

STATE OF CALIFORNIA
AIR DISTRIBUTION DUCT LEAKAGE

CEC-NRCA-MCH-04-A (Revised 01/16)

CALIFORNIA ENERGY COMMISSION



CERTIFICATE OF ACCEPTANCE		NRCA-MCH-04-A
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Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

<i>Note: Submit one Certificate of Acceptance for each system that must demonstrate compliance. HERS verification required.</i>	Enforcement Agency Use: Checked by/Date
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This compliance document is used for duct pressure test and to certify low leakage air handlers. Fill out the System Information in Section A then determine if this is a New Duct System (fill out Section B), an Altered Space Conditioning System and/or Altered Duct System (fill out Section C), or if the compliance software requires Low Leakage Air-Handling Unit Verification (fill out Section E)

A. System Information		
01	HVAC System Identification or Name:	
02	HVAC System Location or Area Served:	
03	Was Low Leakage Air-Handling Unit Credit Taken on MCH-01?	Yes No
04	Duct System Construction Type:	
05	Condenser Nominal Cooling Capacity (ton):	
06	Heating Capacity (kBtu/h):	

B. Duct Leakage Diagnostic Test - New Duct System		
A New Duct System is when at least 75% of the duct system is new duct material, and up to 25% may consist of reused parts from the dwelling unit's existing duct system (e.g., registers, grilles, boots, air handler, coil, plenums, duct material)		
01	Air-Handler Airflow Determination Method (Tons or BTU):	
02	Calculated Target Allowable Duct Leakage Rate (cfm) a) For an air conditioner or heat pump use 400 cfm per rated ton of cooling capacity of outdoor condenser or package unit. Calculation = $(0.06 \times 400 \times \text{Tons } \underline{\hspace{1cm}}) = \underline{\hspace{1cm}} \text{ cfm}$ b) For heating-only system furnaces shall be based on 21.7 cfm per kBtu/hr of rated heating output capacity. Calculation = $(0.06 \times 21.7 \times \text{kBtu/hr } \underline{\hspace{1cm}}) = \underline{\hspace{1cm}} \text{ cfm}$	
03	Actual Duct Leakage Rate from Leakage Test Measurement (cfm):	
04	Compliance Statement:	
Pass - Pass if B03 is less than or equal to B02.		

C. Duct Leakage Diagnostic Test - Altered Space Conditioning System and/or Altered Duct System		
Altered Space Conditioning System – is an HVAC changeout or when the air handler, condensing unit of a split system, our cooling coil or any amount of ducting added to an existing system but less than a new duct system.		
01	Air-Handler Airflow Determination Method (Tons or BTU):	
02	Calculated Target Allowable Duct Leakage (cfm) a) For an air conditioner or heat pump use 400 cfm per rated ton of cooling capacity of outdoor condenser or a package unit. Calculation = $(0.15 \times 400 \times \text{Tons } \underline{\hspace{1cm}}) = \underline{\hspace{1cm}} \text{ cfm}$ b) For heating-only system furnaces shall be based on 21.7 cfm per kBtu/hr of rated heating output capacity. Calculation = $(0.15 \times 21.7 \times \text{kBtu/hr } \underline{\hspace{1cm}}) = \underline{\hspace{1cm}} \text{ cfm}$	
03	Actual Duct Leakage Rate from Leakage Test Measurement (cfm)	
04	Compliance Statement:	
Pass - Pass if C03 is less than or equal to C02, or Fail but passed with Smoke – If unable to pass the leakage test a smoke test is allowed to confirm that all accessible leaks have been sealed. Enter actual leakage rate before moving to smoke. Fill out Section D Smoke Test.		



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D. Smoke Test

01	Inject smoke into a fan pressurization device that is maintaining a duct pressure difference of 25 Pa (0.1 inches water) relative to the duct surroundings, with all grilles and registers in the duct system sealed.	
02	Compliance Statement:	
Pass		
System passes if no smoke emanates from all accessible portions of the HVAC system including the package unit, furnace, ducts, plenums, wyes, tees. This includes the air handler refrigerant line, door panels, and curb. Accessible includes having access thereto, but which first may require removal or opening of access panels, doors, or similar obstructions including moving insulation. Requires 100% testing by HERS rater. No sampling allowed.		
03	Final Duct Leakage(CFM):	

E. Low Leakage Air-Handling Unit (LLAHU)

01	Installed Air-Handling Unit Manufacturer Name:	
02	Installed Air-Handling Unit Model Number:	
03	The installed Low Leakage Air-Handling Unit Model is listed here http://www.energy.ca.gov/title24/equipment_cert/llahu/low_leakage_air_handling_units.pdf	
04	Compliance Statement:	
Pass if Manufacturer Name, Model Number of installed equipment is listed with the Energy Commission.		

F. Additional Requirements for Compliance

01	System was tested in its normal operation condition. (No temporary taping except for the damper used for outside air)
02	Building cavities for new ducting were not used as plenums or platform returns in lieu of ducts.
03	If cloth backed tape was used it was covered with Mastic and draw bands.
04	All connection points between the air handler and the supply and return plenums are completely sealed including at the curb.
05	Temporary Taping over registers to perform duct leakage test. When registers are installed in drywall tape covers register and drywall. For t-bar mounted registers taping of register can occur to the register or to the t-bar.
By signing this document I certify that all the above applicable requirements have been met.	

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/HERS/ATT Certification Identification (If applicable):
City/State/Zip:	Phone:

FIELD TECHNICIAN'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 Acceptance is true and correct.
- I am the person who performed the acceptance verification reported on this Certificate of Acceptance (Field Technician).
- The construction or installation identified on this Certificate of Acceptance complies with the applicable acceptance requirements indicated in the plans and specifications approved by the enforcement agency, and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7.
- I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and signed by the responsible builder/installer and has been posted or made available with the building permit(s) issued for the building.

Field Technician Name:	Field Technician Signature:
Field Technician Company Name:	Position with Company (Title):
Address:	ATT Certification Identification (if applicable):
City/State/Zip:	Phone: Date Signed:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- I am the Field Technician, or the Field Technician is acting on my behalf as my employee or my agent and I have reviewed the information provided on this Certificate of Acceptance.
- I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Acceptance, and attest to the declarations in this statement (responsible acceptance person).
- The information provided on this Certificate of Acceptance substantiates that the construction or installation identified on this Certificate of Acceptance complies with the acceptance requirements indicated in the plans and specifications approved by the enforcement agency, and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7.
- I understand that a HERS rater will check the installation to verify compliance, and that if such checking identifies defects the responsible builder/installer shall be required to take corrective action at his 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 the responsible builder/installer's expense.
- I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and is posted or made available with the building permit(s) issued for the building.
- I will ensure that a completed, signed copy of this Certificate of Acceptance 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 signed copy of this Certificate of Acceptance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Acceptance Person Name:	Responsible Acceptance Person Signature:
Responsible Acceptance Person Company Name:	Position with Company (Title):
Address:	CSLB License:
City/State/Zip:	Phone: Date Signed: