WSEC-R Duct Leakage Affidavit

WASHINGTON STATE UNIVERSITY
Energy Program

Permit#			
Address or Lot & Block			
City		Zip	

Cond. Floor Area (ft^2): _____ Source (check one): Plans ☐ Measured ☐

Air Handler in conditioned space? ☐ yes ☐ no Air Handler present during test? ☐ yes ☐ no

Circle Test Method: Leakage to Outside Total Leakage

(AHJ approval is needed for total leakage to outside test in lieu of the total leakage test per RS-33 standard)

Maximum duct leakage:

Post Construction, total duct leakage: (floor area x .04) = _____CFM@25 Pa

Post Construction, leakage to outdoors: (floor area x .04) = _____CFM@25 Pa

Rough-In, total duct leakage with air handler installed: (floor area x .04) = _____CFM@25 Pa

Rough-In, total duct leakage with air handler not installed: (floor area x .03) = _____CFM@25 Pa

Post construction test with Ducts inside: (floor area x 0.08) = _____ CFM@25 Pa

Result of test conducted at @ 25 Pa in CFM:

Duct testing device opening setting (circle one if applicable):

Open 1/A 2/B 3/C 4/D 5/E

Duct Tester Location: _____ Pressure Tap Location: _____

I certify that these duct leakage rates are accurate and determined using standard duct testing protocol.			
Testing Company:			
Address			
City		Zip:	

Phone #:		Email:	

Technician Print:			
Technician Signature:			
Date of test:		Technicians ID#	

Copy provided to both the AHJ and the owner	Yes	☐	Time and Location stamp of test provided	Yes	☐
	No	☐		No	☐

WSEC-R Code for common Duct testing questions. **Not all inclusive…**

R403.3.5 Duct testing. Ducts shall be leak tested in accordance with WSU RS-33, using the maximum duct leakage rates specified. Exception: A duct air leakage test shall not be required for ducts serving ventilation systems that are not integrated with ducts serving heating or cooling systems. A written report of the results shall be signed by the party conducting the test and provided to the code official.

R403.3.6 Duct leakage. The total leakage of the ducts, where measured in accordance with Section R403.3.3, shall be as follows:

1. Rough-in test: Total leakage shall be less than or equal to 4.0 cfm (113.3 L/min) per 100 square feet (9.29 m2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3.0 cfm (85 L/min) per 100 square feet (9.29 m2) of conditioned floor area. 2021 Washington State Energy Code RE-33 *

2. Post construction test: Leakage to outdoors shall be less than or equal to4 cfm (113.3 L/min) per 100 square feet (9.29 m2) of conditioned floor area or total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 square feet (9.29 m2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.

3. Test for ducts within thermal envelope: Where all ducts and air handlers are located entirely within the building thermal envelope, total leakage shall be less than or equal to 8.0 cubic feet per minute (226.6 L/min) per 100 square feet (9.29 m2) of conditioned floor area. For forced air ducts, a maximum of 10 linear feet of return ducts and 5 linear feet of supply ducts may be located outside the conditioned space. All metallic ducts located outside the conditioned space must have both transverse and longitudinal joints sealed with mastic. If flex ducts are used, they cannot contain splices. Flex duct connections must be made with nylon straps and installed using a plastic strapping tensioning tool. Ducts located in crawl spaces do not qualify for this exception.

R502.3.2 Heating and cooling systems. HVAC ducts newly installed as part of an addition shall comply with Section R403. Exception: The following need not comply with the testing requirements of Section R403.3.3:

1. Additions of less than 150 square feet.
2. Duct systems that are documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in WSU RS-33.
3. Existing duct systems constructed, insulated or sealed with asbestos.

R503.1.2 Heating and cooling systems. New heating, cooling and duct systems that are part of the alteration shall comply with Section R403.

Exceptions:

1. Where ducts from an existing heating and cooling system are extended, duct systems with less than 40 linear feet in unconditioned spaces shall not be required to be tested in accordance with Section R403.2.2.
2. Existing duct systems constructed, insulated or sealed with asbestos.
3. Replacements of space heating equipment shall not be required to comply with Section R403.13 where the rated capacity of the new equipment does not exceed the rated capacity of the existing equipment.