

Technical Bulletin: Dropped Ceiling Complexities

Residential New Construction Program



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Dropped ceilings are an aesthetic feature designers use to add depth to a room, but they can often create complexities when it comes to air barriers, air sealing and insulating. These complexities often lead to higher blower door results and lower rebates. This technical bulletin will help raters and builders identify what to look for when air sealing and insulating dropped ceilings.

Air Sealing and Air barriers

- In some cases, a dropped ceiling prevents applying a top plate gasket. In lieu of top plate gaskets on the dropped ceiling side of the wall, the gap on the interior side of the wall should be sealed where the framing of dropped ceilings contacts top plates. This can be seen in the example on the right.
- If a knee wall is present above a dropped ceiling, add blocking to the rim joist to separate conditioned and unconditioned space above. The air barrier should extend from the above subfloor to the drywall. The pictures below highlight this issue.



An example of an unsealed dropped ceiling



The red square highlights where an air barrier is missing in the dropped ceiling. The air barrier should extend from the subfloor to the bottom of the dropped ceiling where drywall will be hung.



This example shows an air barrier was installed but does not extend to the drywall. The red arrow highlights the pathway for attic air to enter conditioned space.

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Insulation

Insulation always needs to be in complete contact with ceiling drywall to prevent heat loss. Gaps between the insulation and drywall will let unconditioned air bypass the insulation, diminishing its effective R-value. Often, insulation in dropped ceilings does not fill the entire ceiling cavity. Insulation should be in complete contact with the drywall throughout the entire ceiling.

The image to the right shows insulation that is not aligned with the drywall and will cause cold spots when the home is complete.



An improperly insulated dropped ceiling