

Delivering Energy Efficiency to the Top of the House



High Performance Conditioned Attic System

CBIA 2016 Standards Forum

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Safety, Stewardship, Sustainability

SAFETY



Recipient of the 2014 Green Cross for Safety medal for eliminating nearly 95 percent of recordable injuries over the past 12 years.

PRODUCT STEWARDSHIP



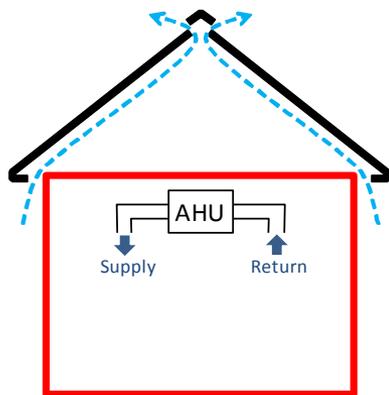
Every product Owens Corning brings to market is reviewed to assure that our products are safe and environmentally sound to make, use and dispose of; and that the products perform as claimed.

SUSTAINABILITY



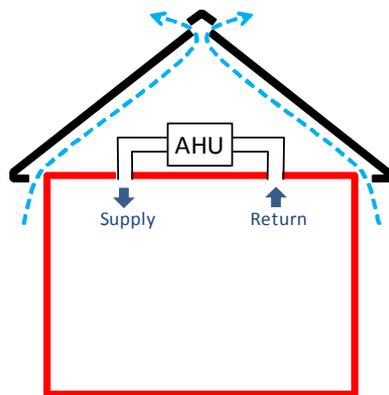
Listed on the Dow Jones Sustainability World Index for 5 years. Building products industry Leader last two years.

Delivering Energy Efficiency to the Top of the House



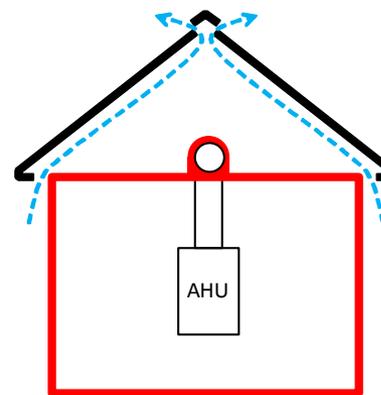
Ventilated | Ducts in Conditioned Space

A well designed, energy efficient, time tested approach.



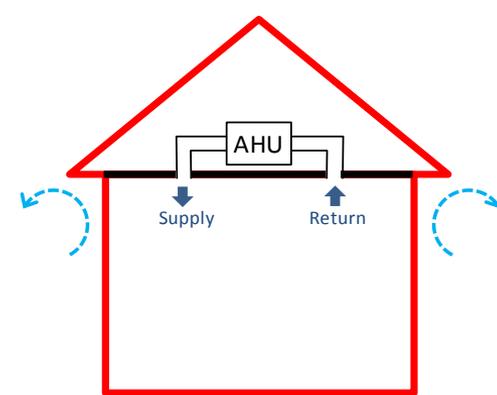
Ventilated | Ducts in Unconditioned Space

Energy inefficient due to conductive and air leakage exchanges with the hot attic space.



High-Performance Ducts

A system that delivers well-sealed and well-insulated ducts for placement in the attic.



High-Performance Conditioned Attic

A system that delivers a conditioned attic with a durability-focused solution.

Owens Corning Innovation Focus

Today's discussion will address the High Performance Conditioned Attic System

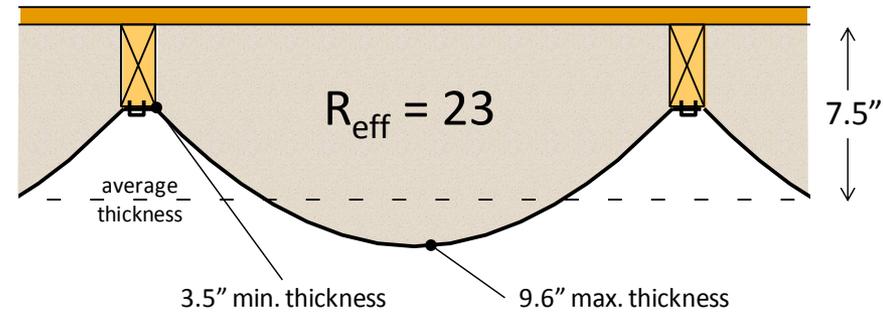
- California's Long Term Energy Efficiency Strategic Plan
- Given the California Energy Commission (CEC) priority to reduce attic temperature, builders are challenged to build more energy efficient homes
 - Most significant T-24 2016 revisions are insulating the building envelope (attic largest potential energy savings).
 - The CEC proposes the unvented attic as an alternative method for attic insulation T-24 compliance.
 - Unvented attic attributes:
 - Reduce attic temperature
 - Great energy savings
 - Better roof mounted solar potential

The Owens Corning Solution

...ProPink® High Performance Conditioned Attic System*

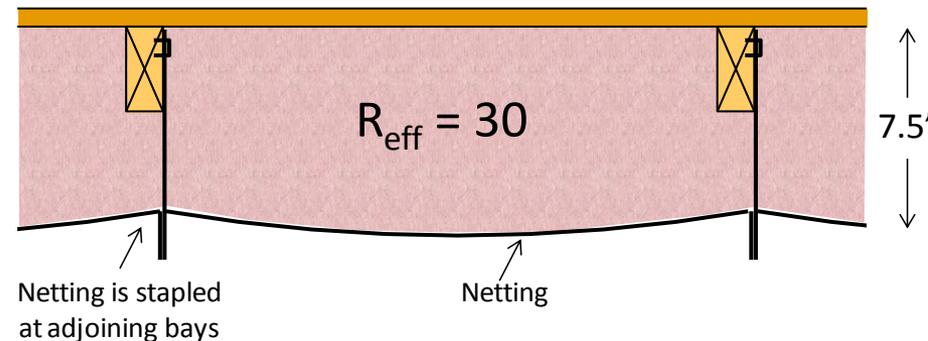


- Excellent solution to incumbent draped netting
 - Creates a near-uniform blanket of insulation.
 - 38% (R-30) to 48% (R-38) better thermal performance relative to draped netting.
 - Truss chords are not exposed minimizing thermal bridging.
 - Where necessary, recommendation for vapor retarder substantiated by building science for improved moisture control.



Draped netting

- Non-uniform insulation layer
- Exposed truss chords

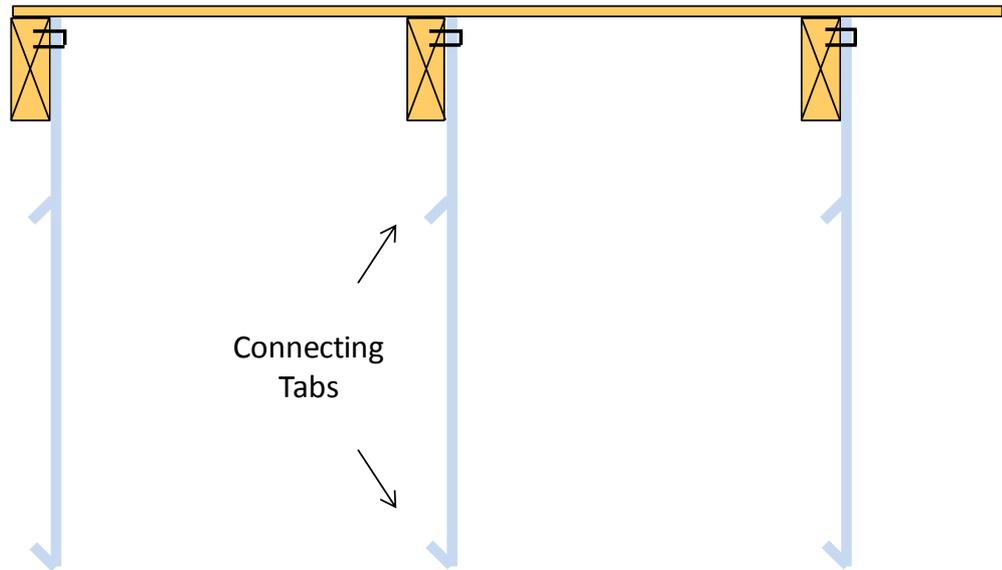


Owens Corning High Performance Conditioned Attic

- Near-uniform insulation layer
- Insulated truss chords

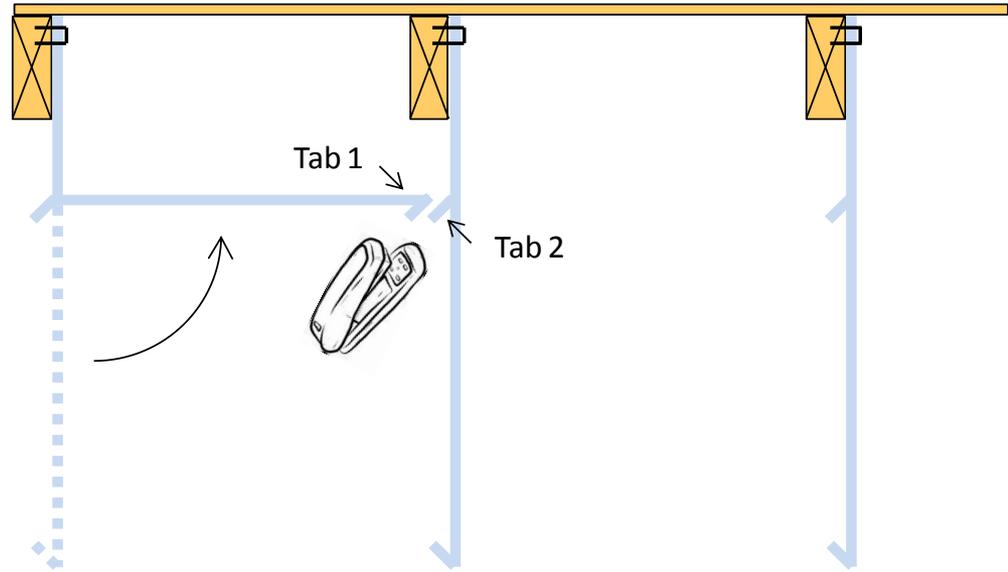
Netting Installation: *A Two-Step Process*

Step 1: Hang



Netting Installation: *A Two-Step Process*

Step 2: Connect



Blow

- Cut netting near the ridge
- Insert hose and position down to the eave
- Blow from the eave to the ridge
- Retract hose as cavity is filled



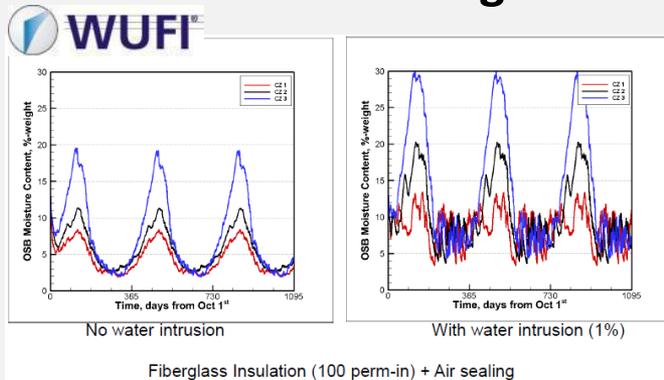
Installed System



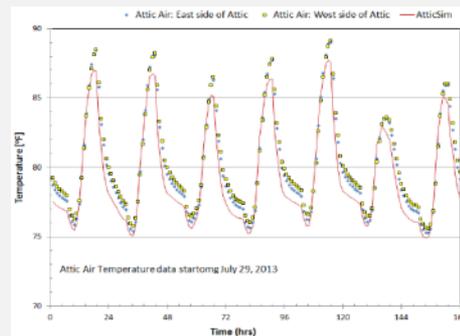
Building Science Modeling & Monitoring

Two main approaches:

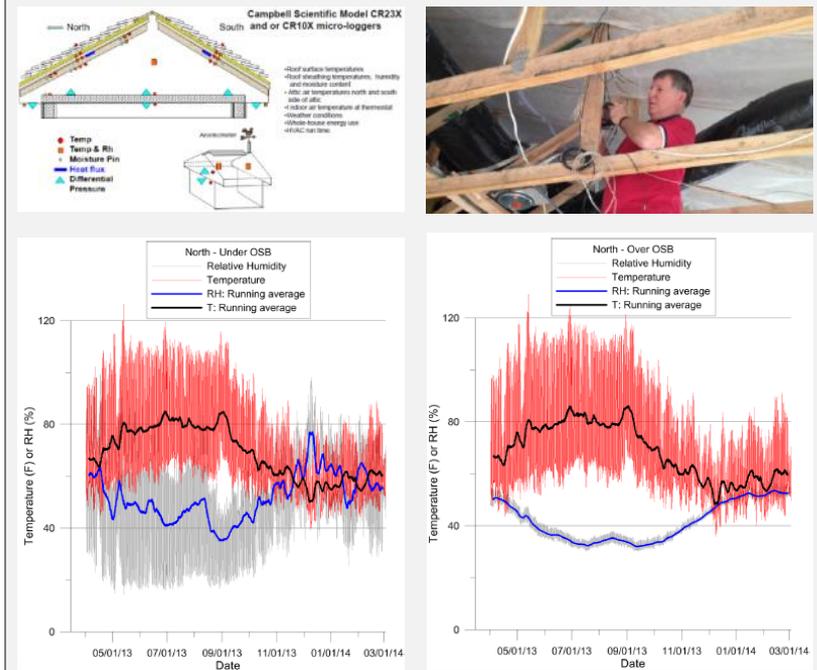
Modeling



AtticSim



Measurement



- >25 installations to date in California
 - Northern California installations have included a vapor retarder
- 5 instrumented houses in California
 - Monitoring includes temperature, relative humidity, and moisture content throughout the attics, along with local climatic measurements.



Questions?

