



Attic insulation

Proper attic insulation means a more comfortable and energy efficient home. It's important to have a continuous boundary of insulation—the “thermal envelope”—between conditioned and unconditioned space. TVA EnergyRight® and your local power company make it easy to hire with confidence for your insulation project when you choose a TVA-approved contractor—trained, licensed and insured to upgrade your attic insulation the right way—through our Quality Contractor Network (QCN).

Why is attic insulation important?

Since heating and cooling making up approximately 45% of your home's total energy usage, a leading cause of energy waste in most homes is poor insulation and air leakage. Most attics provide easy access for improvements, making them one of the more cost-effective spaces to insulate. Fixing any gaps, voids or uneven areas increases your insulation's effectiveness, helping keep the home warm in the winter and cool in the summer.

What does attic insulation improve?

1. Conserves energy by slowing down heat loss and heat gain.
2. Enhances comfort inside the home.
3. Reduces the size of heating and cooling equipment needed.
4. Prevents condensation from occurring.
5. Reduces electric and gas bills.



How much attic insulation should I add?

Insulation levels are specified by R-values that measure the insulation's ability to resist heat flow. The higher the R-value, the better the thermal performance of the insulation. The recommended insulation level for most attics is approximately R-38, or about 10 to 14 inches, depending on insulation type.

How much money could I save?

Properly insulating your home can save up to 20% on your energy bills.

TVA installation requirements for attic insulation*

Safety and preparation requirements before adding insulation:

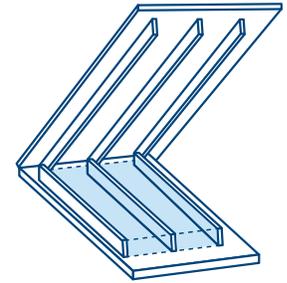
- Quality Contractor Network (QCN) member to complete all preparation work involving existing insulation, including insulation dams around heat-dissipating devices and enclosing unprotected electrical wiring.
- Customer is responsible for other preparation work, such as ceiling repairs, water leaks, vent leaks, removal of stored objects, etc.
- Live knob and tube wiring to be replaced with new wiring by a licensed electrician.
- Existing kneewall insulation to be adequately supported.
- Range hoods, clothes dryers and bathroom exhaust fans to be vented outside the building envelope.
- All insulation and insulation dams to be kept at least 3 inches away from non-IC rated heat sources unless insulation dam is rated for contact; do not install insulation on top of non-IC rated heat sources.
- Insulation should not block combustion air; allow minimum 3-inch clearance.
- Exposed rigid foam or spray foam insulation to have a fire barrier or be rated for exposure without a fire barrier per local code requirements; foam should not be exposed to any heat-producing device.
- QCN member to advise customer to install a working carbon monoxide (CO) monitor if the home has any gas appliances or an attached garage.

Insulation must be installed correctly, per the following requirements, in order to maintain an effective thermal boundary:

- Attic hatch or pulldown stairs to have a cover with minimum R-10 insulation.
- Insulation to be installed to a minimum R-38 (unless restricted by space) without gaps, voids or compressions, and in direct contact with air barrier.
- Loose-fill insulation to be installed to a level condition; contractor to leave one empty bag of insulation at the residence.
- If kneewall has less than R-11 or if adding insulation, then insulate kneewall to a composite R-18. Insulation to be adequately supported.
- Insulation depth markers to be installed every 300 square feet, facing the attic access, throughout the attic space.

Go to **EnergyRight.com** to register your home and connect to the Quality Contractor Network.

**This sheet is not a substitute for the TVA Standards.*



ENERGY SAVING TIPS

- Air seal attic plane, including recessed lights, attic access openings and other penetrations before adding insulation.
- Install rigid foam insulation on attic side of kneewall.
- Assume light fixture to be non-IC rated if it is not possible to determine fixture type.
- Use dense pack insulation if attic floor is decked.
- If loose-fill insulation is installed on top of existing insulation, use the same type of material as existing insulation.
- Install non-powered attic ventilation to remove moisture and heat from attic spaces.
- Ducts in attic should be sealed and insulated to R-8 before adding attic ventilation.

MINIMUM REQUIRED R-VALUES

- R-38 Attic Floor
- R-18 Kneewalls
- R-10 Attic Access