



Home Performance Testing – HVAC and Envelope Sealing

Trainer(s): Dan Perunko and Gavin Healy CA Lic.# 901803

Trainer(s) Contact #: 530.477.0695 or 530.320.9698

Training Cost: \$1225.00 per person and current CBPCA professional membership \$200.00

Training Dates: August 17- 21st Monday-Friday.

Training Course Cost: \$1225.00

Training Site Address: The Sustainable Resource Center is 412 Commercial Street, Nevada City, CA 95959

<http://www.mapquest.com/maps?city=Nevada+City&state=CA&address=412+Commercial+Street&zipcode=95959>

Workshop Overview:

This five day class will give students who have already developed basic skills in Home Performance Assessment (HPA) the opportunity to gain more hands on experience designing and installing Building Envelope and HVAC systems designed to meet home performance specifications. The students will spend class room time covering the six performance factors for HVAC systems, reviewing Building Envelope Sealing Strategies and Building Ventilation requirements. Time will be spent in the field sealing a buildings envelope, installing a heat pump and its duct system, installing an HRV and its duct system and installing bath fans and exhaust ducts. The procedures taught will be in line with Building Performance Institute (BPI) standards and the Green Home Energy Update 1 & 2 (GHEU) classes.

Prerequisites:

Students participating in this workshop should have completed GHEU 1&2 or an equivalent and have basic field experience. Students should be able to operate the tools involved in HPA prior to attendance. Students that have not come through the GHEU classes but have practical experience with HPA tools and procedures should be allowed to attend.

Instructor student ratio:

1 instructor per 8 students maximum

Absolute class limit 15 students



Home Performance Testing – HVAC and Envelope Sealing Con't

Instructor Strategy:

This work shop is intended to be both a classroom and field based class. Instructors will need access to a projector and white boards for the classroom portion as well as portable flip charts or white boards in the field.

Instructors will need to assess students ability to operate tools in the field and explain proper safety procedures.

It will be important for the instructors to develop a strategy for keeping the group on task. An example would be keeping a list of off topic questions for the end of class. It will be very easy to get caught in discussions of issues that are beyond the scope of this workshop.

Training Objectives:

Students will gain competence in the assessment of existing homes. Topics covered in the workshop will include:

1. System Sizing using manual J
2. Equipment efficiency
3. Duct System Design and efficiency
 - System Air Flow
 - Room to Room Air flow
 - Duct Conduction and Insulation Strategies
 - Duct Leakage and Sealing Strategies
4. Refrigerant Charge
 - Proper Procedure for charge and air flow
5. Combustion Safety Testing
 - Combustion Ventilation Area
 - Draft testing
 - Carbon Monoxide testing
6. Field testing HVAC systems
 - System Air Flow
 - Static Pressure
 - Temperature Rise
 - Room to Room Air flow
 - Duct Conduction and Insulation Strategies
 - Duct Leakage and Sealing Strategies
 - Refrigerant Charge
 - Line Set Condition and Size
 - Combustion safety testing



Home Performance Testing – HVAC and Envelope Sealing Con't

7. Field Duct Installation
 - Duct assembly and sealing
 - Plenum connections
8. Building Airflow Standard
 - Infiltration Targets
 - Ventilation Targets
9. Envelope sealing measures
10. Attic Ventilation Strategies and baffle requirements

Note: Depending on class confidence level with tools and construction practices, class size and instructor student ratio it is possible that some topics may not be covered.

Schedule:

- Day one - Class room - HVAC Performance Factors, HVAC System Sizing
- Day two - Class room - Building Airflow Standard, Ventilation System Design
Combustion Safety, Envelope Sealing Strategies, Attic
Ventilation Strategy .
- Day three - Field - Equipment Installation and Envelope Sealing
- Day four - Field - Duct Installation and Envelope Sealing
- Day five - Field - Duct Installation and Test Out

CBPCA will require deposit(s) for the training(s) to be paid in advance. Training Tuition(s) Deposit(s) amount will be fully refunded ONLY after CBPCA Receipt of ETP Funding Reimbursement AND all ETP eligibility requirements have been satisfied.

There are two applications. The first one is Small Business Entrepreneurial Training Application and the second one is Special Employment Training for Frontline Workers/Employee Application.

All Employers must provide a EDD number or CEAN and Small Business Entrepreneur must provide their seven-digit California Employer Account Number (CEAN).

Small Business Entrepreneurial Training Application:

<http://www.cbpca.org/documents/ETPSmallBusinessTrainingApp.doc>.

Special Employment Training for Frontline Workers/Employee Application:

http://www.cbpca.org/documents/ETPEmployee_EmployerTrainingApp.doc PLEASE

Please review your application carefully.