

Installing Contractor Insulation Boot Camp

Lesson 22: Cantilevers & Garage Ceilings

Cantilevers



What we'll cover:

- Structure & types of cantilevers
- Typical heat loss
- Air sealing
- Insulating



Definition

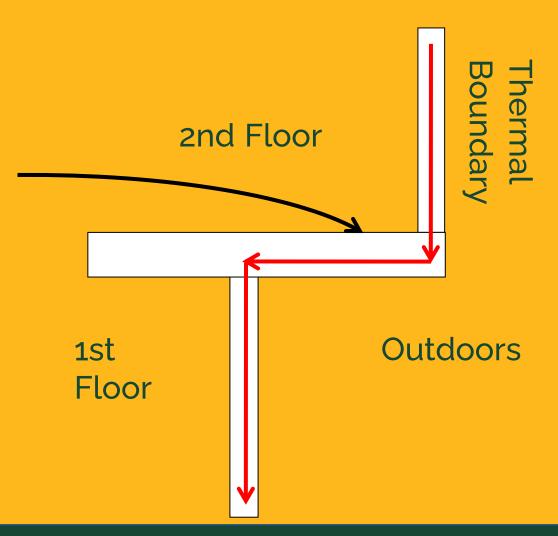


A cantilever is a rigid structural element that extends horizontally and is supported at only one end. Many outdoor balconies are cantilevered, and theater balconies may be as well.

Cantilever Structure



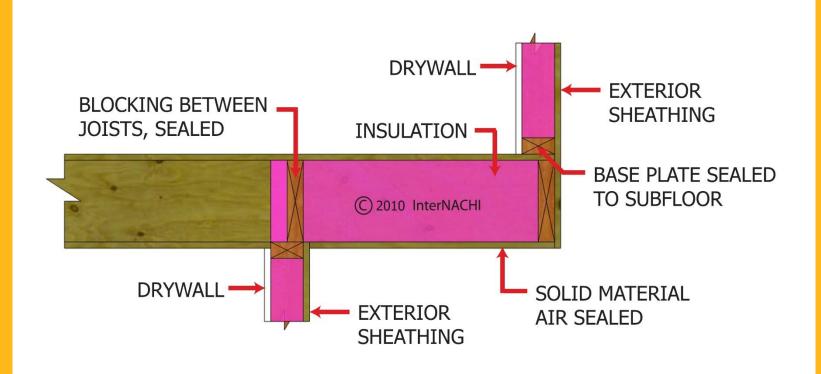
Load supported by an extended horizontal structural member



Cantilever Structure



CANTILEVERED FLOOR ASSEMBLY



Common Cantilever





Common Cantilever





Common Cantilever









Porch Overhang





Porch Overhang





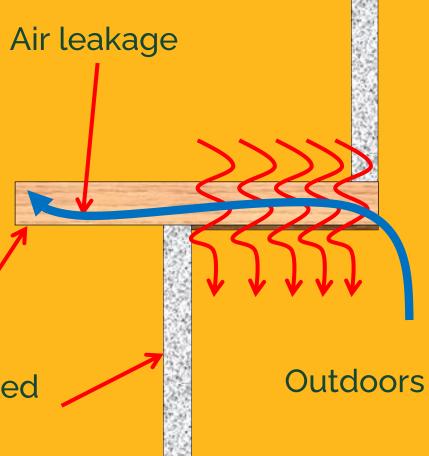
Heat Loss In a Cantilever



- Often left uninsulated
- Large area of potential heat loss

Uninsulated floor joist

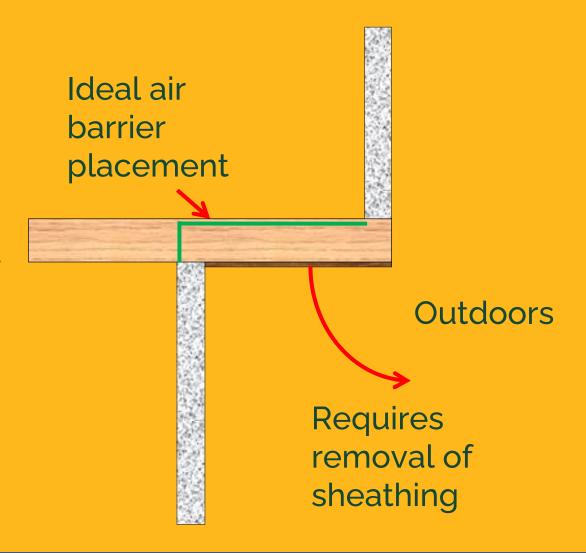
Dense-packed cellulose



Air Sealing



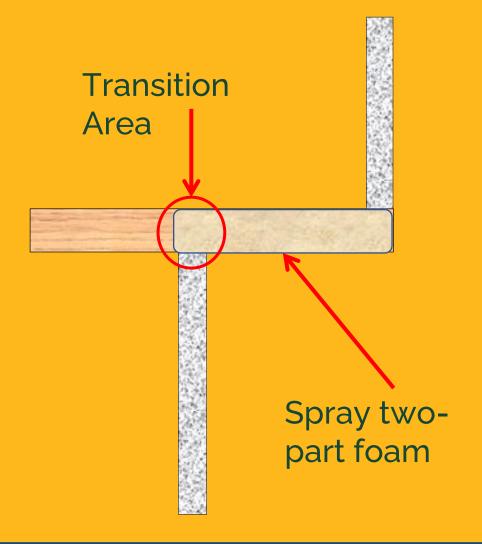
Ideal air barrier placement is not always possible.



Two-part Foam: Spraying or Injecting



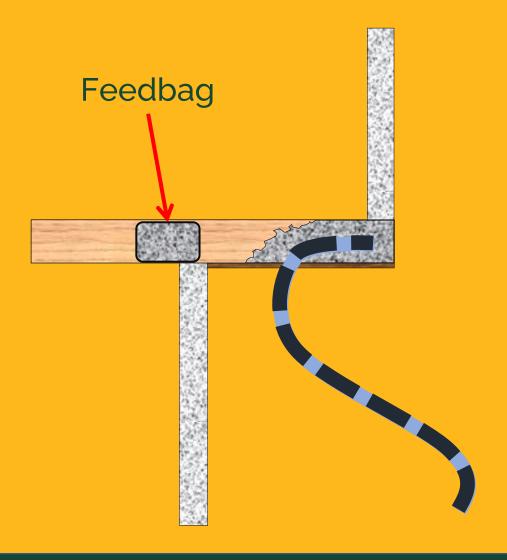
Two-part foam will provide an air barrier and thermal boundary



Dense-packing: Feedbag Method



- Dense-packing insulation provides an air barrier as well as a thermal boundary.
- Special techniques are usually required.

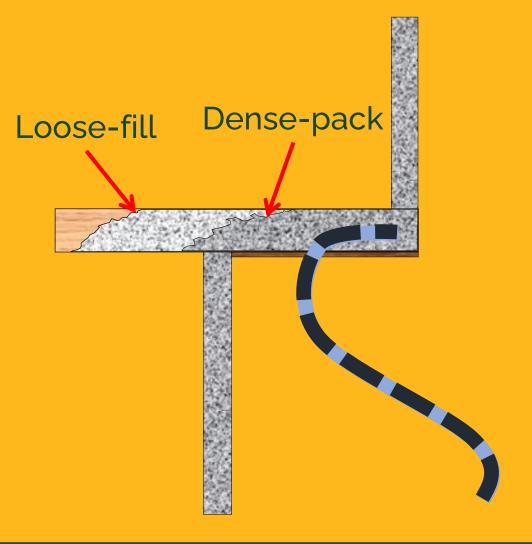


Dense-packing: Two-stage Blow



Two-stages:

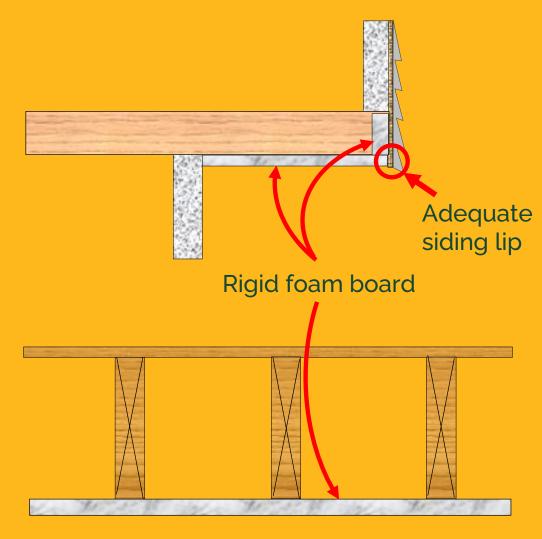
- 1. Loose blow
- 2. Dense-pack



Rigid Foam Board



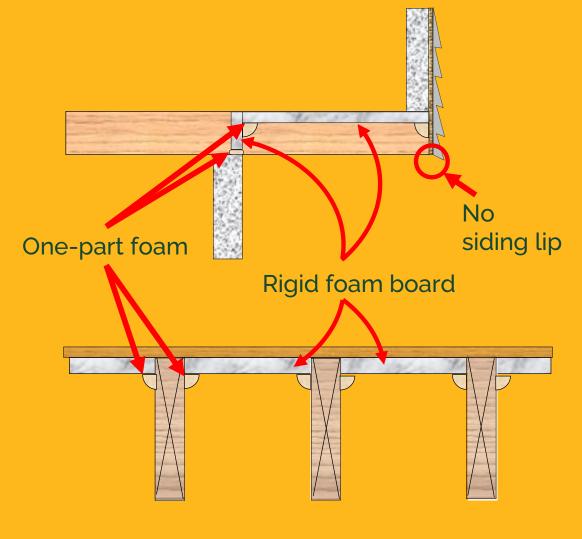
- Used when there is no sheathing
- If there is enough of a lip, install continuous layer beneath joists



Rigid Foam Board



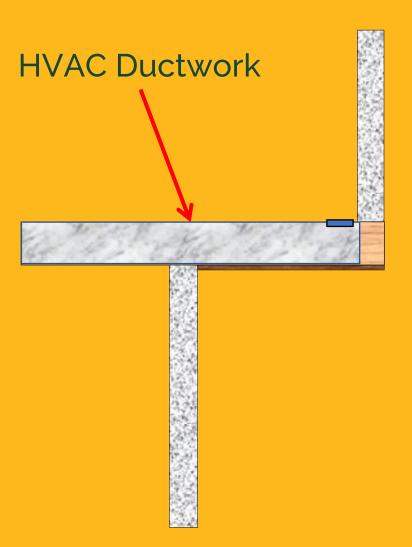
If there is no lip, install board against the floor decking



Obstacles



- Water pipes
- Heating pipes
- HVAC ductwork
- Other blockages



Level Changes

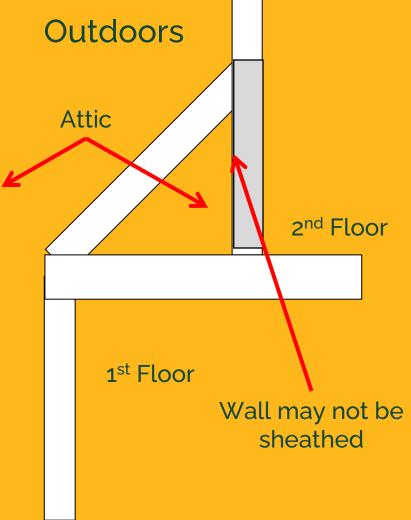




Level Changes



























Garage Ceiling Discussion



- When does ceiling insulation qualify for incentives with the EnergizeCT program?
- Which insulation options are available?
- Why is it necessary to patch holes between the garage and living space?

Summary



Insulating cantilevers:

- 1. Should be done whenever possible
- 2. Requires an air barrier along the warm-winter side of the assembly
- 3. Can be performed with:
 - a) Dense-packed insulation
 - b) Two-part foam
 - c) Rigid foam board

Questions



