



ENVELOPE Field Guide

Standards of Reference: [ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings](#)
[Technical Standards for the Envelope Professional](#)

2

Health and Safety

Identified existing moisture-related problems
 Appropriate identification of foundation/basement moisture issues
 Appropriate identification of living space moisture issues
 Identified any existing indoor air contaminant sources
 Identified existing fire hazards
 Accurately identified structural problems in relationship to retrofitting insulation and/or performing air sealing

3

Combustion Safety Tests

Correctly identified heating / cooling system types
 Visual inspection of venting system for problems - NON-SCORABLE
 Determined condition accurately
 Correctly set up for natural conditions
 Correctly recorded pressure differential in the CAZ prior to turning on exhaust appliances
 Correctly setup home in worst case condition - NON-SCORABLE
 All exhaust appliances running
 Correct door closures - measured quantitatively or qualitatively
 Air handler operation impact checked
 Correctly checked for worst case spillage in heating system
 Correctly determined if the appliance passes the spillage test
 Correctly checked for worst case spillage in the domestic water heater
 Correctly determined if the appliance passes the spillage test

3

CO Testing

Correctly prepared CO monitor for use while outside of the building
 Correctly tested ambient CO indoors
 Correctly measured heating system flue gas CO during combustion safety testing
 Correctly measured DHW flue gas CO during combustion safety testing
 Appropriately applied BPI action levels based on test results for CO in the flue (choose DHW or heating system)
 Correctly monitored ambient CO levels in the CAZ during entire combustion safety tests
 Tested for CO in oven - NON-SCORABLE
 Correctly checked for items, excessive debris inside oven
 Oven test sampling location appropriate

3

Infiltration Evaluation

Combustion appliances set to pilot or disabled
 Proper set-up of the blower door frame/shroud/fan
 Proper set-up of the manometer
 Proper house set-up for testing
 Correctly measured baseline pressure differential
 Accurate CFM50 measurement
 Measured existing ventilation fan flow
 Discussed ventilation needs in relation to existing fans

Conducted sample room by room inspection with blower door running
Recommended air sealing appropriately
 Mentioned: Top plates and penetration through top and bottom floor
Recommended mechanical ventilation appropriately
Mentioned need for further pressure differential testing as appropriate
Properly identified significant cellar/crawl space leakage locations - Onsite
 Described proper method on sealing a specific location
 Described proper material for sealing a specific location
Properly identified significant attic leakage locations - Onsite
 Described proper method on sealing a specific location
 Described proper material for sealing a specific location
Properly identified significant exterior wall leakage locations - Onsite
 Described proper method on sealing a specific location
 Described proper material for sealing a specific location
Properly identified significant leakage locations with attached garages- Onsite
 Described proper method on sealing a specific location
 Described proper material for sealing a specific location
Zonal pressure differential testing performed
 Manometer set up correct
 Correctly interpreted results

5

Insulation

Identified opportunities for adding insulation
 Cost-effective
 Appropriate material selection
 Appropriate technique described
Specifically noted area benefiting from using dense-pack technique or foam
Indicated areas where baffling may be required to prevent wind washing
Indicated areas where baffling may be required for fire protection
Demonstrated understanding of air/thermal barrier alignment
 Showed example of alignment
Identified need for additional attic ventilation based on BPI Standards

5

Duct Sealing

Demonstrated ability to perform duct leakage diagnostics with pressure pan
 Appropriate manometer set up
 Appropriate interpretation of test result
 Appropriate recommendation for repair
Demonstrated ability to identify duct leakage locations
 Demonstrated ability to prioritize repairs
 Appropriate materials selected for repairs
 Appropriate method selected for repair.

2

Test Out

Candidate identified need for blower door testing after changes to building shell
Candidate identified need for CAZ testing after any retrofit work
Candidate identified need for other diagnostic testing needs after any retrofit work