Non-Residential HERS Duct Testing Flowchart
Prescriptive Compliance Approach

New Construction Only

New Occupancy must comply with 2013 Building Energy Efficiency Standards Occupancy Types A,B,E,F,H,M,S,U,R & Portable Classrooms
(see reference on back)

Yes

No

HERS FV/DT NOT Required

The HVAC system has a constant speed supply fan? (Includes HVAC systems with different fan speeds for heating and cooling, and supply fans that operate with stepped fan speeds. Excludes HVAC systems with variable speed fans, commonly referred to a VFD’s or variable speed ECM motors.)
[Section 1404.01]

Yes

No

HERS FV/DT NOT Required

The HVAC system serves a single zone less than 5,000 sf of conditioned space.
[Section 1404.02]

Yes

No

HERS Field Verification and Duct Testing is REQUIRED

6% Leakage

More than 25% of the total duct surface area is located outside the building or in unconditioned space?
[Section 1404.03]

Yes

No

Exceptions:

1. The enforcing agency has determined that duct sealing and leakage testing will damage the historical fabric of a “Qualified Historic Building”.
[Exception 1 to Section 100.0 (a)]

2. The enforcing agency has determined the work is temporary and will be removed by a specific date listed on the permit.
[Exception 2 to Section 100.0 (a)]

Required Forms
Prescriptive Compliance
NRCC- MCH- 01-E
NRCC- MCH- 02-E
NRCC- MCH- 04-E
NRCI- MCH- 01-E
NRCA- MCH- 04-H

Performance Compliance
NRCC- PRF- 01-E
(All forms listed above)
Non-Residential Prescriptive Compliance Approach

New Construction Only

<table>
<thead>
<tr>
<th>Occupancy Types Covered by 2013 Building Energy Efficiency Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>“A” - Assembly, Theaters, Auditoriums</td>
</tr>
<tr>
<td>“B” - Offices, Banks, Beauty Salons, Retail (excluding Department Stores &amp; Shopping Centers)</td>
</tr>
<tr>
<td>“E” - Educational Buildings (K-12)</td>
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<tr>
<td>“F” - Factories</td>
</tr>
<tr>
<td>“H” - Hazardous Uses</td>
</tr>
<tr>
<td>“M” - Department Stores &amp; Shopping Centers</td>
</tr>
<tr>
<td>“S” - Storage</td>
</tr>
<tr>
<td>“U” - Garage, Carports, Sheds</td>
</tr>
<tr>
<td>“R” - Hotels, Motels, High-rise Residential, Long-term Care (Excludes private residences and apartments/condominiums in buildings less than 4 stories)</td>
</tr>
</tbody>
</table>

Portable Classrooms

**Excludes the following:**

1. “I” - Institutional, Hospitals, Prisons, etc.
2. Historic buildings where the Building Department Official or the California State Historic Building and Safety Board determine compliance would adversely impact the historic fabric of the facility, but does not include non-historic additions to historic buildings. *Exception 1 to Standards § 100.0 (a).*
3. Enforcement agencies, at their discretion, may exempt temporary buildings or structures erected in response to a natural disaster. Temporary buildings or structures shall be completely removed upon the expiration of the time limit stated in the permit. *Exception 2 to Standards § 100.0 (a).*
4. Mobile homes and modular building licensed and permitted by the State of California.

2013 Building Energy Efficiency Standards – Section 140.4(l)

(l) **Air Distribution System Duct Leakage Sealing.** Duct systems shall be sealed to a leakage rate not to exceed 6 percent of the nominal air handler airflow rate as confirmed through field verification and diagnostic testing, in accordance with the applicable procedures in Reference Nonresidential Appendices NA1 and NA2 if the criteria in subsections 1, 2, and 3 below are met:

1. The duct system provides conditioned air to an occupiable space for a constant volume, single zone, space conditioning system; and
2. The space conditioning system serves less than 5,000 square feet of conditioned floor area; and
3. The combined surface area of the ducts located in the following spaces is more than 25 percent of the total surface area of the entire duct system:
   A. Outdoors; or
   B. In a space directly under a roof that
      i. Has a U-factor greater than the U-factor of the ceiling, or if the roof does not meet the requirements of Section 140.3(a)1B, or
      ii. Has fixed vents or openings to the outside or unconditioned spaces; or
   C. In an unconditioned crawlspace; or
   D. In other unconditioned spaces.