Air Barrier System Options for the BC Energy Step Code (Module 5)

BLUE HOUSE ENERGY

9-12 hours to complete with review of content, final test and review of downloadable materials

2 sections

Quizzes: 10 unlimited attempts
Exam: 100 questions each, one attempt

Passing mark on Exam = 70

COURSE DESCRIPTION

This course meets the **BC Energy Step Code Module 5: Air Barriers** mandatory training for builders as required by BC Housing (as of Oct 2022). This module covers a range of air barrier approaches for roof, wall, floor and party wall assemblies, including design and installation practices.

The training goals for this course are:

- Select an appropriate air barrier approach for a given roof, wall, floor, and party- wall assembly based on performance, cost- effectiveness, and constructability, bearing in mind current and future BCESC requirements
- Apply knowledge of the correct design and installation practices for a given air barrier approach to properly manage the planning, installation, and testing of the building's complete air barrier

We gratefully acknowledge the financial support of BC Housing through the Building Excellence Research & Education Grants Program.

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LEARNING OBJECTIVES

Section 1

- *Appreciate the importance of the building air barrier as a way of significantly improving energy efficiency with minimal construction cost implications*
- *Understand how airtightness impacts energy performance from code minimum to current practices to best practice*
- *Describe the four attributes of a correctly installed building air barrier: air impermeability, durability, continuity, and stiffness*
- *Compare the design and construction sequence considerations of typical interior and exterior air barrier systems, including key details for implementing them successfully*

Section 2

- *List the key factors that contribute to the successful installation of a complete air barrier system*
- *Manage the key wood-frame construction practices that can interfere with achieving a successful air barrier, including coordination and education for all trades interacting with the enclosure*
- *Coordinate qualitative and quantitative testing at the appropriate times, and use results to track quality control of the air barrier*

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COURSE OUTLINE

Introduction

Importance of Air Sealing
Fundamentals of Air Sealing
What is an Air Barrier?

Section 1: Importance of Air Sealing

Control Air and Moisture Flows
Placement
Cost
Performance
- *Code Requirements*
- *Program Targets*

4 Air Barrier Considerations
Design and Construction
- *Interior Air Barriers*
- *Exterior Air Barriers*

Cost Trade Offs
- *Materials*
- *Installation*
- *Sequencing*
- *Effectiveness*

Section 2: Air Sealing Application

Key Factors for Success
- *Costing*
- *Construction*

Air Sealing Details for Assemblies
- *Foundations*
- *Headers*
- *Above Grade Walls*
- *Exposed Floors*
- *Ceilings/Roofs*

Barriers to Successful Installation
- *Construction Practices*
- *Trades Education*

Qualitative & Quantitative Testing
- *Timing*
- *Quality Control*