



COURSE 962904

Weatherization Guide Chapter 1

Exam Material

Uscontractorlicense LLC

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Summary Of This Course

WEATHERIZATION GUIDE CHAPTER 1

Approved by the
Wisconsin Department of Safety and Professional Services Safety and Buildings Division
Course Identification Number 962904
Educational Credit Hours: 6 Hours

Course Provider:
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Chapter 1 explains how to diagnose and reduce air leakage while maintaining occupant safety and indoor air quality. It emphasizes required blower door testing before and after weatherization, proper documentation, and corrective action when hazards are identified. The chapter describes how air barriers and thermal boundaries work together to improve energy efficiency and reduce heat loss. It provides procedures for conducting blower door tests, preparing buildings for testing, interpreting results, and locating hidden air leaks. Major and minor air sealing techniques are explained, including sealing attic bypasses, chimneys, top plates, penetrations, foundations, windows, and doors. The chapter also introduces Zone Pressure Diagnostics to identify leakage paths, prioritize air sealing efforts, and verify pressure boundaries. Final inspection requirements ensure all work meets Wisconsin Weatherization quality, safety, and performance standards.

This Course is approved for the following electrical Registrations/Certifications or Licenses:

Dwelling Contractor Qualifier	6 Hours of Continuing Education	
Commercial Building Inspector	6 Hours of Continuing Education	
UDC HVAC Inspector	6 Hours of Continuing Education	
UDC Construction Inspector	6 Hours of Continuing Education	

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

Course Outline

This course is a distance learning or e-learning course, which allows the attendee to complete the course on their time schedule.

Chapter 1 - Diagnosing and Sealing Air Leakage

1.1 Air Leakage Diagnostics Policy

1.2 Diagnostic Overview

1.2.1 Air Leakage Effects

1.2.2 Goals of Air Leakage Testing

1.3 House Airtightness Testing

1.3.1 Blower Door Terminology

1.3.2 Preparing for a Blower Door Test

1.3.3 Blower Door Test Procedures

1.4 Air Sealing and Indoor Air Quality

1.4.1 Air Sealing

1.5 Zone Pressure Diagnostics

1.5.1 Simple Air Leakage Tests

1.5.2 Using a Digital Gauge to Test Pressure Boundaries

1.5.3 Locating the Pressure/Thermal Boundary

1.5.4 Add-A-Hole Zone Leakage Measurement

1.5.5 Open-A-Door Zone Leakage Measurement

1.5.6 Adjusting Zone Pressure Measurements for Baseline

Final Inspection and Quality Assurance Standards

Exam

180 questions related to the reference materials are used to test the attendee on their comprehension of the materials. A 70% score will need to be attained in order to pass this course.

Answer Sheet(s)

2 bubble style answer sheets are included. When you are finished with the exam, you may return the answer sheets for grading to:

By Mail: Uscontractorlicense LLC
PO Box 268
Platteville, Wisconsin 53818

By Email: michael@uscontractorlicense.com

By Fax: 608-571-0096

Once we get the answer sheets back, we will grade them, enter your hours into the attendance portal and email or mail you back your certificate of completion(s). You will be responsible for renewing your license with the DSPS at www.license.wi.gov website.

Any questions, please contact us at 608.348.6688

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Weatherization Guide Chapter 1

Questions 1 thru 5 can be found in Section 1.1- Air Leakage Diagnostics Policy

1. According to the Air Leakage Diagnostics Policy, blower door testing is required:

- A. Only after insulation is installed
- B. Only on homes built after 1980
- C. Before weatherization begins and after all measures affecting building tightness are completed
- D. Only when requested by the homeowner

2. The blower door test completed before weatherization begins is called the:

- A. Final Test
- B. Baseline Test
- C. As-Is Test
- D. Pressure Test

3. Which buildings always require Zone Pressure Diagnostics testing?

- A. Buildings with basements
- B. Buildings with attached garages
- C. Buildings with crawlspaces
- D. Buildings with fireplaces

4. Air leakage diagnostic results must be documented in the:

- A. Work Order
- B. Customer File
- C. Diagnostic Workbook
- D. Installation Checklist

5. If air sealing creates an indoor air quality hazard, technicians must:

- A. Ignore the issue
- B. Reduce insulation
- C. Take corrective action such as adding ventilation
- D. Repeat the blower door test only

Questions 6 thru 8 can be found in Section 1.2 - Diagnostic Overview

6. Air barrier materials form the building's:

- A. Thermal boundary
- B. Pressure boundary
- C. Moisture barrier
- D. Vapor retarder

7. Insulation materials primarily form the building's:

- A. Air barrier
- B. Pressure boundary
- C. Thermal boundary
- D. Moisture barrier

8. Maximum energy savings occur when the air barrier and thermal boundary are:

- A. Separate systems
- B. Continuous and aligned
- C. Installed independently
- D. Located only in the attic

Questions 9 thru 21 can be found in Section 1.2.1 - Air Leakage Effects

9. Air leakage may significantly affect:

- A. Paint color
- B. Heat loss
- C. Roofing materials only
- D. Electrical resistance

10. Air leakage can transport:

- A. Concrete
- B. Moisture
- C. Roofing nails
- D. Electrical current

11. Excessive air leakage can contribute to:

- A. Mold problems
- B. Stronger foundations
- C. Lower humidity only
- D. Increased insulation value

12. Air leakage can affect the draft of:

- A. Water pipes
- B. Combustion appliances
- C. Gutters
- D. Windows

13. Which factor does NOT affect building air leakage?

- A. Weather
- B. Building location
- C. Mechanical equipment
- D. Paint sheen

14. Air entering low in a building is called:

- A. Exfiltration
- B. Diffusion
- C. Infiltration
- D. Ventilation

15. Conditioned air leaving the top of a building is called:

- A. Infiltration
- B. Exfiltration
- C. Diffusion
- D. Pressurization

16. Air movement through a building caused by temperature differences is known as:

- A. Wind effect
- B. Pressure equalization
- C. Stack effect
- D. Mechanical ventilation

17. The neutral pressure plane is:

- A. The roof ridge
- B. The midpoint where little air enters or exits
- C. The basement floor
- D. The furnace room

18. Tightening the bottom of a building generally causes the neutral pressure plane to:

- A. Move downward
- B. Move upward
- C. Disappear
- D. Stay the same

19. Tightening the top of a building generally causes the neutral pressure plane to:

- A. Rise
- B. Move outdoors
- C. Move downward
- D. Remain unchanged

20. Best air sealing results are achieved by sealing:

- A. Only the attic
- B. Only the basement
- C. Both the top and bottom of the building
- D. Windows only

21. After weatherization, greatest depressurization achievable (GDA) testing is required for buildings containing:

- A. Electric baseboard heat
- B. Natural-draft combustion appliances
- C. Solar panels
- D. Heat pumps only

Questions 22 thru 30 can be found in Section 1.2.2 - Goals of Air Leakage Testing

22. The primary purpose of air leakage testing is to determine:

- A. Roof pitch
- B. Air leakage location and amount
- C. Insulation R-value
- D. Foundation settlement

23. Air leakage testing also helps protect:

- A. Landscaping
- B. Indoor air quality
- C. Roofing warranties
- D. Plumbing fixtures

24. When possible, the air barrier should include:

- A. Plumbing and air distribution systems
- B. Roof shingles
- C. Gutters
- D. Exterior siding

25. In most buildings, the preferred location for the air barrier at the foundation is:

- A. Roof sheathing
- B. Foundation wall
- C. Window trim
- D. Crawlspace vents

26. If plumbing is outside the thermal boundary, precautions should be taken to prevent:

- A. Condensation
- B. Freezing
- C. Rust
- D. Expansion

27. A simple blower door test may be sufficient for:

- A. Commercial buildings
- B. Complex buildings
- C. Simple homes
- D. Multifamily high-rises

28. Complex buildings often benefit from:

- A. Roofing inspections only
- B. Zone pressure and infrared testing
- C. Window replacement only
- D. Electrical testing only

29. During air sealing, technicians should generally seal:

- A. Small leaks first
- B. Only visible leaks
- C. Large leaks first
- D. Windows before ceilings

30. Chasing numerous very small air leaks is generally:

- A. Required
- B. More effective
- C. Not usually cost-effective
- D. Recommended before sealing major leaks

Questions 31 thru 35 can be found in Section 1.3 - House Airtightness Testing

31. The blower door measures a home's leakage rate at what standard pressure difference?

- A. 10 Pascals
- B. 25 Pascals
- C. 50 Pascals
- D. 100 Pascals

32. Blower door leakage measurements are primarily used to:

- A. Determine insulation R-value
- B. Compare air leakage before and after air sealing
- C. Measure electrical load
- D. Determine furnace efficiency

33. Besides measuring leakage, the blower door helps technicians:

- A. Repair windows
- B. Locate hidden air leaks
- C. Test plumbing
- D. Measure humidity

34. Hidden air leaks are commonly identified by using:

- A. Paint
- B. The blower door for diagnostic clues
- C. A moisture meter only
- D. A thermometer

35. Before beginning air sealing, technicians should determine:

- A. The roof color
- B. The primary air barrier location
- C. The homeowner's utility company
- D. The age of the furnace

Questions 36 thru 48 can be found in Section 1.3.1 - Blower Door Terminology

36. The blower door creates pressure differences between:

- A. Plumbing fixtures
- B. Rooms and intermediate zones
- C. Electrical circuits
- D. Roof trusses

37. Blower door airflow is measured in:

- A. BTUs
- B. PSI
- C. Cubic feet per minute at 50 Pascals (CFM50)
- D. Gallons per minute

38. Pressure differences help identify:

- A. Roof leaks
- B. Hidden air leakage locations
- C. Electrical shorts
- D. Water pressure

39. Which is NOT a blower door component?

- A. Frame
- B. Fan
- C. Digital gauge
- D. Combustion analyzer

40. Digital gauges are primarily used to diagnose:

- A. Electrical voltage
- B. House and duct pressures
- C. Humidity
- D. Gas pressure

41. The phrase "WRT" stands for:

- A. With Rated Temperature
- B. With Reference To
- C. Water Resistance Test
- D. Weather Resistance Test

42. During blower door testing, the outdoors is generally used as the:

- A. Input zone
- B. Test chamber
- C. Reference zone
- D. Pressure source

43. In blower door terminology, the reference zone is considered:

- A. +50 Pascals
- B. 25 Pascals
- C. Zero pressure
- D. Negative pressure only

44. "House WRT Outside = -50 Pascals" means:

- A. The house is 50 Pascals positive
- B. The house is 50 Pascals negative compared to outdoors
- C. Outdoors is negative
- D. The fan is reversed

45. During testing, the digital gauge calculates leakage by measuring:

- A. Temperature only
- B. Pressure through the fan
- C. Relative humidity
- D. Wind speed

46. If airflow through the fan is too low, the gauge displays:

- A. ERR
- B. LOW or LO
- C. FAIL
- D. STOP

47. Flow rings are used to:

- A. Increase fan diameter
- B. Reduce the fan opening and increase pressure
- C. Measure humidity
- D. Improve battery life

48. After installing flow rings, technicians should:

- A. Ignore gauge settings
- B. Change the digital gauge configuration
- C. Remove the hoses
- D. Restart the blower door

Questions 49 thru 60 can be found in Section 1.3.2 - Preparing for a Blower Door Test

49. Preparing a house for blower door testing places the home into:

- A. Summer condition
- B. Winter condition
- C. Neutral condition
- D. Ventilation mode

50. Interior doors should generally be:

- A. Locked
- B. Closed
- C. Open to conditioned spaces
- D. Removed

51. Exterior windows and doors should be:

- A. Open
- B. Removed
- C. Closed
- D. Partially open

52. Accesses to unconditioned spaces should remain:

- A. Open
- B. Closed
- C. Removed
- D. Insulated only

53. During depressurization testing, technicians should anticipate:

- A. Improved heating efficiency
- B. Possible flame rollout and backdrafting
- C. Reduced electrical load
- D. Increased humidity

54. Before testing, technicians should identify:

- A. Roofing materials
- B. Pressure boundary location
- C. Window manufacturer
- D. Floor covering

55. Before testing, technicians should inspect outside air and intermediate zones for:

- A. Electrical hazards only
- B. Potential pollutants
- C. Roof damage
- D. Structural movement

56. Combustion appliances connected to negative-pressure venting systems should be:

- A. Left operating
- B. Turned off during testing
- C. Removed
- D. Replaced

57. A helpful reminder to restore appliances after testing is to:

- A. Leave windows open
- B. Place vehicle keys next to the appliance
- C. Write on the furnace
- D. Turn off electricity

58. Fireplace dampers should generally be:

- A. Removed
- B. Closed
- C. Locked open
- D. Replaced

59. When hot ashes or coals are present in an open-hearth fireplace, testing may need to be completed in:

- A. Depressurization mode
- B. Neutral mode
- C. Pressurization mode
- D. Vacuum mode

60. During a pressurization test, technicians should use caution because added combustion air may:

- A. Cool the home
- B. Increase humidity
- C. Stoke the fireplace fire
- D. Damage the blower door

Questions 61 thru 86 can be found in Section 1.3.3 - Blower Door Test Procedures

61. The blower door frame, panel, and fan should be installed in:

- A. An attic access
- B. A basement window
- C. An exterior doorway
- D. A garage door only

62. On windy days, the blower door fan should be positioned:

- A. Facing directly into the wind
- B. Parallel to the wind direction
- C. Away from all wind
- D. Inside the garage

63. During a pressurization test, the blower door fan inlet should face:

- A. Indoors
- B. Outdoors
- C. The attic
- D. The basement

64. During a pressurization test, technicians should:

- A. Reverse the fan using the fan switch
- B. Remove the digital gauge
- C. Install the fan in the proper orientation instead of reversing it
- D. Leave the fan turned off

65. The digital gauge should be turned on:

- A. After all hoses are connected
- B. Before any hoses are connected
- C. Only after reaching 50 Pascals
- D. After the fan is operating

66. The reference hose for Channel A should extend outdoors at least:

- A. 1 foot
- B. 2 feet
- C. 5 feet
- D. 10 feet

67. The outdoor end of the reference hose should be:

- A. Left hanging freely in the wind
- B. Protected from the wind
- C. Placed in direct sunlight
- D. Attached to the fan

68. During pressurization testing, an additional reference hose is connected to:

- A. Channel A input
- B. Channel B reference
- C. Fan controller
- D. Power supply

69. The hose connected to the Channel B input tap is attached to the:

- A. Furnace
- B. Pressure tap on the blower door fan
- C. Window frame
- D. Chimney

70. The digital gauge should be configured to measure airflow at:

- A. PR/FL@25
- B. PR/FL@50
- C. Pressure Only
- D. Fan Speed Mode

71. Before beginning the blower door test, technicians should adjust for:

- A. Outdoor temperature
- B. Wind and stack effect (baseline)
- C. Relative humidity
- D. Roof pitch

72. The baseline function is normally allowed to record for approximately:

- A. 5 seconds
- B. 10 seconds
- C. 20–30 seconds
- D. 5 minutes

73. On windy days, the baseline function should record for:

- A. At least 60 seconds
- B. 5 seconds
- C. 15 seconds
- D. Exactly 30 seconds

74. After changing flow rings, technicians should verify:

- A. Paint color
- B. Gauge configuration matches the installed flow ring
- C. Humidity level
- D. Thermostat setting

75. Fan speed should be increased:

- A. Rapidly
- B. Slowly using the controller
- C. Automatically only
- D. By changing flow rings first

76. During testing, Channel A should indicate approximately:

- A. 5 Pascals
- B. 20 Pascals
- C. Between 45 and 55 Pascals
- D. 100 Pascals

77. If Channel B displays "LO/LOW," the technician should:

- A. Stop the test
- B. Install one or more flow rings
- C. Open windows
- D. Remove the blower door

78. After reaching 50 Pascals, the recommended time-average setting is:

- A. 1 second
- B. 2 seconds
- C. 5 seconds
- D. 20 seconds

79. On windy days, the time-average setting should be:

- A. 2 seconds
- B. 5 seconds
- C. 10 seconds or long-term
- D. Turned off

80. If a building is too leaky to reach 50 Pascals, the gauge will:

- A. Stop measuring
- B. Automatically estimate CFM50 while in PR/FL@50 mode
- C. Display only pressure
- D. Require a second blower door

81. The final CFM50 reading is recorded in the:

- A. Inspection Report
- B. Diagnostic Workbook
- C. Homeowner Agreement
- D. Energy Audit Summary

82. During blower door testing, technicians should also record:

- A. Roof slope
- B. Indoor and outdoor temperatures
- C. Furnace age
- D. Water pressure

83. After testing, the house should be:

- A. Left under depressurization
- B. Returned to its original condition
- C. Left with windows open
- D. Completely sealed

84. After blower door testing, technicians should inspect:

- A. Window locks
- B. Combustion appliance pilot lights
- C. Electrical breakers
- D. Plumbing valves

85. Thermostats turned down for testing should be:

- A. Removed
- B. Left unchanged
- C. Reset to their original settings
- D. Turned off permanently

86. Any unusual testing conditions should be:

- A. Ignored
- B. Reported verbally only
- C. Documented
- D. Corrected before recording

Questions 87 thru 90 can be found in Section 1.4 - Air Sealing and Indoor Air Quality

87. Air sealing reduces:

- A. Electrical resistance
- B. Natural ventilation
- C. Roof ventilation
- D. Attic insulation

88. When natural ventilation becomes too low, homes may require:

- A. Additional windows
- B. Mechanical exhaust ventilation
- C. Roof vents only
- D. Larger furnaces

89. Mechanical ventilation helps:

- A. Increase roof temperatures
- B. Exhaust pollutants and provide fresh air
- C. Eliminate insulation
- D. Reduce electrical loads

90. Whenever feasible, installers should provide:

- A. At least 50% of the required ventilation rate
- B. Exactly 75% of the required ventilation rate
- C. 100% of the required mechanical ventilation rate
- D. Ventilation only during winter

Questions 91 thru 129 can be found in Section 1.4.1 - Air Sealing

91. The initial blower door ("As-Is") test is used primarily to:

- A. Certify the furnace
- B. Document the building's leakiness before weatherization
- C. Measure insulation depth
- D. Test combustion appliances

92. To locate air leaks, technicians should use the blower door with:

- A. A moisture meter only
- B. An infrared camera, smoke, or hand-feel methods
- C. A voltmeter
- D. A gas analyzer only

93. Another important diagnostic tool used to guide air sealing is:

- A. Electrical continuity testing
- B. Zone Pressure Diagnostics (ZPD)
- C. Plumbing pressure testing
- D. Duct blaster only

94. Major air sealing should generally be completed:

- A. After all insulation work
- B. Along with or before other shell measures
- C. Only after the final blower door test
- D. After mechanical ventilation installation

95. Major air sealing includes:

- A. Painting windows
- B. Sealing major attic bypasses
- C. Cleaning gutters
- D. Replacing roofing shingles

96. For gaps larger than ¼ inch, technicians should first:

- A. Leave the gap open
- B. Fill the penetration before sealing
- C. Install insulation only
- D. Paint over the opening

97. If a span exceeds 24 inches, installers should provide:

- A. Additional caulk only
- B. Rated support spans
- C. More foam
- D. Window flashing

98. Air-sealing materials should have an expected service life of at least:

- A. 2 years
- B. 5 years
- C. 10 years
- D. 25 years

99. Minor air sealing is limited to:

- A. 15 minutes
- B. 30 minutes
- C. 1 labor hour
- D. 4 labor hours

100. The decision to perform minor air sealing is made by the:

- A. Homeowner
- B. Inspector
- C. Crew leader
- D. Utility company

101. Minor air sealing primarily improves:

- A. Structural strength
- B. Occupant comfort
- C. Roof drainage
- D. Foundation stability

102. Window weather-stripping is classified as:

- A. Major air sealing
- B. Minor air sealing
- C. Structural repair
- D. Moisture control

103. If an attic is already fully insulated and no additional insulation will be installed, technicians should first perform:

- A. Combustion analysis
- B. Zone Pressure Diagnostics
- C. Electrical testing
- D. Moisture testing

104. If attic leakage is less than 10% of the estimated final building leakage, technicians should generally:

- A. Remove attic insulation
- B. Avoid entering the attic solely for air sealing
- C. Seal every visible crack
- D. Install more roof vents

105. Interior dropped soffits should generally be capped with:

- A. Fiberglass batts
- B. Rigid material
- C. Plastic sheeting
- D. Cardboard

106. Before insulating around a non-IC-rated light fixture, insulation must remain at least:

- A. 1 inch away
- B. 2 inches away
- C. 3 inches away
- D. 6 inches away

107. Around masonry chimneys, technicians should use:

- A. Plastic flashing
- B. 26-gauge or heavier metal
- C. Fiberglass insulation
- D. Wood blocking

108. A clearance of _____ must be maintained around flues and vents.

- A. 1 inch
- B. 2 inches
- C. 3 inches
- D. 6 inches

109. Balloon framing stud openings should generally be:

- A. Left open
- B. Capped with rigid material and sealed
- C. Filled with loose debris
- D. Covered with plastic

110. For IC-rated recessed lights, technicians should:

- A. Remove the fixture
- B. Seal the fixture with sealant or mastic
- C. Cover it with sheet metal
- D. Leave it unsealed

111. For non-IC recessed fixtures, insulation:

- A. May completely cover the fixture
- B. Must never contact the fixture or airtight cover
- C. Should be packed tightly
- D. Is unnecessary

112. Which material is NOT allowed for constructing airtight covers over non-IC fixtures?

- A. Cement board
- B. Drywall (with proper clearance)
- C. Sheet metal
- D. Non-combustible materials

113. Dirty insulation above wall top plates usually indicates:

- A. Water leakage
- B. Air leakage
- C. Rodent activity
- D. Heat damage

114. Electrical penetrations through top plates should typically be sealed with:

- A. Mortar
- B. Roofing tar
- C. One-part foam or caulk
- D. Spray paint

115. Ceiling penetrations include:

- A. Roof shingles
- B. Soil stacks, exhaust fans, and HVAC ductwork
- C. Foundation walls
- D. Brick veneer

116. Whenever possible, ceiling penetrations should be sealed from the:

- A. Roof
- B. Exterior wall
- C. Interior
- D. Crawl space

117. Key junctures are:

- A. Window locks
- B. Framing voids where building assemblies meet
- C. Roof nails
- D. Electrical panels

118. If a whole-house fan remains operational after weatherization, it should:

- A. Be removed
- B. Be boxed and provided with an airtight cover
- C. Be permanently sealed shut
- D. Operate continuously

119. The sill plate should be sealed:

- A. Only on the interior
- B. Continuously along the entire gap between the sill plate and foundation
- C. Only where visible
- D. Only after insulation is installed

120. After sealing the sill plate, technicians should inspect and seal leakage at the:

- A. Roof deck
- B. Rim joist/box sill
- C. Window sash
- D. Attic hatch only

121. Large penetrations and cracks in the foundation should generally be sealed with:

- A. Roofing felt
- B. Foam or caulk
- C. Fiberglass batts
- D. Plastic sheeting

122. Foam exposed to sunlight should be:

- A. Painted immediately
- B. Protected from deterioration
- C. Removed after installation
- D. Covered only with insulation

123. Inactive chimneys and clean-outs should be air sealed to:

- A. Improve appearance
- B. Prevent air leakage and reduce convective looping
- C. Increase chimney draft
- D. Improve masonry strength

124. An inactive chimney that has been sealed should be:

- A. Painted red
- B. Clearly labeled as no longer suitable for use
- C. Filled with insulation only
- D. Removed from the building

125. If feasible, open space behind bathtubs located on exterior walls should receive:

- A. Spray paint
- B. Dense-packed insulation
- C. Vapor barrier only
- D. Sheet metal

126. Missing window glass should be:

- A. Left open for ventilation
- B. Replaced or otherwise sealed
- C. Covered with cardboard permanently
- D. Ignored during weatherization

127. Air sealing cracked window glass is classified as:

- A. Major air sealing
- B. Minor air sealing
- C. Structural repair
- D. Emergency repair

128. Door repair includes sealing gaps between the:

- A. Hinges and door slab
- B. Stop and jamb
- C. Threshold and flooring only
- D. Door panel and lockset

129. Doors connecting conditioned space to an attached garage should be:

- A. Removed
- B. Weather-stripped
- C. Left unsealed
- D. Replaced with glass doors

Questions 130 thru 143 can be found in Section 1.5 - Zone Pressure Diagnostic

130. Zone Pressure Diagnostics (ZPD) primarily help quantify:

- A. Moisture content
- B. Air leakage from the house to intermediate zones
- C. Roof insulation depth
- D. Combustion efficiency

131. ZPD testing helps workers prioritize:

- A. Window replacement
- B. Air sealing efforts
- C. Furnace replacement
- D. Electrical upgrades

132. Common intermediate zones include:

- A. Kitchens and bathrooms
- B. Attics, crawl spaces, and garages
- C. Bedrooms only
- D. Utility closets only

133. A recommended goal is for total attic leakage to be no more than:

- A. 5% of final building leakage
- B. 10% of final building leakage
- C. 20% of final building leakage
- D. 30% of final building leakage

134. A home with an estimated final blower door result of 2,200 CFM50 should have attic leakage of no more than:

- A. 110 CFM50
- B. 220 CFM50
- C. 440 CFM50
- D. 550 CFM50

135. When calculating zone leakiness, technicians should use the auditor's:

- A. Existing blower door result
- B. Estimated final blower door result
- C. Average neighborhood leakage
- D. Heating load calculation

136. ZPD testing is always required when weatherizing buildings with:

- A. Crawl spaces
- B. Attached garages
- C. Basements
- D. Heat pumps

137. Beginning and final garage ZPD results should be recorded on the:

- A. Final Inspection Report
- B. Garage ZPD Worksheet in the Diagnostic Workbook
- C. Heating Checklist
- D. Work Order

138. ZPD can help determine:

- A. Roof color
- B. Which pressure boundary should be air sealed
- C. Electrical service size
- D. Water pressure

139. ZPD testing can estimate:

- A. Furnace efficiency
- B. Air leakage in CFM through a specific air barrier
- C. Roof snow load
- D. Lighting levels

140. ZPD can determine whether building cavities and ducts are:

- A. Structurally sound
- B. Connected by air leaks
- C. Properly insulated
- D. Moisture resistant

141. ZPD testing is particularly useful when a home has:

- A. Decorative siding
- B. Structural moisture problems caused by escaping moist air
- C. Vinyl flooring
- D. New windows

142. ZPD testing is appropriate when blower door results are unusually high and:

- A. The cause of leakage is unknown
- B. Windows are already replaced
- C. Heating equipment is new
- D. The attic is insulated

143. Completed ZPD testing should be documented on the required:

- A. Customer Satisfaction Form
- B. Zone Pressure Diagnostics Form
- C. Furnace Inspection Sheet
- D. Mechanical Ventilation Worksheet

**Questions 144 thru 146 can be found in
Section 1.5; Table 1-1– Air Performance of
Building Components**

144. According to Table 1-1, a good air barrier has an air leakage rate of:

- A. Less than 2 CFM50 per 100 ft²
- B. 2–10 CFM50 per 100 ft²
- C. 10–100 CFM50 per 100 ft²
- D. Greater than 100 CFM50 per 100 ft²

145. According to Table 1-1, a fair air barrier has an air leakage rate of:

- A. Less than 2 CFM50 per 100 ft²
- B. 2–10 CFM50 per 100 ft²
- C. 10–1000 CFM50 per 100 ft²
- D. Greater than 1000 CFM50 per 100 ft²

146. Cellulose insulation is considered:

- A. An air barrier
- B. Not an air barrier material, although it reduces air leakage
- C. A vapor barrier
- D. A structural material

**Questions 144 thru 150 can be found in
Section 1.5 - Primary vs. Secondary Pressure
Boundary**

147. The primary pressure boundary is also known as the:

- A. Moisture boundary
- B. Air barrier
- C. Vapor retarder
- D. Fire barrier

148. The primary pressure boundary should ideally be:

- A. Separate from the thermal boundary
- B. Continuous and aligned with the thermal boundary
- C. Located only in the attic
- D. Located only at the foundation

149. Intermediate zones are spaces that are:

- A. Completely outside the building
- B. Outside the thermal boundary but sheltered within the building shell
- C. Fully conditioned living areas
- D. Mechanical rooms only

150. After weatherization is complete, the _____ should be the most airtight boundary.

- A. Secondary pressure boundary
- B. Roof deck
- C. Primary pressure boundary
- D. Exterior siding

**Questions 151 thru 160 can be found in
Section 1.5.1 - Simple Air Leakage Tests**

151. One simple method of locating air leakage is by:

- A. Measuring electrical current
- B. Feeling for air movement
- C. Measuring insulation thickness
- D. Using a combustion analyzer

152. During a depressurization test, air movement is felt from inside the building along the:

- A. Secondary pressure boundary
- B. Primary pressure boundary
- C. Roof deck
- D. Foundation wall only

153. To locate air leaks from intermediate zones, technicians should generally:

- A. Depressurize the home
- B. Pressurize the home
- C. Shut off the blower door
- D. Open all windows

154. Which of the following may indicate air leakage during blower door testing?

- A. Moving cobwebs
- B. Moving curtains
- C. Blowing dust
- D. All of the above

155. The best method for diagnosing primary pressure boundary air leakage during a pressurization test is:

- A. Moisture meter
- B. Smoke generator
- C. Thermometer
- D. Voltage tester

156. Thermal imaging is used to identify:

- A. Electrical faults
- B. Temperature differences that may indicate air leakage
- C. Plumbing leaks only
- D. Roof structural defects

157. High-contrast areas on an infrared image may indicate:

- A. Air leakage or missing insulation
- B. Structural movement
- C. Plumbing failure
- D. Roof damage only

158. Closing an interior door during blower door testing can help estimate:

- A. Roof leakage
- B. Room air leakage
- C. Furnace efficiency
- D. Window U-value

159. Feeling airflow or observing smoke can also be used as part of:

- A. Structural engineering
- B. Customer education
- C. Electrical inspection
- D. HVAC balancing

160. Accurate interpretation of thermal imaging generally requires:

- A. No experience
- B. Experience and training
- C. Only a blower door
- D. A moisture meter

Questions 161 thru 163 can be found in Section 1.5.2 - Using a Digital Gauge to Test Pressure Boundaries

161. When using a digital gauge to test pressure boundaries, pressure measurements are expressed in:

- A. Inches of water only
- B. Pascals
- C. BTUs
- D. Cubic feet

162. A digital gauge is primarily used to:

- A. Measure insulation density
- B. Measure pressure differences across pressure boundaries
- C. Measure combustion efficiency
- D. Measure humidity

163. Pressure boundary testing helps technicians identify:

- A. Electrical load
- B. Air barrier effectiveness
- C. Roof pitch
- D. Appliance age

Questions 164 thru 165 can be found in Section 1.5.3 - Locating the Pressure/Thermal Boundary

164. Locating the pressure and thermal boundary helps determine:

- A. Where insulation and air barriers should function together
- B. Window replacement schedules
- C. Water heater sizing
- D. Electrical service capacity

165. The preferred air barrier location is generally:

- A. Adjacent to the insulation
- B. In the center of the attic
- C. On the roof surface
- D. At exterior siding only

Question 166 can be found in Section 1.5.4 - Add-A-Hole Zone Leakage Measurement

166. The Add-A-Hole Zone Leakage Measurement is used to:

- A. Estimate zone leakage characteristics
- B. Measure combustion efficiency
- C. Determine attic insulation depth
- D. Locate plumbing leaks

Questions 167 can be found in Section 1.5.5 - Open-A-Door Zone Leakage Measurement

167. The Open-A-Door Zone Leakage Measurement helps evaluate:

- A. Electrical circuits
- B. Zone air leakage
- C. Roof drainage
- D. Window operation

Questions 168 thru 170 can be found in Section 1.5.6 - Adjusting Zone Pressure Measurements for Baseline

168. Baseline pressure adjustments are necessary to compensate for:

- A. Wall thickness
- B. Wind and stack effect
- C. Roof color
- D. Humidity only

169. Adjusting zone pressure measurements improves:

- A. Test accuracy
- B. Furnace efficiency
- C. Insulation R-value
- D. Appliance life

170. Baseline pressure should always be considered before interpreting:

- A. Electrical readings
- B. Zone pressure measurements
- C. Roof measurements
- D. Moisture content

Questions 171 thru 180 can be found in Final Inspection and Quality Assurance Standards

171. Final inspection should verify that air sealing work:

- A. Meets program quality standards
- B. Has increased blower door leakage
- C. Eliminated all ventilation
- D. Reduced insulation levels

172. One purpose of the final inspection is to verify:

- A. Required diagnostic procedures were completed
- B. Property taxes were paid
- C. Utility bills decreased
- D. New appliances were installed

173. Final inspection helps ensure completed work:

- A. Meets Wisconsin Weatherization standards
- B. Meets only manufacturer requirements
- C. Meets local zoning requirements only
- D. Is aesthetically pleasing

174. Documentation should demonstrate that diagnostic testing was:

- A. Skipped whenever possible
- B. Properly completed and recorded
- C. Completed only after insulation
- D. Performed only on new homes

175. Air sealing measures should be evaluated to ensure they have not created:

- A. Additional storage space
- B. Safety or indoor air quality problems
- C. Electrical upgrades
- D. Roofing defects

176. Buildings with natural-draft combustion appliances require verification that: Section 1.1

- A. Air conditioning operates properly
- B. Spillage does not occur under required conditions
- C. Windows are weather-stripped
- D. Roof vents are installed

177. One objective of quality assurance is to confirm that the installed air barrier is: Section 1.2

- A. Continuous and effective
- B. Decorative
- C. Located only in the attic
- D. Separate from the insulation

178. Proper documentation of blower door and ZPD testing supports: Section 1.1

- A. Code enforcement only
- B. Program compliance and quality assurance
- C. Property appraisals
- D. Utility billing

179. Throughout Chapter 1, technicians are encouraged to prioritize: Section 1.2.2

- A. Cosmetic improvements
- B. Cost-effective air sealing based on diagnostic testing
- C. Window replacement before diagnostics
- D. Insulating first and testing later

180. The primary objective of Chapter 1 is to teach technicians to:

- A. Replace heating systems
- B. Diagnose air leakage, perform effective air sealing, verify results, and maintain safety and indoor air quality
- C. Install attic insulation only
- D. Perform plumbing repairs

