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INSTALLATION CERTIFICATE		CF-6R-MECH-20-HERS
Duct Leakage Test – Completely New or Replacement Duct System		**(Page 1 of 2)**
Site Address:	**Enforcement Agency:**	**Permit Number:**

Enter the Duct System Name or Identification/Tag:
Enter the Duct System Location or Area Served:
Note: Submit one Installation Certificate for each duct system that must demonstrate compliance in the dwelling.

This certificate is required for compliance for completely new duct systems installed in new dwelling construction, and also for completely new or replacement duct systems in existing dwellings. For existing dwellings, a completely new or replacement duct system can also include existing parts of the original duct system (e.g., register boots, air handler, coil, plenums, etc.) if those parts are accessible and they can be sealed.

Duct Leakage Diagnostic Test – completely new or replacement duct system

Enter a value for the Allowed Leakage (CFM) for the duct system leakage verification. The value entered must be the Verified Low Leakage Ducts in Conditioned Space criteria or one of the three calculated leakage rates described below.	
Verified Low Leakage Ducts in Conditioned Space (VLLDCS) Compliance Credit. If compliance credit for verified low leakage ducts in conditioned space is shown in the special features section of the CF-1R, the leakage to outside test method must be used to verify duct leakage (refer to RA3.1.4.3.4), and 25 CFM must be entered for Allowed Leakage.	Allowed Leakage (CFM)
Allowed leakage calculation – (select one calculation method from this section). Use 6% (*leakage factor* = 0.06) for calculations if tested at "final" or 4% (*leakage factor* = 0.04) if tested at "rough." When utilizing Low Leakage Air Handler (LLAH) credit, the allowed duct leakage may be specified by the CF-1R to be less than 6%, in which case the user-specified leakage rate must be used in the calculations below. For example, if the user-specified leakage (specified as a percentage of fan airflow) is reported on the CF-1R as 3%, then use a *leakage factor* of 0.03 in the calculations below. ☐ Cooling system method: Nominal capacity of condenser in Tons _____ x 400 x *leakage factor* = _____ (CFM) ☐ Heating system method: 21.7 x _____ Output Capacity in Thousands of Btu/hr x *leakage factor* = _____ (CFM) ☐ Measured airflow method (RA3.3): Enter measured fan flow in CFM here _____ x *leakage factor* = _____ (CFM)	
Enter value for **Actual** leakage (CFM) in the right column, from measurement using applicable duct leakage pressurization test procedure from Reference Residential Appendix RA3.1(CFM @ 25 Pa).	Actual Leakage (CFM)
List **Actual** Leakage from duct leakage test (CFM)	
Pass if Actual Leakage is less than Allowed Leakage	**☐ Pass ☐ Fail**
For complete replacement of duct systems only, if the 6 percent leakage rate criteria cannot be met, a smoke test should be performed to verify that the excess leakage is coming only from a pre-existing furnace cabinet (air handler cabinet), and not from other *accessible* portions of the duct system. A HERS rater must verify the installation (No sampling allowed). List **Actual** Leakage from smoke test(CFM)	
Pass if all accessible leaks (except for existing air handler) are sealed using smoke	**☐ Pass ☐ Fail**

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Compliance Method

This dwelling was: (select one of the following two choices):

☐ Tested at Final

☐ Tested at Rough-in (requires installer to complete the *visual inspection at final construction stage* described below)

Visual Inspection at Final Construction Stage (if applicable)

After installing the interior finishing wall and verifying that the above rough-in tests was completed, the following procedure must be performed:

☐ For all supply and return registers, verify that the spaces between the register boot and the interior finishing wall are properly sealed.

☐ If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler and the supply and return plenums to verify that the connection points are properly sealed.

☐ Inspect all joints to ensure that no cloth backed rubber adhesive duct tape is used.

☐ Outside air (OA) ducts for Central Fan Integrated (CFI) ventilation systems, shall not be sealed/taped off during duct leakage testing. CFI OA ducts that utilize controlled motorized dampers, that open only when OA ventilation is required to meet ASHRAE Standard 62.2, and close when OA ventilation is not required, may be configured to the closed position during duct leakage testing.

☐ All supply and return register boots must be sealed to the drywall

☐ New duct installations cannot utilize building cavities as plenums or platform returns in lieu of ducts.

☐ Mastic and draw bands must be used in combination with Cloth backed, rubber adhesive duct tape to seal leaks at duct connections.

DECLARATION STATEMENT

- I certify under penalty of perjury, under the laws of the State of California, the information provided on this form is true and correct.
- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for construction, or an authorized representative of the person responsible for construction (responsible person).
- I certify that the installed features, materials, components, or manufactured devices identified on this certificate (the installation) conforms to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcement agency.
- I understand that a HERS rater will check the installation to verify compliance, and that 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.
- I reviewed a copy of the Certificate of Compliance (CF-1R) form approved by the enforcement agency that identifies the specific requirements for the installation. I certify that the requirements detailed on the CF-1R that apply to the installation have been met.
- **I will ensure that a completed, signed copy of this Installation Certificate 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 Installation Certificate is required to be included with the documentation the builder provides to the building owner at occupancy.** I will ensure that all Installation Certificates will come from a HERS provider data registry for multiple orientation alternatives, and beginning October 1, 2010, for all low-rise residential buildings.

Company Name: (Installing Subcontractor or General Contractor or Builder/Owner)		
Responsible Person's Name:		Responsible Person's Signature:
CSLB License:	Date Signed:	Position With Company (Title):
Is this installation monitored by a Third Party Quality Control Program (TPQCP)? ☐Yes ☐No		Name of TPQCP (if applicable):

Registration Number: _____ *Registration Date/Time:* _____ *HERS Provider:* _____