Basement Insulation Location

Building Enclosure Components:

1. Base Floor System(s)
2. Foundation Wall System(s)
3. Above Grade Wall Systems(s)
4. Windows and Doors
5. Roof System(s)
Basement Insulation Location

- 4.6 ACH50; 2129 CFM 50 total; 1100 CFM 50 through floor

- 8.5 ACH50; 3590 CFM 50 total; 1740 CFM 50 through floor
Insulation Location Choices

- Retrofits: interior insulation is often the only available option.
Basement Insulation Problems

- Wintertime interior moisture condensation (like above-grade walls)
- Condensation at bottom of wall (thermal lag of soil)
- Lack of drying of assembly (moisture from concrete and soil); soil is at 100% RH
- Liquid water through wall
Recommended Wall Assembly

- XPS is moisture tolerant
- Wintertime condensation controlled
- Summertime (bottom of wall) condensation controlled
- Concrete can dry through XPS at a safe rate

1" XPS
Stud wall w. batt
Drywall/latex paint
Air seal XPS
Sill gasket under bottom plate
Interior Rubble Retrofit
Alternate Details

• Insulated slab on top of existing slab
• No membrane up wall surface
• Wet vs. dry basement?
• Light gauge steel framing interior wall
Spray foam basement insulation

- Open cell
- Closed cell