Code Change
R806.5 Unvented attic and unvented attic enclosed rafter assemblies.

- vapor diffusion port
- port area 1:600 of the ceiling area
- vapor permeance greater than 20 perms
- roof slope greater than 3:12
- air supply 50 cfm/1000 ft² ceiling area
- insulation installed directly under the roof deck
- Climate Zones 1, 2 and 3
Vapor Diffusion Port: A passageway for conveying water vapor from an unvented attic to the atmosphere.
Houses With Vented Attics Suck
Houses With Vented Attics Suck
Not all the Time.....but......
Leaky air handling unit and supply ducts

Air handling unit

Supply

Return

Supply

Depressurized conditioned space inducing infiltration
Hygric Buoyancy
<table>
<thead>
<tr>
<th>Components in Dry Air</th>
<th>Volume Ratio compared to Dry Air</th>
<th>Molecular Mass - $M$ (kg/kmol)</th>
<th>Molecular Mass in Air</th>
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</thead>
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<tr>
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Total Molecular Mass of Air 28.97
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Total Molecular Mass of Air 28.97

Note Water Vapor (H2O) is 18
Dry Air is 29
Shingles

Roofing paper

Wood based roof sheathing

Open cell low density spray foam

“Pong”

“Ping”
Shingles

Roofing paper

Wood based roof sheathing

Open cell low density spray foam

Each “Ping” and “Pong” bounces the water molecules up the slope
Step 1
- Remove strip of OSB from each side of ridge

Remove 12" of OSB from each side of ridge

Step 2
- Create air seal with strip of vapor open membrane (tape seams)
- Vapor open membrane sheet sealed to OSB with acrylic caulk sealant
- Hold vapor open membrane sheet in place with metal strapping

Vapor open membrane sheet sealed to OSB with acrylic caulk sealant

Continuous bead of sealant between OSB and vapor open membrane sheet

Metal strap nailed over top of vapor open membrane sheet (acting as pressure bar)

Step 3
- Construct wood ridge vent with 2x2 furring

¾" OSB

2x2 furring @ 16" o.c.
Sweating Ducts
Sweating Ducts
Light Colored Roofs
Cool Roofs
Radiant Barriers
ACCA Manual J, S and D
Ductwork Attic Dehumidification System
Roof Shingle Temperature

FSEC 3.0: Orlando, 1-Aug

Temperature (C)

Hour of Day

Temperature (F)

All black shingle simulations

All white tile simulations
Burying Ducts