



High Performance Housing — FAQ

2006 IRC

Conditioned Attics

Q: I want to make my attic into living space by moving the insulation to the underside of the roof deck between the joists? How do I meet the roof venting requirements of the building code if I do this?

A: There are two ways that this can be accomplished. You can insulate the rafter space provided that you leave a ventilation space between the top of the insulation (typically fiberglass batts or blown cellulose) and the underside of the roof sheathing ([Section R806.1 Ventilation required](#)). The minimum net free area of the ventilation space is described in [Section R806.2 Minimum area](#) and [Section R806.3 Vent and insulation clearance](#).

Alternately, an unvented attic assembly can be created based on the requirements of [Section R806.4 Conditioned attic assemblies](#). In essence two methods are available, install air impermeable expanding spray foam insulation to the underside of the roof deck or install rigid board foam plastic insulation above the roof deck. The language and various requirements that must be met are somewhat complicated to follow and require calculations to determine the minimum amount of insulation required to “maintain the monthly average temperature of the condensing surface above 45F (7C)”.

To help clarify, the International Code Council (ICC) introduced new language into [Section R806.4 Unvented attic assemblies](#) of the 2007 Supplement to the International Residential Code (IRC). This section includes [Table R806.4 Insulation for condensation control](#), which provides prescriptive requirements for minimum rigid board or air impermeable insulation R-values based on climate zone in order to manage the condensation potential in the assembly.

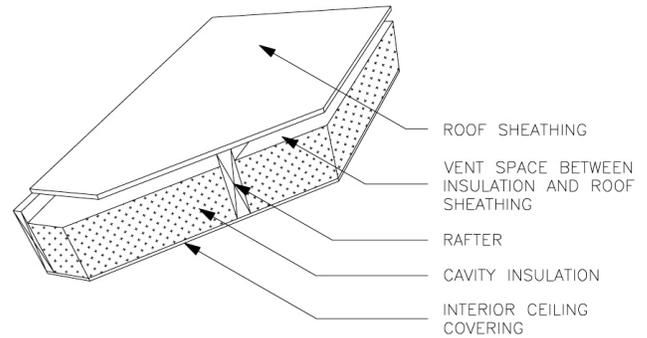


Figure 1: Vented cathedral roof assembly

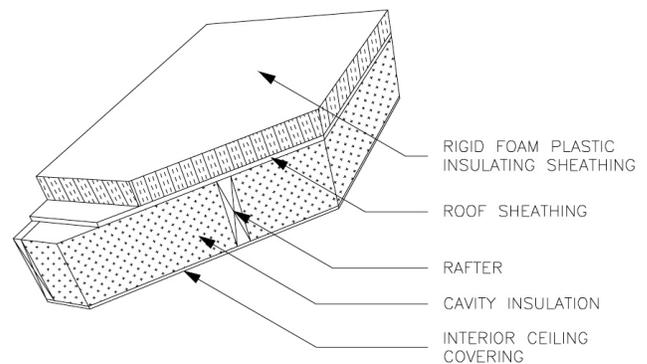
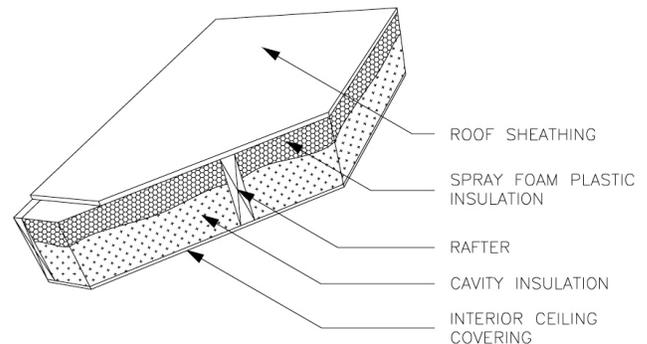


Figure 2: Unvented roof assemblies

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Applicable Code Sections:

2006 International residential Code for One- and Two-Family Dwellings

- R806.1 Ventilation required
- R806.2 Minimum area
- R806.3 Vent and insulation clearance
- R806.4 Conditioned attic assemblies

2007 Supplement to the International Residential Code

- R806.4 Unvented attic assemblies
- Table R806.4 Insulation for condensation control