

**INSTALLER and INSPECTOR QUICK-REFERENCE:
2022 NRCA-PRC-02-F
Commercial Kitchen Exhaust Systems**

Purpose and Scope of the Test

The following acceptance tests apply to commercial kitchen exhaust systems with Type I exhaust hoods. All Type I exhaust hoods used in commercial kitchens shall be tested.

Test trigger

Newly Constructed and Additions/Alterations: For kitchens with Type I and Type II kitchen hood exhausts with a total exhaust rate greater than 5,000 cfm; each Type I kitchen hood exhaust must be tested.

Exceptions: Systems with 75% of total Type I and Type II exhaust replacement air is transfer air that would otherwise be exhausted and existing hoods that are not being replaced as part of an addition or alteration do not need to be tested. Healthcare Facilities are also not required to be tested.

Relevant Energy Code References and Required Compliance Documents

Title 24, Part 6 of the California Building Code, Building Energy Efficiency Standards (Energy Code) sections 140.9(b), Table 140.9-A; NA7.11.1; NRCC-PRC-E Table N

Who Can Perform the Test

There are no restrictions.

Note that the contractor can complete the test, and ATTCP certification is not required for this test at this time.

Required Tools

- Smoke candles or smoke puffers (smoke bombs are not permitted), actual cooking at the normal production rate is also a reliable method of generating smoke.
- Space differential pressure sensor.
- Recording Analog Manometer with Pitot Tube and VelGrid.

Estimated Time to Complete Test

Construction Inspection: 0.5 hours

Functional testing: 1 hours (for each system)

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Potential Issues and Cautions

Coordinate test procedures with the facility supervisor since they may be needed to assist with the manipulation of the control system.
Note that air currents from any HVAC system could interfere with the hood's ability to capture correctly ensure that all makeup air, and nearby space conditioning equipment are running at full volume during test.

Inspection Enforcement

- Verify exhaust and replacement air systems are installed, power is supplied and the control systems such as demand control ventilation are calibrated.
- For kitchen/dining facilities having total Type I and Type II kitchen hood exhaust airflow rates greater than 5,000 cfm, calculate the maximum allowable exhaust rate for each Type I hood per the Energy Code.

Acceptance Criteria

- Verify smoke and steam was fully captured.
- Verify negative pressure in kitchen, relative to adjacent spaces.
- Verify that the Type I hoods are drawing exhaust at less than or equal to the maximum values in the Energy Code.
- Verify that the Demand Control Ventilation (DCV) system responds to a cooking device being turned on.
- Verify that the timed override forces the DCV system to full speed.
- Verify that the DCV systems respond to full load conditions (all Yes).