LAB TEST AND BALANCE

Project Name and Address	Authority Having Jurisdiction
Name: Project Name	Enforcement Agency: Agency
Address: Project Address	Permit Number: Permit Number
City, Zip Code: City, Zip Code	Permit Application Date: Date

Building: Er	nter Value	Floor: Enter Value	Room: Ent	er Value	Control/tag: Value
_	Construction inspection and functional testing comply Does not comply Date Submitted to AHJ: Date				
Intent:	This compliance document is to be complete for each factory or laboratory space served by a fan exhaust system with a design exhaust fan system airflow rate greater than 10,000 cfm. If multiple factory or laboratory spaces are served by the same fan exhaust system, then a separate version of this compliance document must be completed for each factory or laboratory space served. Section 140.9(c)3 and Reference Nonresidential Appendix NA7.16.				

Table A-1: Construction Inspection – Main

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			Code	
Step	Entry	Item	Reference	
1.0	☐ Pass ☐ Fail	Verify access to all necessary specifications and manufacturer documentation. Additionally verify access to permit applications and Energy Code compliance documents approved by the authority having jurisdiction.	10-103	
2.0	No Entry	Verify that the following measurements are within 10 percent of the corresponding design values found in the documents specified in Step 1:	NA7.16.1(a)	
2.1	Enter Value sf Enter Value cf Pass Fail	Measure and record the area (square feet) and volume (cubic feet) of the factory or laboratory space. Indicate pass if these values are within 10 percent of the corresponding design values referenced in Step 1.	NA7.16.1(a)1	
2.2	Enter Value cfm Pass Fail	Measure and record the airflow rate (cubic feet per minute) of the factory or laboratory space. Indicate pass if this value is within 10 percent of the corresponding design value referenced in Step 1.	NA7.16.1(a)2	
2.3	Enter Value cfm Pass Fail	Measure and record the occupied minimum airflow rate (cubic feet per minute) of the factory or laboratory space. Indicate pass if this value is within 10 percent of the corresponding design value referenced in Step 1.	NA7.16.1(a)3	



Step	Entry	Item	Code Reference
2.4	Enter Value cfm Pass Fail	Measure and record the unoccupied minimum airflow rate (cubic feet per minute) of the factory or laboratory space. Indicate pass if this value is within 10 percent of the corresponding design value referenced in Step 1.	NA7.16.1(a)4
2.5	Enter Value cfm Pass Fail	Measure and record the inlet airflow rate of the exhaust fan system (cubic feet per minute) of the factory or laboratory space at design conditions. Indicate pass if this value is within 10 percent of the corresponding design value referenced in Step 1.	NA7.16.1(a)5
2.6	Enter Value W Pass Fail	Measure and record the power of the exhaust fan system at design conditions (watts) of the factory or laboratory space. Indicate pass if this value is within 10 percent of the corresponding design value referenced in Step 1.	NA7.16.1(a)6
2.7	Enter Value W/cfm Pass Fail	Calculate watts per cubic feet per minute at design conditions (divide results of Step 2.6 the results of Step 2.5). Indicate pass if this value is within 10 percent of the corresponding design value referenced in Step 1.	NA7.16.1(a)7
3.0	☐ Pass ☐ Fail	 From Table A-2, determine if it is true that the Total Design Airflow Rate is greater than unoccupied minimum airflow rate of the space (from the resoures listed in Step 1). If it is true AND if all fume hoods listed in Table A-2 are identified as VAV, then select Pass. If it is NOT true, then select Pass. If it is true AND any of the fume hoods listed in Table A-2 are identified as CAV, then select Fail. 	NA7.16.1(b)
4.0	☐ True ☐ False	Verify pressure independent flow control valves are used.	NA7.16.1(c)
5.0	☐ True ☐ False	Document whether the exhaust system has air filtration, scrubbers, or other air treatment devices.	NA7.16.1(d)
6.0	No Entry	Document the fan power requirements as described in Steps 6.1 through 6.4 (below). Use only one of 6.1 through 6.4 and enter NA for the options not used.	NA7.16.1(e)
6.1	Pass, Fail, NA	No Control is selected (2025-CEC-NRCA-PRC-14a) AND Step 5 is 'True.' Enter Pass if Step 2.7 is equal to or less than 0.85 W/cfm, or else enter Fail.	NA7.16.1(e)1



Step	Entry	Item	Code Reference
6.2	Pass, Fail, NA	No Control is selected (2025-CEC-NRCA-PRC-14a) AND Step 5 is 'True', Enter Pass if the rated fan power does not surpass fan kW _{budget} as calculated per Section 140.4(c)1A, or else enter fail.	NA7.16.1(e)1 and NA7.16.1(e)2
6.3	Pass, Fail, NA	No Control is selected (2025-CEC-NRCA-PRC-14a) AND Step 5 is 'False'. Enter Pass if Step 2.7 is equal to or less than 0.65 W/cfm, or else enter Fail.	NA7.16.1(e)2
6.4	Pass, Fail, NA	The selected control is either simple turndown, wind responsive, or contaminant monitoring. Enter Pass if Step 2.7 is equal to or less than 1.3 W/cfm, or else enter Fail.	NA7.16.1(e)3
7.0	Pass Fail	Construction Inspection Pass Conditions All of the following must be true. Steps 2 and 6 contain 'No Entry'. Steps 4 and 5 must record either true or false. Steps 6.1-6.4 must record one pass and three NAs. All other steps must record pass.	NA

Table A-2: Construction Inspection – Listing of Fume Hoods (NA7.16.1(b))

List all fume hoods in the space, indicating variable or constant air volume and the design air flow rate in cubic feet per minute (CFM). Total the design air flow rate (including both VAV and VAC hoods) at the bottom of the table.

Fume Hood	Design Airflow Type	Design Air Flow Rate (cfm)
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV) ☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value

Fume Hood	Design Airflow Type	Design Air Flow Rate (cfm)
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Fume Hood Designation	☐ Variable Air Volume (VAV)☐ Constant Air Volume (CAV)	Enter Value
Total Design Airflow Rate	(sum both VAV and CAV together)	Enter Value

Table B-1: Functional Test – VAV Laboratory Exhaust System with Occupancy ControlsNote: If control signals have been calibrated to measure flow rates and power consumption, recorded control signals are acceptable methods of measurement.

Step	Entry	Functional Test	Code Reference
1.0	No Entry	Simulate design conditions by opening all fume hood sashes and other exhaust devices such as snorkels to their design open position and occupy all lab spaces served by the exhaust fan system.	NA7.16.2 Step 1
1.1	Pass Fail	Verify that the occupant sensors can detect occupants in all portions of the spaces and are reporting occupied occupancy status to controller.	NA7.16.2 Step 1(a)
1.2	Pass Fail	Verify that the inlet airflow rate of the exhaust fans meets the design flowrate.	NA7.16.2 Step 1(b)
1.3	Enter Value	Measure and record the fan power (watts) under design conditions.	NA7.16.2 Step 1(c)
1.3	Pass Fail	Verify that fan power under design conditions (Step 1.3) is no greater than the design fan power.	NA7.16.2 Step 1(d)



Stan	Entry	Functional Test	Code Reference
Step	Entry	Simulate minimum flowrate under occupied conditions	NA7.16.2
		by adjusting fume hoods and other exhaust devices.	Step 2
2.0	No Entry	Adjust the thermostatic control so that the space	Step 2
		temperature is within the dead band.	
		Verify that the occupant sensors can detect occupants	
2.1	Pass	in all portions of the spaces and are reporting occupied	NA7.16.2
		occupancy status to controller.	Step 2(a)
2.2	Pass	Verify that the total exhaust airflow rate of the space	NA7.16.2
2.2	Fail	meets the minimum allowed occupied airflow rate.	Step 2(b)
2.3	Enter Value	Measure and record the fan power (watts) under	NA7.16.2
2.3	criter value	minimum flowrate, occupied conditions.	Step 2(c)
	Pass	Verify that the power under minimum flowrate occupied	NA7.16.2
2.4	Fail	conditions (Step 2.3) is no greater than measured	Step 2(d)
	L I all	power under design conditions (Step 1.3).	Step 2(u)
		Simulate minimum flowrate under unoccupied	
		conditions by adjusting fume hoods and other exhaust	
		devices and vacate all lab spaces served by the exhaust	NA7.16.2
3.0	No Entry	fan system for at least 20 minutes so occupant control	Step 3
		treats lab spaces as unoccupied. Adjust the thermostatic	otop o
		control so that the space temperature is within the dead	
		band.	NA7 46 2
3.1	Pass	Verify that the occupant sensors are reporting	NA7.16.2
	Fail	unoccupied occupancy status to controller.	Step 3(a)
3.2	Pass	Verify that the total exhaust airflow rate of each space	NA7.16.2
	Fail	meets the minimum allowed unoccupied flowrate. Measure and record the fan power (watts) under	Step 3(b) NA7.16.2
3.3	Enter Value	minimum flowrate unoccupied conditions.	Step 3(c)
		Verify that power under minimum flowrate unoccupied	υτορ υ(c)
	☐ Pass	conditions (Step 3.3) is no greater than measured	NA7.16.2
3.4	Fail	power under minimum flowrate occupied conditions	Step 3(d)
		(Step 2.3).	Step S(u)
4.0	No Entry	Return system controls to normal operation	NA
	- ,	Functional Test Pass Conditions	
5.0	Pass Fail	All of the following must be true.	
		Steps 1.0, 2.0, and 3.0 contain 'No Entry'.	NIA
		Steps 1.3, 2.3, and 3.3 must contain non-zero numerical	NA
		entries.	
		All other steps must record pass.	



Declaration Statement	Signatory
Document Author	Name
I assert that this Certificate of Acceptance documentation is accurate and complete.	Company Name
	Author Signature
	Date Signed
Field Technician	
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	Name
performed the acceptance verification reported on this Certificate of Acceptance (Field Technician). The	Company Name
construction or installation identified on this Certificate of Acceptance complies with the applicable	Title
acceptance requirements indicated in the plans and specifications approved by the enforcement agency	Phone
and conforms to the applicable acceptance requirements and procedures specified in Reference	Signature
Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or	Date Signed
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.	
Responsible Person	
I assert 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.	Name
The information provided on this Certificate of Acceptance substantiates that the construction or	Company Name
installation identified on this Certificate of Acceptance complies with the acceptance requirements	Lic. No.: License No.
indicated in the plans and specifications approved by the enforcement agency and conforms to the	Title
applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I	Phone
have confirmed that the Certificate(s) of Installation for the construction or installation identified on this	Signature
Certificate of Acceptance has been completed and is posted or made available with the building permit(s)	Date Signed
issued for the building. I understand 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, and I will take the necessary steps to ensure this	
requirement is accomplished. 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, and I will	
take the necessary steps to ensure this requirement is accomplished.	