



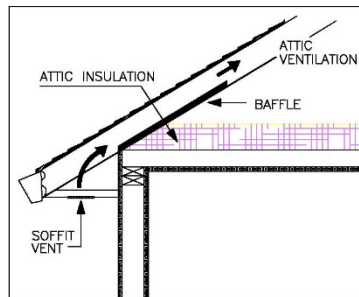
Lakewood

Residential Attic Insulation

Attic Insulation is commonly installed using either fiberglass batts or loose blown-in insulation. Both must be properly installed to be effective. Crushing insulation reduces the insulation quality of the insulation significantly. A permit is not required to upgrade attic insulation.

Approved installation techniques include:

- Insulation must not be in contact with the B-vent from any gas-fired appliance or wood-burning fireplace or wood stove. All insulation should be held back at least 1" from the metal vent.
- When combustion air is drawn from the attic, the combustion air ducts must extend a minimum of 12" above the insulation.
- Insulation should not cover recessed can lights unless the light has a cover installed per the manufacturer's listing over the attic side of the light fixture, or the recessed fixture is IC rated. Look inside the can light to determine if the light is IC rated. The letters "IC" will be on a label affixed to the inside of the light fixture. Where there is no label inside the light fixture, assume the light is **not** IC rated and install a cover over the fixture that provides at least 3" of clearance on all sides of the light, or install a piece of cylindrical tube extending at least 20" above the fixture and providing at least 3" clearance around the light. The purpose is to keep the insulation from contacting the light and causing the thermal switch to shut off the light, or potentially starting a fire in the attic.
- All soffit vents must remain unobstructed to provide adequate airflow in the attic. Install a baffle made of solid material between the rafters. See diagrams below.



- When using batts or blanket insulation, install the initial layers between the ceiling joists and additional layers perpendicular to the ceiling joists. Install the material so it extends over the exterior wall. Use un-faced batt or blanket insulation. *Markers must be installed every 300 square feet listing the thickness of batt insulation and must be affixed to the trusses or joists, numbering must be a minimum of 1 inch in height.*
- Blown-in insulation must be installed so it extends over the top of the exterior wall and is distributed evenly throughout the attic. *Markers must be installed every 300 square feet as listed above for blown-in insulation.*
- Separate the un-insulated area over porches or unheated garages from the insulated portion of the building with batt insulation hung vertically as a thermal barrier.
- Install a piece of batt insulation on the attic side of the attic access.
- Insulation requirements may be found in the 2021 International Energy Conservation Code.
- Existing structures are required to be insulated according to the level of renovations that are being performed.
 - Level 1 – cosmetic renovation do not typically require insulation be replaced or added.
 - Level 2 – less than 50% of the building area is being renovated, insulation must be provided to fit into existing walls and into existing spaces. Where possible, insulation should be provided per the 2021 International Energy Conservation Code.
 - Level 3 – extensive renovations or more than 50% of the building plus additions require



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insulation to be brought up to the requirements of the 2021 International Energy Conservation code. A Rescheck or a Comcheck report are typically required to demonstrate that the insulation meets the minimum requirements of the code if prescriptive values (those called out in the code) are not strictly adhered to.

Insulation Calculation Worksheet

Calculate the R-value of your **existing** insulation

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Thickness in inches R-value/ inch estimated existing R-value

Estimate needed R-value of insulation

$$\underline{\hspace{2cm}} \mathbf{R-60} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Req'd R-value Existing R-value Total R-value needed

Estimate inches of insulation to add to meet R-30 requirement

$$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

R-value needed R-value / inch Estimated inches needed

We are happy you are building in Lakewood, and we want to provide whatever information you require. Please call 303-987-7500 if you have any questions.

R-Value table

Average values from ASHRAE Fundamentals

Insulation type	R-Value per Inch of Thickness
Fiberglass Batt	3.25
Fiberglass Blown	2.2
Rock Wool Batt	3.25
Rock Wool blown	2.2
Cellulose Blown	3.4
Vermiculite	2.1
Polyisocyanurate	6.0
Closed Cell Cellulose	7
Open Cell Cellulose	3.8
Generic rigid	4.0