

Attic room trusses with webs on the outer 1/4's which makes an effective vapor barrier on the inside very difficult

Add "Cedar Breather" type vent layer between rigid and Zip or between Zip and metal?

DETAILS FOR A THICK ROOF

Rigid-foam insulation installed above the roof assembly can create an energy-smart roof. With three layers of 1½-in. polyisocyanurate insulation above the sheathing and approximately 9¼ in. of cellulose insulation in the rafter cavities, the roof shown here has an R-value of approximately 63. The three layers of foam help to seal air leaks, but to make this assembly perform well, you need to incorporate some unconventional details.

Standing Seam Metal with clips.

Self-adhesive membrane

Zip Sheathing - Seam taped

3.5" Poly-iso (2 layers with offset seams)

Zip Sheathing - Fully sealed/taped

Long screws penetrate the rafters to secure the top layer of sheathing.

Overhang framing

The fascia should be installed before the peel-and-stick roof membrane so that the membrane can wrap over the fascia by at least ½ in. To provide solid nailing for the fascia, install a stack of beveled-edge 2x4s or 2x6s at the eaves.

To maintain a continuous air barrier, install scraps of rigid foam as wind blocking between the rafters, in the same plane as the wall sheathing. Cut these foam scraps short by about ½ in. to allow room for the expanding spray foam that will keep the scraps in place.

Roof underlayment

R30 Rockwool in attic trusses

Fully conditioned attic

Make sure the assembly can dry to the inside by choosing vapor-permeable cavity insulation. Do not use an interior vapor barrier.

Cavity insulation
Common rafter

Ceiling joist

R-23 Rockwool

Continuous bead of sealant
Expanding spray-foam sealant

1.5" Poly-iso

Monopoly Style Zip Sheathing - Fully sealed/taped

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Visit GBA to hear Mike Guertin and Peter Yost discuss these energy-smart details.

Vent soffit (and ridge cap) to help with drying of insulation layers?

Should I use a smart vapor retarder on the walls?