



# ENVELOPE Field Guide

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## 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

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## 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

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## 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

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## 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

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### **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

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### **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.

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### **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