Insulate Rim Joist

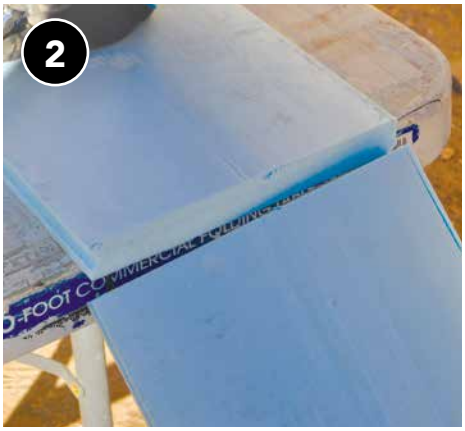
Job Aid for Air Seal and Insulate Walls of a Conditioned Subspace (Basement or Crawl Space) Badge

Aligns With Standard Work Specifications 4.0401.1, 4.0401.2, 4.0401.3

BEFORE

Basement and crawl space rim joists should be insulated when they define the thermal boundary.

Measure each individual cavity to be insulated and take note of obstacles where insulation needs to be trimmed for a proper fit.



Cut insulation, either rigid foam board or wrapped/faced batts, for each individual cavity.

Ensure space is filled with no gaps or misalignment, and place insulation tight to rim joist.

Ensure insulation is secured in place and will not move over time, then seal all of the edges with one- part foam, caulk, or mastic.

If foam insulation is more than 3.25 inches thick or space is permanently habitable, insulation needs to be covered by a thermal barrier, such as gypsum board. If requirements vary from this practice in your area, consult local code officials for clarification.

When using wrapped or faced batts, ensure facing is to the conditioned side and ensure the cavity is air sealed before installing the insulation.

Two-part spray foam can also be used as rim joist insulation.

AFTER

Foam products require a thermal barrier or coating, such as 1/2-inch gypsum board, to separate them from permanently habitable spaces. If requirements vary from this practice in your area, consult local code officials for clarification.

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Checklist

Air seal and insulate walls of a conditioned subspace (basement or crawl space)

DESIRED OUTCOME

Subspace is air sealed and insulated to achieve best thermal performance possible while preventing moisture condensation on the inside of band joists or other wall cavities.[1]

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Air sealing:

- ☐ Rim joist, sill plate, and adjacent surfaces and any walls to be treated were sufficiently cleaned and free of debris to allow for the proper adhesion of any caulks, adhesives, or spray foam used during installation.
- ☐ All penetrations greater than ¼" filled with backing, steel wool, or other pest-proof material before air sealing.
- ☐ Air sealing forms a continuous air barrier on the warm side of the thermal boundary, including floor-to-wall and wall-to-ceiling connections.

Insulation:

- ☐ On walls (basements[2] or crawl spaces), attach insulation with a durable connector equal to or better than manufacturer specifications.
- ☐ On rim joists, install foam-based or vinyl-faced fiberglass batt insulation tightly to the cavity and seal at all edges.
- ☐ Use fire-rated material if the insulation is to be left exposed.
- ☐ Ensure that the insulation has no gaps, voids, compression, or misalignment.
- ☐ Fill out applicable sections of the house-wide insulation certificate with coverage area, thickness, and R-value.

1. Relevant Standards: 40401.1, 40401.2, 40401.3

2. Where termite pressure exists, a 3-inch inspection gap will be maintained from the top of the insulation to the bottom of any wood to allow for termite detection. This varies by region and should be incorporated into the badge inspection criteria where applicable.

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