Track A:

Bridging the Gap with Contractor Education and Certification

Title:
Scalable training strategies for builders and contractors
Building Media delivers better-building knowledge in multi-media formats that are useful, accessible and tailored for building industry audiences.
Distance Training Challenges

“It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.”

Abraham Maslow ...
A Blended Approach

“All Tools are Hammers, except chisels, and they’re screwdrivers”

Anonymous tradesman
Bridging the Gap with Contractor Education and Certification

Construction Training & Education

- Aggregate Existing Content
- Index/Access Content
- Distribute Content
- Rich Delivery
- Subject Matter Expertise & Veracity
- Compulsory Training & Certification
- On Site – On Demand
Weatherization Training Services

The mission of the Weatherization Assistance Program (WAP) is to provide energy-retrofit services to improve the quality of life for U.S. residents.

To make sure that weatherization workers meet the standards of quality set by the WAP, all crews and supervisors must complete an appropriate level of training.

Online trainings are an important way to prepare weatherization workers for understanding the scope of work, as well as for introducing them to the building science principles and technical language of weatherization practices. The lessons and assessments in this curriculum teach the core competencies defined by the Department of Energy’s Weatherization Assistance Program. These trainings are important to make sure that:

- Weatherization measures are accurately understood by those who are completing the work and
- All employees working on WAP projects have the same background and skills to succeed.

To begin, please select one of the four training levels above. You may preview all video presentations and other learning materials before purchasing the training. If you wish to purchase the training you must register first. Click here for help Getting Started.
**What Is Lead Safe Weatherization**

As a weatherization worker, it is important to understand the difference between weatherization and Lead Safe Weatherization. Lead Safe Weatherization (LSW) is a set of work practices designed to prevent the creation of lead hazards while weatherizing a home. The practices are designed to meet local, state and federal regulations and guidelines to prevent lead poisoning when weatherizing homes built before 1978.

At the conclusion of this lesson, students will be able to:
- Identify when lead-safe weatherization practices are required
- Explain why lead-safe weatherization practices need to be followed
- Understand the three essential elements involved in lead-safe weatherization work

Watch our example videos for this lesson by clicking on the link(s) below:

**Watch** What is Lead Safe Weatherization
<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2010</td>
<td><strong>Seeing Clearly: How Aggressive, New Energy Codes and Standards are Transferring the Way Commercial Windows are Manufactured and Specified</strong>&lt;br&gt;Sponsored by Manco Window Systems, Inc.&lt;br&gt;Credits: 1.00 HSW/SD</td>
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<td>April 2010</td>
<td><strong>Vapor Control: Considerations for Designers and Specifiers</strong>&lt;br&gt;Sponsored by Reef Industries, Inc.&lt;br&gt;Credits: 1.00 HSW</td>
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<td>March 2010</td>
<td><strong>Re-Energizing an Icon: Transforming a “Mid-Century Modern” House into a Green, Zero-Energy, 21st Century Home</strong>&lt;br&gt;Sponsored by American Standard, BASF - The Chemical Company: Comfort Foam®, ENER-TITE®, FilterFlow®, DuPont™ Surfaces, DuPont™ Tyvek, KraftMaid, MBCI, Metal Roofing Alliance, Panasonic, Pentair Water Pool &amp; Spa, Whirlpool Corporation&lt;br&gt;Credits: 1.00 HSW/SD</td>
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<tr>
<td>March 2010</td>
<td><strong>Under Concrete Slab Vapor Barriers: Essential Protection from the Ground Up</strong>&lt;br&gt;Sponsored by Tex-Trude, LP&lt;br&gt;Credits: 1.00 HSW</td>
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<td>May 2010</td>
<td><strong>Designing with Water: Indoor Water Features Make a New Wave</strong>&lt;br&gt;Sponsored by Linworld of Water</td>
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Re-Energizing an Icon: Transforming a "Mid-Century Modern" House into a Green, Zero-Energy, 21st Century Home

Sponsored by American Standard, BASF - The Chemical Company: Comfort Foam®, ENERTITE®, FilterPave®, DuPont™ Surfaces, DuPont™ Tyvek, KraftMaid, MBCI, Metal Roofing Alliance, Panasonic, Pentair Water Pool & Spa, Whirlpool Corporation

This course showcases a groundbreaking restoration/sustainability upgrade of a vintage, "mid-century modern" house in the Southwestern US. The course describes the process—from design through construction—of renovating this classic 1960's house into a high performance, 21st century home that actually generates more energy than it consumes. Special attention is paid to how architects can achieve very high sustainability goals without compromising the design intent of the original building. The course concludes with a video walking tour that highlights and further explains the project's high performance features.

Learn At Your Own Pace:
You can take this course and follow along at your own pace. Speed up, slow down, or stop now and finish later. Click "Take the Course Test" to go straight to the test and earn your credits. You'll know immediately if you have earned credits and you will be able to print out your certificate of completion instantly.

Learning Objectives
At the end of this course you will be able to:

- Discuss how a renovation project can effectively balance very aggressive sustainability goals with deep respect for the design intent of the original home.
- Describe a series of innovative strategies for radically improving the performance of an existing building's roof, floor and walls.
- List key HVAC, lighting and plumbing upgrades that can improve comfort—and reduce energy and water use—in a home renovation project.
- Explain how green fixtures, furnishings and finishes can contribute to indoor environmental quality and sustainability.
- Describe how innovative landscaping strategies can provide environmental benefits.
- Discuss US Department of Energy programs that support the creation of high performance, "Net Zero Energy" homes.
Re-Energizing an Icon

Transforming a “Mid-Century Modern” House into a Green, Zero-Energy, 21st Century Home
Welcome to the California Energy Standards Online Learning Center

The Energy Efficiency Standards Online Learning Center provides a comprehensive educational program for the 2008 Building Energy Efficiency Standards, Title 24, Part 6 (Standards). The learning tools specifically address the needs of enforcement agency/builder department professionals to comply with the Standards; however, consumers, builders, contractors, certified energy plane examiners and others will also find the information useful.

This site provides a comprehensive educational program including:

- Courses with detailed curriculum on the Standards, plan review and inspection
- Study Guides
- Interactive Checklists with Tutorial and Video
- Exams
- Certificates of Completion
- Links to the Standards and Other Resources
Residential Alterations & Additions Courses

Residential Alterations has updated and simplified the compliance process for enforcement agencies/building departments.

Each course in this educational program is designed to assist enforcement agency/building department personnel with what they need to do, as well as what they need to understand, to ensure that all projects submitted for review meet or exceed the 2008 Building Energy Efficiency Standards (Standards).

Residential Alterations Plan Review Course

Chris Olivera of the California Energy Commission walks the Plans Examiner step-by-step through the plan review process for residential alterations.
Want Continuing Education Credit?

Registering will enable you to log in to the site, which allows the system to track your progress through the educational courses. We recommend logging in if you wish to get continuing education credits for the work you complete.

This site and all its contents are available, even if you do not register and log in. You must register, however, to take the test and receive a Certificate of Completion.

Register | Login Now | No Thanks
Residential Altermations Plan Review Course

Chris Olivera of the California Energy Commission walks step-by-step through the plan review process, using the Residential Alterations Plan Review Checklist to verify that a project complies with the 2008 Building Energy Efficiency Standards (Standards).

Course Structure
This course is made up of 5 lessons.

Lessons:
- Each lesson has a video presentation that explains what to do to verify compliance.
- You must complete each lesson to take the test.
- You must complete the test to receive credit for the course.

Additional Information:
- Additional videos are provided to enhance your knowledge of the Standards.
- These additional videos are not required for course credit.

Begin Lesson 1 - e
Lesson 1: Introduction to Residential Alterations

Chris Olvera of the California Energy Commission outlines the steps needed to verify that the documents submitted with a permit application for a residential alteration comply with the prescriptive requirements of the 2008 Standards.

It is recommended that you print and follow the Residential Alterations Plan Review Checklist while taking this course. More information can also be found in the Residential Alterations Plan Review Checklist Guide.

Learning Objectives

At the conclusion of this lesson, you will be able to:

- Differentiate between an alteration and a repair.
- Check that the energy documentation is correctly signed.
- Know how to identify the climate zone for a project.
- Understand the new HERS registry requirement.
- Understand the purpose of the Mandatory Measures.

Introduction to Residential Alterations

Watch the Lesson (Time = 10:14)
This Lesson video is required for course credit.

Transcript

Next Lesson →

This dynamic checklist provides definitions and information about specific terms used here. Please click on a highlighted link to view more information. If you'd like to print a hard copy of this checklist, please click on the printer icon ¡± above.

Was the correct compliance software used? (Performance Only)
- CalPlex version 2008
- Energy Pro version 5.0
- Micropas version 8.0

Is the CF-1R Form signed and dated by both:
- Designer and/or Owner
- Documentation Author

Is the CF-1R Form filed on the plans?

Does the building "Comply" according to the CF-1R Form?

Is the correct Climate Zone listed on the CF-1R Form?

Does the CF-1R Form have a registration number?

Is the MF-1R Form filed on the plans?

Does the CF-1R Form Match The Plans?
- Conditioned Floor Area for all floor types (i.e. slab on grade, raised floor, etc.)
- Front Orientation of the building
- Envelope
  - Insulation for walls, ceilings, and floors (from Reference Joint Appendix JA)
- Window area and orientation
- U-factor and SHGC values for fenestration (a window schedule required upon Plan Checkers's request)
- Exterior shading (i.e. overhangs, fins, exterior shades)
- HVAC
  - Efficiencies of HVAC equipment
- Duct Insulation
- Indoor Air Quality and Mechanical Ventilation (Mandatory Measures)
- Water Heating
  - Efficiency and Type of Water Heating equipment (i.e. storage, instantaneous, etc.)
- Distribution Type (i.e. recirculating, standard, pipe insulation credit, etc.)
- Pipe Insulation Valves (Mandatory Measures)
- Lighting
  - All lighting is high efficacy lighting (i.e. fluorescent, LED) or meets applicable alternatives (Mandatory Measures)
  - All Special Features are verified on the plans and highlighted for the inspector (i.e. Thermal Mass, Radiant Barrier, Cool Roof)
  - All HERS Measures are verified on the plans and highlighted for the inspector (i.e. Duct Leakage, Refrigerant Charge, Airflow (Fan Flow) and Watt Draw)

Yes  No  N/A
<table>
<thead>
<tr>
<th>What to Do</th>
<th>Learn more about Climate Zones</th>
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<th>Was the correct <strong>compliance software</strong> used? (Performance Only)</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
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Onsite and On Demand
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