

# Envelope

## AIR BARRIERS



BP

### Insulation Enclosed On All Sides aka “insulation sandwich”

Wall Insulation should be enclosed on all sides including top, bottom and side framing as well as front and back sheathing or drywall. If the wall backs up to an attic space, the back side of the insulation needs an air barrier.



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### Hard to Reach Areas

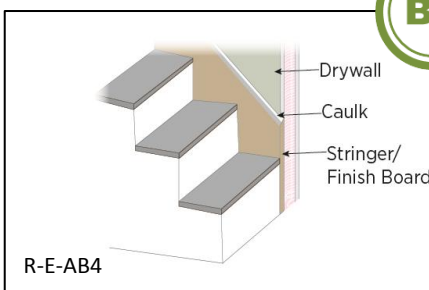
Some areas require early coordination with other trades, such as framers. Otherwise it may be difficult to install an air barrier or the area may become inaccessible. The area below a tub, or other areas that will not have interior finishes but that separate conditioned & unconditioned space, need special attention. Other examples are fireplaces, soffits and double walls.



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### Lids and Floors

Vertical and horizontal chases need air barriers where they meet the attic and unconditioned space below. Make sure these spaces have air tight lids and floors. Another example that needs an air barrier include where a cantilever meets the rim joist.



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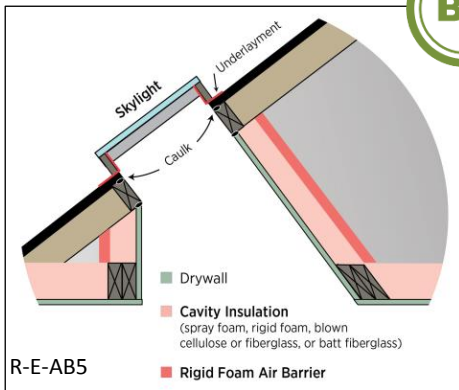
### Stair Walls

Install an air barrier on the conditioned side of walls under stairs that are adjacent to the exterior wall. These areas are sometimes used for storage and still need the air barrier enclosing the wall Insulation.

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R-E-AB2: © Environmental Protection Agency  
R-E-AB3: © Architectural Energy Corporation  
R-E-AB4: © Environmental Protection Agency

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### Insulate Skylight Walls

Provide an air barrier on the attic side of skylight walls all the way from the ceiling to the roof so that the insulation is fully enclosed on all sides. Although in most climates an air seal on the conditioned side of the skylight well is acceptable, it may not perform as well thermally when the well is sealed on the attic side when using fiberglass batts. Air seal and insulate these walls to the same R value as exterior walls.



### Porches

Exterior sheathing should be continuous at porches and other architectural features to complete the building enclosure.



### Garage Connections

There should be a well sealed air barrier between the floor system, walls and rim joists between the home and garage. It is especially important to minimize air leakage from the garage to preserve indoor air quality and for fire safety.

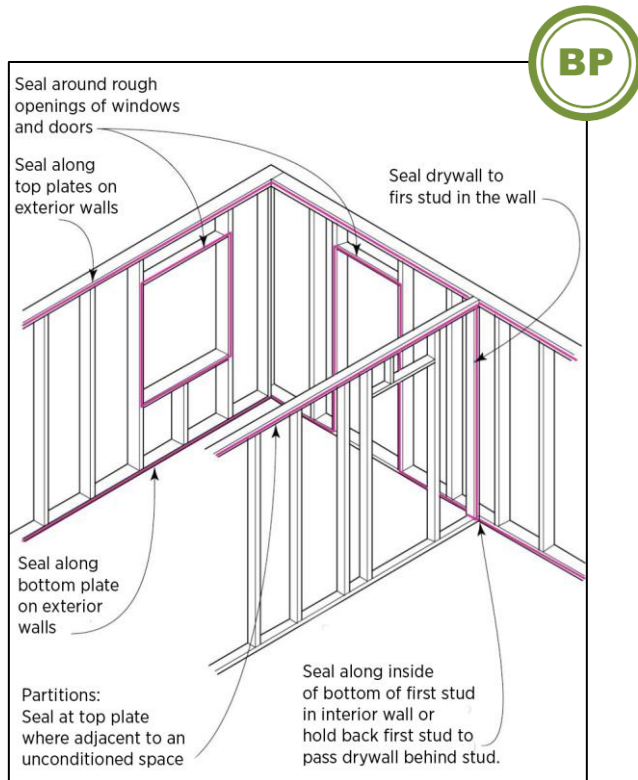
R-E-AB5: © Lstiburek

R-E-AB6: © Environmental Protection Agency

R-E-AB7: © Environmental Protection Agency

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R-E-AB8

### Drywall As An Air Barrier

Seal drywall to framing to create an air barrier. Drywall can be sealed with adhesive at top and bottom plates and where interior walls meet the exterior wall, and at all drywall penetrations such as plumbing and wiring. This is known as the Airtight Drywall Approach.

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**Notes:**

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