

What Insulation?

When you choose insulation for a new or existing home you will find many alternative products available. You must sort through confusing and conflicting claims to find the right insulation material.

When you know all the facts, however, you'll find that one insulation material stands out from the rest. CELLULOSE! It's the insulation you will want in your home. It's best because...

...Cellulose insulates better. It not only offers more heat transfer resistance per inch than other fiber insulation materials, it also seals the home against air infiltration better than other fiber insulations.

...Cellulose insulation productively recycles a waste product that presents communities with a serious disposal problem.

...Cellulose insulation saves more energy when the energy required to make the material -- "embodied energy" -- is figured into total energy savings.

...Cellulose insulation makes homes safer by slowing the spread of fire.

...Cellulose insulation makes efficient use of natural resources.

Want to know more about these benefits of cellulose? Read on!

Cellulose . . . it's naturally better insulation

Approved under all codes

Cellulose insulation is subject to the strict flammability and corrosiveness standards established by the Consumer Products Safety Commission. Federal law prohibits states and local jurisdictions from adopting less stringent requirements for cellulose insulation, but communities can empower building officials to enforce the CPSC standard by placing identical requirements in local building codes.

Building Officials and Code Administrators (BOCA), the Southern Building Code Congress International, and the International Conference of Building Officials (ICBO), have adopted code provisions specifying that cellulose insulation must conform with the CPSC standard. A similar requirement is in the CABO residential code, which is based on the BOCA, SBCCI, and ICBO codes.

The codes published by the International Code Council all contain cellulose insulation requirements that are consistent with the CPSC standard. The ICC codes also recognize the fire safety advantages of cellulose by permitting installation of electrical boxes on opposite sides of fire rated walls if the boxes are separated by as little as 3½ inches of cellulose insulation. In walls with fiber glass the required separation is 24 inches.

Some local codes may not yet specify that cellulose insulation must conform with the CPSC standard, but a building inspector who insists on conformance with the federal standard is acting responsibly and legally.

Here's Why Cellulose Insulation is Best for Your Home



Today, as in the past, energy conservation is a vital concern for homeowners and the entire nation

Since the "Energy Crisis" of the mid-1970s sent heating and cooling bills almost into orbit homeowners have appreciated the value of well-insulated homes. Although energy costs have moderated, there are still many compelling reasons for energy-efficient homes. In fact, effective energy conservation is one of the factors that has helped hold down energy prices. Today, as in the '70s, adequately-insulated homes not only save money for homeowners every month, but they also help America conserve vital energy resources for the future, and keep the "demand-pull" factor from forcing energy prices higher.



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*Consumer information from
the Cellulose Insulation
Manufacturers Association*



Be thrifty: be smart!
Always specify
recycled
paper -- like this.

Highest savings, lowest cost!

"R-Value" (an expression of heat transfer resistance) is the standard for measuring insulation performance. At R 3.6 to 3.8 per inch cellulose insulation is considerably better than most mineral fiber blowing wools, but R-value is only one factor in the energy efficiency of a home. Studies of actual buildings regularly show that cellulose-insulated buildings may use 20% to 40% less energy than buildings with fiber glass, even if the R-value of the insulation in the walls and ceilings is identical. One reason for this is the capacity of cellulose to stop air infiltration.

Cellulose fills walls and stops air infiltration better!

Demonstrations using transparent plastic "walls" show the superiority of cellulose in filling existing walls with many fewer gaps and voids than mineral fiber materials.

The fibers of cellulose insulation are much finer than mineral fiber blowing wool. When cellulose is pneumatically installed it takes on almost liquid-like properties that let it flow into cavities and around obstructions to completely fill walls and seal every crack and seam. No fiber glass or rock wool material duplicates this action. Liquid-applied foam plastics do, but they cost much more than cellulose.

In new construction cellulose insulation can be installed in walls using a spray process or several different dense-pack dry techniques that are also effective at sealing homes against air infiltration.

Low embodied energy!

In terms of national policy the energy you save directly at home isn't the only important consideration. Our country has emphasized energy conservation to reduce dependence on foreign fuel sources and make America less vulnerable to international "energy blackmail." If you are concerned about America's energy

independence you need to understand "embodied energy." Embodied energy is the energy consumed in producing products.

Mineral insulation comes from furnaces that gulp natural gas to melt sand, slag, or rock. Foam plastics are petrochemicals. They are literally made out of energy!

Cellulose insulation is made by processing recycled wood fibers through electrically-driven mills that consume relatively little energy when they are operating, and which can be shut down completely with the flip of a switch at the end of the shift -- or even for lunch and coffee breaks.

Fiber glass, rock wool, and plastic insulation may have from 50 to over 200 times more embodied energy than cellulose.

When you choose these products you will certainly save on the amount of energy you consume at home, but you contribute to increased use of energy by producers. And increased demand drives prices up!

When you install cellulose insulation you not only save energy in your home, you are choosing lower energy consumption at the factory where the insulation is produced. By helping reduce our nation's overall energy consumption you not only reduce our vulnerability to foreign pressures, you are actually helping hold down utility rates and the price you pay for gasoline, plastic goods, and other products that come from oil and natural gas.

Cellulose makes homes safer

All residential structures contain large amounts of wood. Cellulose insulation is the only wood-based building material that is always treated for fire retardancy. This makes cellulose insulation one of the safest materials used in home construction.

If a fire occurs, the dense structure of cellulose and its fire retardants slow its spread through the building by blocking flames and hot gases and restricting the availability of oxygen in insulated walls and ceilings. Scientists at the National Research Council Canada report

that "cellulose in the wall cavity provided an increase in the fire resistance performance of 22% to 55%." Fire roars right through fiber glass. The NRCC study showed that "the fire resistance of an assembly with glass fibre insulation was slightly lower than that of a non-insulated assembly."

Tests at Omega Point Laboratories indicated that cellulose in a wall increased fire resistance 26% to 77%, as compared with an uninsulated wall.

Several fire demonstrations have been conducted in which cellulose-insulated structures have remained virtually intact while uninsulated and fiber glass insulated structures burned to the ground.

A naturally recycled product

Cellulose insulation is made from recycled wood fiber, primarily newspaper. One hundred pounds of cellulose insulation contains 80 to 85 pounds of recycled newsprint.

Waste disposal is a major problem for cities. Waste paper is a major part of the refuse stream. Today more and more communities are addressing this challenge through "curbside recycling" and similar conservation programs. These efforts work only if there is demand for recycled products.

The federal government is attempting to create demand through such measures as the Environmental Protection Agency's comprehensive procurement guideline for products containing recovered materials. Cellulose unquestionably meets all requirements for insulation specified by the guideline..

Paper that is not recycled ends up in landfills, where it may contribute to environmental pollution, or at incinerators where energy is wasted reducing it to ashes, soot, and smoke.

When you choose cellulose insulation you help solve waste disposal problems and fight air pollution. This may help your community hold down taxes or refuse disposal charges. It certainly contributes to a cleaner environment.

Responsible resource use

Even if waste paper did not create a disposal problem, most people believe we have an obligation to make maximum use of the resources we consume.

Cellulose insulation does not "save trees," but it makes maximum use of the trees we do harvest. Using trees we cut to make paper to save energy is responsible resource use.

The highest standards of any insulation material

Today's cellulose insulation is covered by American Society for Testing and Materials Standard Specifications C-739 for loose-fill insulation and C-1149 for spray-applied self-supporting insulation. Developed and refined over many years through the consensus standard development process of ASTM, the cellulose insulation standards cover several material properties, including:

Heat transfer resistance (R-value)

Settled (or design) density

Critical radiant flux (a measure of surface burning characteristics)

Smoldering combustion (an assessment of fire resistance within the insulation layer)

Corrosiveness

Odor emission

Moisture vapor absorption

Fungi resistance

Adhesive/cohesive strength (spray-on only)

This industry standard is more comprehensive than the Consumer Products Safety Commission regulation, which has strict requirements for flammability and corrosiveness, but does not address other important characteristics that are not safety-related.