



NOT REGISTERED - CAN BE USED FOR SUBMISSION TO BUILDING DEPARTMENTS PRIOR TO DECEMBER 31, 2023

CERTIFICATE OF VERIFICATION

Note: This table completed by HERS Registry.

Project Details

Field Name	Data Entry	Field Name	Data Entry
Project Name:		Enforcement Agency:	
Dwelling Address:		Permit Number:	
City and Zip Code:		Date Permit Issued:	

A. System Information

Fields 01 through 07 must be completed with data taken from the LMCI-MCH-20 form.

Field	Field Name	Data Entry
01	Space Conditioning System Identification or Name	
02	Space Conditioning System Location or Area Served	
03	Indoor Unit Name or Description of Area Served	
04	Building Type from LMCC	
05	Verified Low Leakage Ducts in Conditioned Space (VLLDCS) Credit from LMCC?	
06	Verified Low Leakage Air-handling Unit Credit from LMCC?	
07	Duct System Compliance Category	
08	Any portions of Duct Located in Garage?	
09	Is the system type Small Duct High Velocity (SDHV)?	

MCH-20e - Sealing All Accessible Leaks using Smoke Test



B. Duct Leakage Diagnostic Test

Field	Field Name	Data Entry
01	Air-Handling Unit Airflow (AHU Airflow) Determination Method	
02	Condenser Nominal Cooling Capacity (ton)	
03	Indoor Unit Nominal Cooling Capacity	
04	Heating Capacity (kBtu/h)	
05	Conditioned Floor Area Served by this HVAC System (ft ²)	
06	Measured AHU Airflow (cfm)	
07	Duct Leakage Test Conditions	
08	Duct Leakage Test Method	
09	Leakage Factor	
10	Calculated Target Allowable Duct Leakage Rate (cfm)	
11	Actual Duct Leakage Rate from Leakage Test Measurement (cfm)	
12	Compliance Statement:	
13	Notes:	

C. Ducts Located in Garage Spaces

Field	Field Name	Data Entry
01	Duct Leakage Test Method	
02	Leakage Factor	
03	Air-Handling Unit Airflow (AHU Airflow) Determination Method	
04	Measured AHU Airflow (cfm)	
05	Calculated Target Allowable Duct Leakage Rate (cfm)	
06	Actual Duct Leakage Rate from Leakage Test Measurement (cfm)	
07	Compliance Statement:	

D. Additional Requirements for Compliance



Field	Field Name
01	System was tested in its normal operation condition. No temporary taping allowed.
02	Outside air (OA) duct connections to the central forced air duct system shall not be sealed/taped off during duct leakage testing. OA ducts used for Central Fan Integrated (CFI) Indoor Air Quality ventilation systems, or Central Fan Ventilation Cooling Systems, that utilize dampers that open only when OA is required and automatically close when OA is not required, may configure the OA damper to the closed position during duct leakage testing.
03	If a complete replacement, all supply and return register boots were sealed to the drywall.
04	Building cavities were not used as plenums or platform returns in lieu of ducts.
05	If cloth backed tape was used it was covered with Mastic and draw bands.
06	All connection points between the air handler and the supply and return plenums are completely sealed.
07	If the system complies using the Smoke Test method, the smoke test was conducted in accordance with the requirements of Reference Residential Appendix RA3.1.4.3.6. Systems that comply using the smoke test shall not be included in sample groups for HERS verification.

Verification status and Correction notes.

Field	Field Name	Data Entry
08	Verification Status:	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> All N/A
09	Correction Notes:	

The responsible person’s signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Corrections Notes.

E. 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.

Field	Field Name	Data Entry
01	HERS Verification Compliance	<input type="checkbox"/> Complies <input type="checkbox"/> Does not comply



DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Verification documentation is accurate and complete.

SIGNATORY	Entry
Documentation Author Name	
Author Signature	
Company Name	
Date Signed	
CEA/HERS Certification Identification (if applicable)	
Address	
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 Appendices RA2, RA3, 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 (LMCI) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (LMCC) approved by the enforcement agency.
5. I understand 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, and I will take the necessary steps to ensure this requirement is accomplished.

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.

Builder Or Installer Information As Shown On The Certificate Of Installation

SIGNATORY	Entry
Company Name	
Builder or Installer Name	
CSLB License	

HERS Provider Data Registry Information

SIGNATORY	Entry
Sample Group Number (if applicable)	
Dwelling Test Status in Sample Group (if applicable)	

HERS Rater Information

SIGNATORY	Entry
Company Name	
Responsible Rater Signature	
Responsible Rater Certification Number w/this HERS Provider	
Date Signed	

LMCV-MCH-20e-H User Instructions

Section A. System Information

1. *HVAC System Identification or Name*: This field is filled out automatically. It is referenced from the LMCI-MCH-20.
2. *HVAC System Location or Area Served*: This field is filled out automatically. It is referenced from the LMCI-MCH-20.
3. *Indoor Unit Name*: This field is filled out automatically. It is referenced from the LMCI-MCH-20, which must be completed prior to this document.
4. *Building Type*: This field is filled out automatically. It is referenced from the LMCI-MCH-20.
5. *Verified Low Leakage Ducts in Conditioned Space (VLLDCS)*: This field is filled out automatically. It is referenced from the LMCI-MCH-20.
6. *Verified Low Leakage Air-handling Unit (VLLAHU) Credit*: This field is filled out automatically. It is referenced from the LMCI-MCH-20.
7. *Duct System Compliance Category*: This field is filled out automatically. It is referenced from the LMCI-MCH-20.
8. *Any portions of Duct Located in Garage*: User select from Yes or No.

Section B. Duct Leakage Diagnostic Test - MCH-20e - Sealing All Accessible Leaks using Smoke Test

1. *Air-Handling Unit Airflow (AHU Airflow) Determination Method*: User will select from the following options:
 - a. *Default Airflow Method*: The Default Airflow Method may only be used for homes where the duct system is being tested before the conditioning and heating system is installed and the equipment specification is not known (See Section RA3.1.4.2.1 of the 2019 Reference Appendices).
 - b. *Cooling System Method*: For systems with air conditioning, this selection must be made, and the nominal air handler airflow shall be 400 CFM per nominal ton of condensing unit cooling capacity as specified by the manufacturer (Note: the heating only value may be used, if higher, See Section RA3.1.4.2.2 of the 2019 Reference Appendices).
 - c. *Heating System Method*: For heating only systems the nominal air-handler airflow shall be 21.7 CFM per kBtu/hr of rated heating output capacity.
 - d. *Measured Airflow Method*: The measured system airflow can be used as the air handler airflow for the purpose of establishing duct leakage percentage (See Section RA3.1.4.2.3 of the 2019 Reference Appendices).
 - e. *Indoor Unit Method*
2. *Condenser Nominal Cooling Capacity (ton)*: Same data given on MCH-01.
3. *Indoor Unit Nominal Cooling Capacity*: Same data given on MCH-01.
4. *Heating Capacity (kBtu/h)*: Same data given on MCH-01.
5. *Conditioned Floor Area Served by this HVAC System (ft²)*: User must input CFA for the space. Should be consistent with the LMCC input value.
6. *Measured AHU Airflow (CFM)*: If "Measured Airflow Method" is selected as the *Air-Handling Unit Airflow (AHU Airflow) Determination Method*, user must input measured airflow.
7. *Duct Leakage Test Conditions*: Select from the following options:

- a. Test Rough-in AHU: Installers may determine duct leakage in new construction by using diagnostic measurements at rough-in building construction stage prior to installation of interior finishing (See Section RA3.1.4.3.2 of the 2019 Reference Appendices). In this case the air handling unit (AHU) is installed at the time of test.
 - b. Test Rough-in No AHU: Same as “Test Rough-in” except air-handling unit is not yet installed (See Section RA3.1.4.3.2 of the 2019 Reference Appendices).
 - c. Test Final: Test conducted at “final”, i.e. all equipment, ducts, and registers are installed and the system is essentially in its final operating condition. (rough-in no longer an option. See Section RA3.1.4.3.1 of the 2019 Reference Appendices).
8. *Duct Leakage Test Method*: Select from the following options: Leakage to the Outside (house is pressurized simultaneously with the ducts such that only leakage going outside of the pressurized conditioned shell is measured, see RA3.2.4.3.4), or Total Leakage.
 9. *Leakage Factor*: This field is automatically filled out based on choices in previous fields.
 10. *Calculated Target Allowable Duct Leakage Rate (cfm)*: This value will be automatically calculated based on values entered in previous fields.
 11. *Actual Duct Leakage Rate from Leakage Test Measurement (cfm)*: Input the duct leakage rater taken from actual test measurements.
 12. *Compliance Statement*: If measured leakage (B11) is less than or equal to allowable duct leakage rate (B10), “system passes - system complies with Allowable Duct Leakage Rate Criterion” will automatically populate.
If measured leakage is greater than allowable duct leakage rate, then the following will automatically populate:
System passes using smoke test of an altered HVAC system in an existing building if:
 - No visible smoke exits the accessible portions of the duct system.
 - Smoke is only emanating from air handler unit, AHU cabinet, and non-accessible portions of the duct system.
 13. *Notes*: This field is automatically filled out. The values in B02, B03, B04 and B05 are checked against the values in the same rows of the LMCI-MCH-20 for this system. If they do not match an error message will appear here.

Section C. Ducts Located in Garage Spaces

1. *Duct Leakage Test Method*: This field is automatically filled out based on choices in previous fields.
2. *Leakage Factor*: This field is automatically filled out based on choices in previous fields.
3. *Air-Handling Unit Airflow (AHU Airflow) Determination Method*: This field is automatically filled out based on choices in previous fields.
4. *Measured AHU Airflow (CFM)*: This field is automatically filled out based on choices in previous fields.
5. *Calculated Target Allowable Duct Leakage Rate (cfm)*: This value will be automatically calculated based on values entered in previous fields
6. *Actual Duct Leakage Rate from Leakage Test Measurement (cfm)*: This field is automatically filled out based on choices in previous fields

7. *Compliance Statement:* If Actual Duct Leakage Rate from leakage test is less than or equal to Calculated Target Allowable Duct Leakage Rate, passes message will automatically populate. If not, "System fails leakage test" will automatically populate.

Section D. Additional Requirements for Compliance

1. This field must be a true statement (or not applicable) for the system to comply.
2. This field must be a true statement (or not applicable) for the system to comply.
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5. This field must be a true statement (or not applicable) for the system to comply.
6. This field must be a true statement (or not applicable) for the system to comply.
7. This field must be a true statement (or not applicable) for the system to comply.
8. *Verification Status:* If this Section does not apply, then select "All N/A". If the system meets all of the additional requirements for compliance then select "Pass", otherwise select "Fail". The latter selection means that the system does not meet the requirements and the system will need to be modified to meet the requirements or airflow and fan efficacy will have to be verified by diagnostic testing.
9. *Correction Notes:* If one or more applicable requirements are not met "Fail" will appear in the row above. When this occurs the rater is required to enter detailed notes here that describe what failed and why.

Section E. Determination of HERS Verification Compliance

1. This field is filled out automatically. Compliance requires that all individual criteria pass.