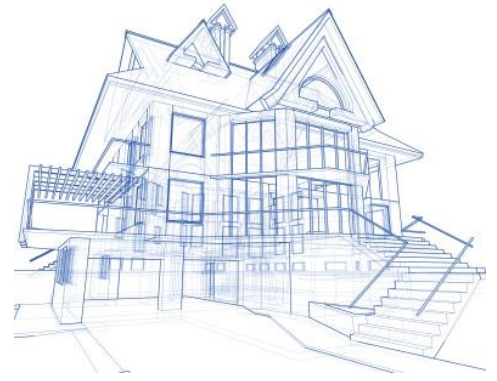


# Envelope Failure: A Better Weatherization Design

*Course # AIABLT1201*



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## Course Description

Building homes that are well protected from the weather should be a priority for any building professional. The majority of problems stem from improper procedures and workmanship, but often the problem is found in the design of a home. This three hour continuing education offering will explore factors that contribute to exterior shell failure, and identify practical solutions that will preserve the integrity of the building envelope.

### ***After completing this course participants will be able to:***

- Identify the components of the building as a system, its performance requirements, and how these features must be integrated to prevent building envelope failure.
- Describe how a properly constructed building envelope will keep out weather related moisture and stop uncontrolled movement of energy due to loss of conditioned air.
- Outline at least one design strategy based on "best practices" for the construction of buildings in areas with relatively high humidity.

- Summarize the options available to the consumer that may have been injured by, or suffered a financial loss by construction defects and the resultant failure of the building envelope.
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## **Course Syllabus**

### **Chapter 1- Building Exterior Shell Training**

***\*Learning Objective:*** Explore how poor building practices are often contributing factors to exterior shell failure, and identify practical solutions that contractors can apply to improve overall workmanship.

1. Rationale
2. Primary Warranty and Insurance Claims
3. Solutions
4. Experience
5. Contractor Responsibilities
6. Insurance Availability and Affordability

### **Assessment**

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### **Chapter 2- Building Envelope System**

***\*Learning Objective:*** List the four major physical components of the building envelope system, the performance objectives of those components, and the specific mistakes that result in system failure.

1. Building Envelope System
2. Performance Objectives
3. Physical Components

4. Sources of Moisture Intrusion
5. Results of Failure

## **Assessment**

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### **Chapter 3- Foundation Construction**

***\*Learning Objective:*** Identify and implement proven methods that will effectively divert moisture from the foundation of a structure.

1. Thermal and Moisture Protection
2. Groundwater
3. Gutters
4. Crawl spaces
5. Damp proofing and Waterproofing
6. Girders and Beams

## **Assessment**

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### **Chapter 4- Wall Construction**

***\*Learning Objective:*** Determine causes of high humidity in a structure and evaluate wall construction "best practices" to maximize performance.

1. Wall Framing
2. Vapor Diffusion Problems
3. Recommendations
4. House Wrap and Underlayment
5. Window and Door Openings
6. Flashing and Caulking
7. Siding

## Assessment

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### Chapter 5- Roof Construction

**\*Learning Objectives:** List and describe at least three specific installation techniques and/or materials that contribute to a properly constructed roof system.

1. Skylights
2. Moisture Penetration
3. Roof Valleys
4. Shingles and Shakes
5. Roof Sheathing
6. Repairs
7. Flashing

## Assessment

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### Chapter 6- Window and Door Installation

**\*Learning Objective:** Demonstrate proper window and door installation techniques that preserve the integrity of the building envelope.

1. Windows, Doors and Skylights
2. Proper Flashing
3. Door and Window Installation

## Assessment

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## Chapter 7- Ventilation System Installation and Requirements

**\*Learning Objective:** Summarize the key elements (either natural or mechanical) of a properly ventilated structure.

1. Code
2. Attic Ventilation
3. Heating, Ventilation and Air Conditioning

### Assessment

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## Chapter 8- Building Envelope Best Practices

**\*Learning Objective:** Cite at least four "best practices" and describe how these strategies support an effective envelope design.

1. Moisture Retarding Construction
2. Capillary Breaks
3. House Wrap Installation
4. Window and Door Installation
5. Siding Installation
6. Roofing Best Practices

### Assessment

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## Chapter 9- Consumer Remedies

**\*Learning Objective:** Correctly identify preventative measures that should be taken by both the consumer and the contractor to reduce disputes surrounding envelope failure.

1. Common Mistakes
2. Preventative Measures

3. Warranties
4. Complaints
5. Arbitration and Dispute Resolution

## **Assessment**

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Course instructors will be available by email or telephone between 9am and 5pm Eastern Standard Time. They will assist you with questions regarding course content.

If you have any questions, please call us at 1-800-727-7104 or send an email to [info@licensetobuild.com](mailto:info@licensetobuild.com). Email responses will usually be returned promptly, but guaranteed within one business day.

Student policies and procedures are always available by going to [www.licensetobuild.com](http://www.licensetobuild.com) and scrolling to the bottom of the page (See Privacy and Refund Policy).

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