly from the outdoors.   6.1.1 **Compliance for Attached Dwelling Units**. One method of demonstrating compliance with Section 6.1 shall be to verify a leakage rate below a maximum of 0.3 cfm per ft2 (150 L/s per 100 m2) of the dwelling unit envelope area (i.e., the sum of the area of walls between dwelling units, exterior walls, ceiling, and floor) at a test pressure of 50 Pa by a blower door test conducted in accordance with either ANSI/ASTME779 or ANSI/ASTM-E1827. The test shall be conducted with the dwelling unit as if it were exposed to outdoor air on all sides, top, and bottom by opening doors and windows of adjacent dwelling units. |
| 02 | **6.2 Instructions and Labeling.** Information on the ventilation design and/or ventilation systems installed, instructions on their proper operation to meet the requirements of this standard, and instructions detailing any required maintenance (similar to that provided for HVAC systems) shall be provided to the owner and the occupant of the dwelling unit. Controls shall be labeled as to their function (unless that function is obvious, such as toilet exhaust fan switches). See Section 13 of ASHRAE Guideline 24 5 for information on instructions and labeling. |
| 03 | **6.3 Clothes Dryers.** Clothes dryers shall be exhausted directly to the outdoors.  Exception: Condensing dryers plumbed to a drain. |
| 04 | **6.4 Combustion and Solid-Fuel Burning Appliances.**  6.4.1 Combustion and solid-fuel-burning appliances must be provided with adequate combustion and ventilation air and installed in accordance with manufacturers’ installation instructions; NFPA 54/ANSI Z223.1, *National Fuel Gas Code*; NFPA 31, *Standard for the Installation of Oil-Burning Equipment*; or NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid-Fuel Burning Appliances*, or other equivalent code acceptable to the building official.  6.4.2 Where atmospherically vented combustion appliances or solid-fuelburning appliances are located inside the pressure boundary, the total net exhaust flow of the two largest exhaust fans (not including a summer cooling fan intended to be operated only when windows or other air inlets are open) shall not exceed 15 cfm per 100 ft2 (75 L/s per 100 m2) of occupiable space when in operation at full capacity. If the designed total net flow exceeds this limit, the net exhaust flow must be reduced by reducing the exhaust flow or providing compensating outdoor air. Gravity or barometric dampers in nonpowered exhaust makeup air systems shall not be used to provide compensating outdoor air. Atmospherically vented combustion appliances do not include direct-vent appliances. Combustion appliances that pass safety testing performed according to ANSI/BPI-1200, Standard Practice for Basic Analysis of Buildings,21 shall be deemed as complying with Section 6.4.2. |
| 05 | **6.5 Air tightness Requirements**  6.5.1 **Garages.** When an occupiable space adjoins a garage, the design must prevent migration of contaminants to the adjoining occupiable space. Air seal the walls, ceilings, and floors that separate garages from occupiable space. To be considered air-sealed, all joints, seams, penetrations, openings between door assemblies and their respective jambs and framing, and other sources of air leakage through wall and ceiling assemblies separating the garage from the residence and its attic area shall be caulked, gasketed, weather stripped, wrapped, or otherwise sealed to limit air movement. Doors between garages and occupiable spaces shall be gasketed or made substantially airtight with weather stripping. |
| 06 | **6.6 Ventilation Opening Area.** Spaces shall have ventilation openings as listed below. Such openings shall meet the requirements of Section 6.8. Exception: Attached dwelling units and spaces that meet the local ventilation requirements set for bathrooms in Section 5 [of ASHRAE 62.2].  6.6.1 **Habitable Spaces.** Each habitable space shall be provided with ventilation openings with an openable area not less than 4% of the floor area or less than 5 ft2 (0.5 m2).  6.6.2 **Toilets and Utility Rooms**. Toilets and utility rooms shall be provided with ventilation openings with an openable area not less than 4% of the room floor area or less than1.5 ft2 (0.15 m2).  Exceptions:  1. Utility rooms with a dryer exhaust duct.  2. Toilet compartments in bathrooms. |
| 07 | **6.8 Air Inlets.** Air inlets that are part of the ventilation design shall be located a minimum of 10 ft (3 m) from known sources of contamination such as a stack, vent, exhaust hood, or vehicle exhaust. The intake shall be placed so that entering air is not obstructed by snow, plantings, or other material. Forced air inlets shall be provided with rodent/insect screens (mesh not larger than 1/2 in. [13 mm]).  Exceptions:  1. Ventilation openings in the wall may be as close as a stretched-string distance of 3 ft (1 m) from sources of contamination exiting through the roof or dryer exhausts.  2. No minimum separation distance shall be required between windows and local exhaust outlets in kitchens and bathrooms.  3. Vent terminations covered by and meeting the requirements of the National Fuel Gas Code (NFPA 54/ANSI Z223.1)7 or equivalent.  4. Where a combined exhaust/intake termination is used to separate intake air from exhaust air originating in a living space other than kitchens, no minimum separation distance between these two openings is required. For these combined terminations, the exhaust air concentration within the intake airflow shall not exceed 10%, as established by the manufacturer. |
| 08 | **6.9 Carbon Monoxide Alarms.** A carbon monoxide alarm shall be installed in each dwelling unit in accordance with NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*, and shall be consistent with requirements of applicable laws, codes, and standards. |
| **The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.** | |

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| **I. Air Moving Equipment** | |
| **The items listed below (7.1 through 7.4) correspond to the information given in ASHRAE 62.2 Section 7 "Air-Moving Equipment". Refer also to Chapter 4.6 of the Residential Compliance Manual (Section 4.6.9) for information describing these requirements in more detail. The signature of the Responsible Person in the declaration statement below certifies that the building complies with these requirements specified in ASHRAE 62.2 Section 7.1 through 7.4 if applicable.** | |
| 01 | **7.1 Selection and Installation.** Ventilation devices and equipment serving individual dwelling units shall be tested in accordance with ANSI/ASHRAE Standard 51/AMCA 210, *Laboratory Methods of Testing Fans for Aerodynamic Performance Rating*, and ANSI/AMCA Standard 300, *Reverberant Room Method for Sound Testing of Fans*, and rated in accordance with the airflow and sound rating procedures of the Home Ventilating Institute (HVI) (HVI 915, *Loudness Testing and Rating Procedure*; HVI 916, *Air Flow Test Procedure* ; and HVI 920, *Product Performance Certification Procedure Including Verification and Challenge*). Installations of systems or equipment shall be carried out in accordance with manufacturers’ design requirements and installation instructions. |
| 02 | **7.2 Sound Ratings for Fans.** Ventilation fans shall be rated for sound at no less than the minimum airflow rate required by this standard as noted below. These sound ratings shall be at a minimum of 0.1 in. of water (25 Pa) static pressure in accordance with the HVI procedures referenced in Section 7.1.  Exception: HVAC air handlers and remote mounted fans need not meet sound requirements. To be considered for this exception, a remote mounted fan must be mounted outside the habitable spaces, bathrooms, toilets, and hallways, and there must be at least 4 ft (1 m) of ductwork between the fan and the intake grille.  7.2.1 **Dwelling-Unit Ventilation or Continuous Local Exhaust Fans.** These fans shall be rated for sound at a maximum of 1.0 sone.  7.2.2 **Demand-Controlled Local Exhaust Fans.** Bathroom exhaust fans used to comply with Section 5.2 shall be rated for sound at a maximum of 3 sone. Kitchen exhaust fans used to comply with Section 5.2 shall be rated for sound at a maximum of 3 sones at one or more airflow settings greater than or equal to 100 cfm (47 L/s).  Exceptions:  1. Fans with a minimum airflow setting exceeding 400 cfm (189 L/s) need not comply.  2. Kitchen Range hoods may be rated for sound at the static pressure determined at working speed as specified in HVI 916 section 7. |
| 03 | **7.3 Exhaust Ducts.**  7.3.1 **Multiple Exhaust Fans Using One Duct.** Exhaust fans in separate dwelling units shall not share a common exhaust duct. If more than one of the exhaust fans in a single dwelling unit shares a common exhaust duct, each fan shall be equipped with a backdraft damper to prevent the recirculation of exhaust air from one room to another through the exhaust ducting system**.**  7.3.2 **Single Exhaust Fan Ducted to Multiple Inlets.** Where exhaust inlets are commonly ducted across multiple dwelling units, one or more exhaust fans located downstream of the exhaust inlets shall be designed and intended to run continuously, or a system of one or more backdraft dampers shall be installed to isolate each dwelling unit from the common duct when the fan is not running. |
| 04 | **7.4 Supply Ducts.** Where supply outlets are commonly ducted across multiple dwelling units, one or more supply fans located upstream of all the supply outlets shall be designed and intended to run continuously, or a system of one or more backdraft dampers shall be installed to isolate each dwelling unit from the common duct when the fan is not running. |
| **The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.** | |

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| **Documentation Author's Declaration Statement** | | |
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| 1. I certify that this Certificate of Verification documentation is accurate and complete. | | |
| Name: | Signature: | |
| Company: | Date: | |
| Address: | CEA / HERS Certification Identification (If applicable): | |
| City/State/Zip: | Phone: | |
| **Responsible Person's Declaration statement** | | |
| I certify the following under penalty of perjury, under the laws of the State of California:   1. The information provided on this Certificate of Verification is true and correct. 2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater). 3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Nonresidential Appendices NA1 and NA2, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency. 4. The information reported on applicable sections of the Certificate(s) of Installation (NRCI), signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (NRCC) approved by the enforcement agency. 5. I will ensure that a registered copy of this Certificate of Verification shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building owner at occupancy. | | |
| **BUILDER OR INSTALLER INFORMATION AS SHOWN ON THE CERTIFICATE of Installation** | | |
| Company Name (Installing Subcontractor or General Contractor or Builder/Owner): | | |
| Responsible Builder/Installer Name: | CSLB License: | |
| **HERS PROVIDER DATA REGISTRY INFORMATION** | | |
| Sample Group Number (if applicable): | Dwelling Test Status in Sample Group (if applicable): | |
| **HERS RATER INFORMATION** | | |
| HERS Rater Company Name: | | |
| Responsible Rater's Name: | | Responsible Rater's Signature: |
| Responsible Rater's Certification Number w/ this HERS Provider: | | Date Signed: |

**NRCV-MCH-27b-H User Instructions**

**Section A. General Information**

1. Dwelling Unit Name: User input text from the NRCC-PRF-01 (Performance) or NRCC-MCH-01 (Prescriptive). This is the unique identifier for this dwelling unit. Needed for high-rise residential dwelling units. Ventilation is calculated and provided for each dwelling unit individually.
2. Building Type: Fixed value equal to high-rise residential.
3. Project Scope: User select from following new, addition, or alteration. Based on project scope from the NRCC-PRF-01 (Performance) or NRCC-MCH-01 (Prescriptive).
4. Total Conditioned Floor Area of Dwelling Unit: User input number based on the information from NRCC-PRF-01 (Performance) or NRCC-MCH-01 (Prescriptive).
5. Number of Bedrooms in Dwelling Unit: User input number based on the information from NRCC-PRF-01 (Performance) or NRCC-MCH-01 (Prescriptive).
6. Ventilation system Type: This is a user selected value from list of ventilation types Supply, Exhaust, Balanced, Balanced – ERV, Balanced – HRV, Central Fan Integrated (CFI), Central Ventilation System – Supply and Central Ventilation System – Exhaust and Central Ventilation System Balanced.
7. Ventilation operation schedule: This is a user selected value from list of Continuous, Short-Term Average, Scheduled and Real-time Control.

* Note if “Ventilation System Type” (A06) = Central Fan Integrated & “Ventilation Operation Schedule” (A07) = Continuous; then user will not be allowed to proceed.

**Section B. Ventilation - Total Ventilation Rate - High-rise Residential Multifamily Ventilation**

1. This value is automatically calculated using equation 120.1-B from the Energy Standards.







**Section C. Installed Ventilation – Total Ventilation Rate Method**

1. User input text identifying the fan name for each installed ventilation fan.
2. User input text identifying the fan location for each installed ventilation fan.
3. Runtime (Min/Hr): This value may be filled out automatically or be user input.

* If ventilation operation schedule from section A = “continuous”, then value of 60 will be automatically entered.
* If ventilation operation schedule from section A = “short term average”, then user enter value of less than or equal to 60 for each installed ventilation fan.

1. User to enter CFM value from test procedures described in NA7.18.1 for each installed ventilation fan.
2. Equivalent continuous ventilation CFM is automatically calculated for each ventilation fan.
3. Total installed equivalent continuous ventilation CFM is automatically calculated based on the installed ventilation fans.

**Section D. Additional Envelope Requirements**

1. Envelope Leakage: This field is filled out automatically. It is referenced from the NRCC-MCH-24, which must be completed prior to this document.

**Section E.** **Additional Central Ventilation System Balancing Requirements**

1. Maximum Ventilation Flow (CFM): This field is filled out automatically calculated.

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| Title 24, Part 6, Section 120.1(b)2 **Attached Dwelling Unit** (Ventilation)**.** All dwelling units shall meet the requirements of ANSI/ASHRAE Standard 62.2-2016 Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified by Title 24, Part 6, Section 120.1(b)2A.iv |

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| **A. Dwelling Mechanical Ventilation - General Information** | | |
| 01 | Dwelling Unit Name | <<user input, text, maximum 50 characters>> |
| 02 | Building Type | << Fixed value “High-rise Residential”>> |
| 03 | Project Scope | <<user pick select from list: New; Addition; or Alteration>> |
| 04 | Total Conditioned Floor Area of Dwelling Unit  (For addition projects the conditioned floor area equals existing area plus addition area) | <<user input, number, integer XXX>> |
| 05 | Number of Bedrooms in Dwelling Unit  (For addition projects the number of bedrooms equals the existing bedrooms plus addition bedrooms) | <<user input, number, integer XXX>> |
| 06 | Ventilation System Type | <<Calculated value, allow user pick one from list:  \*\*Supply  \*\*Exhaust; or  \*\*Balanced; or  \*\*Balanced – ERV; or  \*\*Balanced – HRV; or  \*\*Central Fan Integrated (CFI); or  \*\*Central Ventilation System – Supply; or  \*\*Central Ventilation System – Exhaust; or  \*\*Central Ventilation System – Balanced >> |
| 07 | Ventilation Operation Schedule | << Calculated value, allow user pick one from list:  \*\*Continuous; or  \*\*Short-Term Average; or  \*\*Scheduled; or  \*\*Real-time Control Else if “Ventilation System Type” (A11) = Central Fan Integrated & “Ventilation Operation Schedule” (A12)= Continuous; then display:  “Central Fan Integrated Ventilation System Not Allowed to Operate Continuously **- Do Not Proceed”>>** |
| 08 | determine compliance method for this document; display applicable tables below;  (this row not visible to user) | <<calculated field: Else if “Building Type” (A02) = High-rise Residential and “Ventilation Operation Schedule (A07) ≠ Scheduled or Real-Time Control, then display method:  **\*\*27b – High-rise Residential Ventilation;**  Else if “Building Type” (A02) = High-rise Residential and “Ventilation Operation Schedule (A07) = Scheduled or Real-Time Control, then display method:  **\*\*27c – High-rise Residential Ventilation – Scheduled or Real-Time Control**>> |
| Note:  Non-dwelling units do not meet the definition for a dwelling unit as defined in Section 100.1(b). Non-dwelling units are not designed to provide independent living facilities and do not provide permanent provisions for living, sleeping, eating, cooking and sanitation. | | |



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| **B. Ventilation - Total Ventilation Rate - MCH-27b – High-rise Residential Multifamily Ventilation**  A mechanical supply system, exhaust system, or combination thereof shall provide whole-building ventilation with outdoor air each hour at no less than the rate in 120.1(b)2A | | | | |
| 01 | Total Required Ventilation rate, (Qtot) | | <<calculated field, numeric: (use equation 120.1-B): [(0.03 \* “Total Conditioned Floor Area of Dwelling Unit” (A04)) + (7.5\*(“Number of Bedrooms in Dwelling Unit” (A05) + 1)], (cfm). >> | |

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| **C. Installed Ventilation - Total Ventilation Rate**  A mechanical supply system, exhaust system, or combination thereof shall provide whole-building ventilation with outdoor air each hour at no less than the rate in 120.1(b)2A | | | | |
| 01 | 02 | 03 | 04 | 05 |
| Fan Name | Fan Location | Runtime (Min/Hr) | Installed Mechanical Ventilation Rate (CFM) | Equivalent Continuous Ventilation (CFM) |
| << user input, text>> | <<user input, text>> | <<calculated field: if value in “Ventilation Operation Schedule” (A07) equals Continuous, then value equals 60;  Else if value in “Ventilation Operation Schedule” (A07) equals Short Term Average ,then user input value positive integer ≤ 60>> | << user input, positive integer>> | <<calculated field, value = (“Runtime (Min/Hr)” (C03) \* “Installed Mechanical Ventilation Rate (CFM)” (C04)) / 60 (CFM)>> |
|  |  |  |  |  |
|  |  |  |  |  |
| 06 | Total Installed Equivalent Continuous Ventilation (CFM) | | | <<calculated field, value = sum of values in column “Equivalent Continuous Ventilation (CFM)” (C05)>> |

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| **D. Additional Envelope Requirements**  <<if Ventilation System Type (A06) equals Supply, Exhaust, Central Fan Integrated (CFI), Central Ventilation System – Supply or Central Ventilation System – Exhaust then display Table D; Else display the section does not apply message>> | | |
| 01 | Envelope Leakage | << calculated field, referenced data from NRCV-MCH-24>> |

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| **E. Additional Central Ventilation System Balancing Requirements**  <<if Ventilation System Type (A06) equals Central Ventilation System – Supply, Central Ventilation System – Exhaust or Central Ventilation System – Balanced then display Table E; Else display the section does not apply message>> | | |
| 01 | Maximum Ventilation Flow (CFM) | <<calculated field, “Required Mechanical Ventilation Rate (B06) \* 1.20>> |

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| **F. Compliance Statement** | |
| 01 | <<If Else if the “Ventilation System Type” (A06) equals Balanced, Balanced – ERV or Balanced – HRV and the “Total Installed Equivalent Continuous Ventilation” (C06) ≥ “Total Required Ventilation Rate” (B01), then display text: "Building Passes Mechanical Ventilation Rate Test”  Else if the “Ventilation System Type” (A06) equals Central Ventilation System – Balanced and the “Total Installed Equivalent Continuous Ventilation” (C06) ≥ “Total Required Ventilation Rate” (B01) and the “Total Installed Equivalent Continuous Ventilation” (C06) ≤ “Maximum Ventilation Flow” (E01), then display text: "Building Passes Mechanical Ventilation Rate Test”  Else if the “Ventilation System Type” (A06) equals Supply, Exhaust, Central Fan Integrated (CFI) and the “Total Installed Equivalent Continuous Ventilation” (C06) ≥ “Total Required Ventilation Rate” (B01), and if “Envelope Leakage” (D01) ≤ “Target dwelling unit compartmentalization leakage” (taken from CF2R-MCH-24), then display text: "Building Passes Mechanical Ventilation Rate Test”  Else if the “Ventilation System Type” (A06) equals Central Ventilation System – Supply or Central Ventilation System – Exhaust and the “Total Installed Equivalent Continuous Ventilation” (C06) ≥ “Total Required Ventilation Rate” (B01), and if “Envelope Leakage”(D01) ≤ “Target dwelling unit compartmentalization leakage” (taken from CF2R-MCH-24), and the “Total Installed Equivalent Continuous Ventilation” (C06) ≤ “Maximum Ventilation Flow” (E01), then display text: "Building Passes Mechanical Ventilation Rate Test”  Else display text: "Building Fails Mechanical Ventilation Rate Test">> |

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| **G. Determination of HERS Verification Compliance**  All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance. | |
| 01 | <<if F01 = Building Passes Mechanical Ventilation Rate Test, then display: “Complies: All specified verification protocol requirements on this document are met”; else display: “Does not comply: One or more specified verification protocol requirements on this document are not met”>> |

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| **H. Other Requirements** | |
| **The items listed below (6.1 through 6.6 and 6.8 through 6.9) correspond to the information given in ASHRAE 62.2 Section 6 "Other Requirements". Refer also to Chapter 4.6 of the Residential Compliance Manual (Section 4.6.8) for information describing these "Other Requirements". The signature of the Responsible Person in the declaration statement below certifies that the building complies with these requirements specified in ASHRAE 62.2 Section 6.1 through 6.9 if applicable.** | |
| 01 | * 1. **Adjacent Spaces and Transfer Air.** Measures shall be taken to minimize air movement across envelope components to dwelling units from adjacent spaces such as garages, unconditioned crawlspaces, unconditioned attics, and other dwelling. Supply and balanced ventilation systems shall be designed and constructed to provide ventilation air directly from the outdoors.   6.1.1 **Compliance for Attached Dwelling Units**. One method of demonstrating compliance with Section 6.1 shall be to verify a leakage rate below a maximum of 0.3 cfm per ft2 (150 L/s per 100 m2) of the dwelling unit envelope area (i.e., the sum of the area of walls between dwelling units, exterior walls, ceiling, and floor) at a test pressure of 50 Pa by a blower door test conducted in accordance with either ANSI/ASTME779 or ANSI/ASTM-E1827. The test shall be conducted with the dwelling unit as if it were exposed to outdoor air on all sides, top, and bottom by opening doors and windows of adjacent dwelling units. |
| 02 | **6.2 Instructions and Labeling.** Information on the ventilation design and/or ventilation systems installed, instructions on their proper operation to meet the requirements of this standard, and instructions detailing any required maintenance (similar to that provided for HVAC systems) shall be provided to the owner and the occupant of the dwelling unit. Controls shall be labeled as to their function (unless that function is obvious, such as toilet exhaust fan switches). See Section 13 of ASHRAE Guideline 24 5 for information on instructions and labeling. |
| 03 | **6.3 Clothes Dryers.** Clothes dryers shall be exhausted directly to the outdoors.  Exception: Condensing dryers plumbed to a drain. |
| 04 | **6.4 Combustion and Solid-Fuel Burning Appliances.**  6.4.1 Combustion and solid-fuel-burning appliances must be provided with adequate combustion and ventilation air and installed in accordance with manufacturers’ installation instructions; NFPA 54/ANSI Z223.1, *National Fuel Gas Code*; NFPA 31, *Standard for the Installation of Oil-Burning Equipment*; or NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid-Fuel Burning Appliances*, or other equivalent code acceptable to the building official.  6.4.2 Where atmospherically vented combustion appliances or solid-fuelburning appliances are located inside the pressure boundary, the total net exhaust flow of the two largest exhaust fans (not including a summer cooling fan intended to be operated only when windows or other air inlets are open) shall not exceed 15 cfm per 100 ft2 (75 L/s per 100 m2) of occupiable space when in operation at full capacity. If the designed total net flow exceeds this limit, the net exhaust flow must be reduced by reducing the exhaust flow or providing compensating outdoor air. Gravity or barometric dampers in nonpowered exhaust makeup air systems shall not be used to provide compensating outdoor air. Atmospherically vented combustion appliances do not include direct-vent appliances. Combustion appliances that pass safety testing performed according to ANSI/BPI-1200, Standard Practice for Basic Analysis of Buildings,21 shall be deemed as complying with Section 6.4.2. |
| 05 | **6.5 Air tightness Requirements**  6.5.1 **Garages.** When an occupiable space adjoins a garage, the design must prevent migration of contaminants to the adjoining occupiable space. Air seal the walls, ceilings, and floors that separate garages from occupiable space. To be considered air-sealed, all joints, seams, penetrations, openings between door assemblies and their respective jambs and framing, and other sources of air leakage through wall and ceiling assemblies separating the garage from the residence and its attic area shall be caulked, gasketed, weather stripped, wrapped, or otherwise sealed to limit air movement. Doors between garages and occupiable spaces shall be gasketed or made substantially airtight with weather stripping. |
| 06 | **6.6 Ventilation Opening Area.** Spaces shall have ventilation openings as listed below. Such openings shall meet the requirements of Section 6.8. Exception: Attached dwelling units and spaces that meet the local ventilation requirements set for bathrooms in Section 5 [of ASHRAE 62.2].  6.6.1 **Habitable Spaces.** Each habitable space shall be provided with ventilation openings with an openable area not less than 4% of the floor area or less than 5 ft2 (0.5 m2).  6.6.2 **Toilets and Utility Rooms**. Toilets and utility rooms shall be provided with ventilation openings with an openable area not less than 4% of the room floor area or less than1.5 ft2 (0.15 m2).  Exceptions:  1. Utility rooms with a dryer exhaust duct.  2. Toilet compartments in bathrooms. |
| 07 | **6.8 Air Inlets.** Air inlets that are part of the ventilation design shall be located a minimum of 10 ft (3 m) from known sources of contamination such as a stack, vent, exhaust hood, or vehicle exhaust. The intake shall be placed so that entering air is not obstructed by snow, plantings, or other material. Forced air inlets shall be provided with rodent/insect screens (mesh not larger than 1/2 in. [13 mm]).  Exceptions:  1. Ventilation openings in the wall may be as close as a stretched-string distance of 3 ft (1 m) from sources of contamination exiting through the roof or dryer exhausts.  2. No minimum separation distance shall be required between windows and local exhaust outlets in kitchens and bathrooms.  3. Vent terminations covered by and meeting the requirements of the National Fuel Gas Code (NFPA 54/ANSI Z223.1)7 or equivalent.  4. Where a combined exhaust/intake termination is used to separate intake air from exhaust air originating in a living space other than kitchens, no minimum separation distance between these two openings is required. For these combined terminations, the exhaust air concentration within the intake airflow shall not exceed 10%, as established by the manufacturer. |
| 08 | **6.9 Carbon Monoxide Alarms.** A carbon monoxide alarm shall be installed in each dwelling unit in accordance with NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*, and shall be consistent with requirements of applicable laws, codes, and standards. |
| **The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.** | |

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| **I. Air Moving Equipment** | |
| **The items listed below (7.1 through 7.4) correspond to the information given in ASHRAE 62.2 Section 7 "Air-Moving Equipment". Refer also to Chapter 4.6 of the Residential Compliance Manual (Section 4.6.9) for information describing these requirements in more detail. The signature of the Responsible Person in the declaration statement below certifies that the building complies with these requirements specified in ASHRAE 62.2 Section 7.1 through 7.4 if applicable.** | |
| 01 | **7.1 Selection and Installation.** Ventilation devices and equipment serving individual dwelling units shall be tested in accordance with ANSI/ASHRAE Standard 51/AMCA 210, *Laboratory Methods of Testing Fans for Aerodynamic Performance Rating*, and ANSI/AMCA Standard 300, *Reverberant Room Method for Sound Testing of Fans*, and rated in accordance with the airflow and sound rating procedures of the Home Ventilating Institute (HVI) (HVI 915, *Loudness Testing and Rating Procedure*; HVI 916, *Air Flow Test Procedure* ; and HVI 920, *Product Performance Certification Procedure Including Verification and Challenge*). Installations of systems or equipment shall be carried out in accordance with manufacturers’ design requirements and installation instructions. |
| 02 | **7.2 Sound Ratings for Fans.** Ventilation fans shall be rated for sound at no less than the minimum airflow rate required by this standard as noted below. These sound ratings shall be at a minimum of 0.1 in. of water (25 Pa) static pressure in accordance with the HVI procedures referenced in Section 7.1.  Exception: HVAC air handlers and remote mounted fans need not meet sound requirements. To be considered for this exception, a remote mounted fan must be mounted outside the habitable spaces, bathrooms, toilets, and hallways, and there must be at least 4 ft (1 m) of ductwork between the fan and the intake grille.  7.2.1 **Dwelling-Unit Ventilation or Continuous Local Exhaust Fans.** These fans shall be rated for sound at a maximum of 1.0 sone.  7.2.2 **Demand-Controlled Local Exhaust Fans.** Bathroom exhaust fans used to comply with Section 5.2 shall be rated for sound at a maximum of 3 sone. Kitchen exhaust fans used to comply with Section 5.2 shall be rated for sound at a maximum of 3 sones at one or more airflow settings greater than or equal to 100 cfm (47 L/s).  Exceptions:  1. Fans with a minimum airflow setting exceeding 400 cfm (189 L/s) need not comply.  2. Kitchen Range hoods may be rated for sound at the static pressure determined at working speed as specified in HVI 916 section 7. |
| 03 | **7.3 Exhaust Ducts.**  7.3.1 **Multiple Exhaust Fans Using One Duct.** Exhaust fans in separate dwelling units shall not share a common exhaust duct. If more than one of the exhaust fans in a single dwelling unit shares a common exhaust duct, each fan shall be equipped with a backdraft damper to prevent the recirculation of exhaust air from one room to another through the exhaust ducting system**.**  7.3.2 **Single Exhaust Fan Ducted to Multiple Inlets.** Where exhaust inlets are commonly ducted across multiple dwelling units, one or more exhaust fans located downstream of the exhaust inlets shall be designed and intended to run continuously, or a system of one or more backdraft dampers shall be installed to isolate each dwelling unit from the common duct when the fan is not running. |
| 04 | **7.4 Supply Ducts.** Where supply outlets are commonly ducted across multiple dwelling units, one or more supply fans located upstream of all the supply outlets shall be designed and intended to run continuously, or a system of one or more backdraft dampers shall be installed to isolate each dwelling unit from the common duct when the fan is not running. |
| **The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met.** | |

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| **Documentation Author's Declaration Statement** | | | |
| 1. I certify that this Certificate of Installation documentation is accurate and complete. | | | |
| Documentation Author Name: | | Documentation Author Signature: | |
| Documentation Author Company Name: | | Date Signed: | |
| Address: | | CEA/HERS Certification Identification (If applicable): | |
| City/State/Zip: | | Phone: | |
| **Responsible Person's Declaration statement** | | | |
| I certify the following under penalty of perjury, under the laws of the State of California:The information provided on this Certificate of Installation is true and correct.  1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the scope of construction or installation, in the applicable classification, for the scope of work specified on this Certificate of Installation (responsible builder/installer), otherwise I am an authorized representative of the responsible builder/installer. 2. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations, and the installation conforms to the requirements given on the plans and specifications approved by the enforcement agency. 3. I understand that a HERS rater will check the installation to verify compliance, and that if such checking identifies defects; I am required to take corrective action at my expense. I understand that Energy Commission and HERS Provider representatives will also perform quality assurance checking of installations, including those approved as part of a sample group but not checked by a HERS rater, and if those installations fail to meet the requirements of such quality assurance checking, the required corrective action and additional checking/testing of other installations in that HERS sample group will be performed at my expense. 4. I reviewed a copy of the Certificate of Compliance approved by the enforcement agency that identifies the specific requirements for the scope of construction or installation identified on this Certificate of Installation, and I have ensured that the requirements that apply to the construction or installation have been met. 5. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy. | | | |
| Responsible Builder/Installer Name: | Responsible Builder/Installer Signature: | | |
| Company Name: (Installing Subcontractor or General Contractor or Builder/Owner) | Position With Company (Title): | | |
| Address: | CSLB License: | | |
| City/State/Zip: | Phone | | Date Signed: |
| Third Party Quality Control Program (TPQCP) Status: | Name of TPQCP (if applicable): | | |