

T•A•P is *GREENER* in 3 Ways! And More!

Its Natural Pest Control kills insects, but does not harm humans and pets!



T•A•P Thermal, Acoustical, Pest Control Insulation earned the **ENERGY STAR AWARD** from the US Environmental Protection Agency for its part in protecting America's vital energy reserve. T•A•P is superior to the cheaper, but widely-used glass-fiber in all phases: *production, operation, and disposal*. Put simply, it takes less energy to *make* T•A•P; it takes less energy to heat and cool your home with T•A•P; and T•A•P presents no environmental hazard if ever removed.

PRODUCTION: 87% of T•A•P is **recovered newsprint**—the same newspapers



you put out on your curb for collection. That newsprint was made from wood pulp—trees: our most important renewable resource. The newspaper is fed through an electric disc-mill whose exceedingly fine tolerances explode the fibers into a soft, gray, cotton-boll-like substance. Unlike the enormous furnaces described below, electric mills can be turned off when not in use.



GREAT IDEA!

To the newsprint is added natural borates which impart T•A•P's fire-retardant, mold-inhibiting, and pest-control properties. This finely-ground mineral dust, from the same source as laundry detergent and eyewash, is inert and permanent.



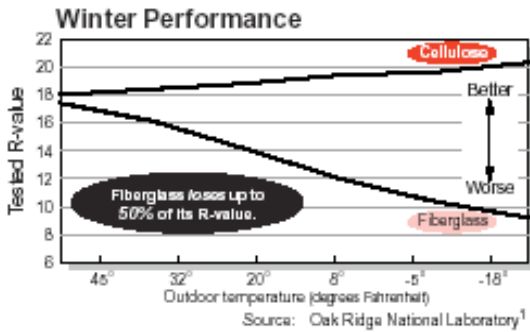
Compare this with glass-fiber, containing only 0-20% recycled content, and melted in giant gas-fired mills, which must remain “on” during down time, all the while giving off “greenhouse gases,” then spun in an additional process, using even more energy. On a strictly theoretical basis it can be calculated that “R” for “R,” mineral fiber insulation takes 15 to 20 times more energy (“*embodied energy*”) to make than cellulose insulation. Data reported to the Canadian Standards Association suggest *mineral fiber production actually requires 59 times more energy than cellulose production*, on a pound-for-pound basis. Adjusting for weight differences, mineral fiber materials take at least 25 to 30 times more energy to make than cellulose of equivalent R-value.

Paper, especially newsprint, is a major component of the residential waste stream and a major disposal problem for communities throughout the nation. Installing T•A•P in a 1500 ft. new ranch-style home productively recycles as much newsprint as a family will consume in 40 years; not only recycles, but *removes it from the waste stream permanently, greatly saving landfill space!*

Adding to the “embodied energy” advantage of cellulose is the fact that most cellulose insulation is made with a high percentage of locally-generated raw materials. Other than the borates, which are about 11 percent of T•A•P by weight, it is not necessary to transport raw materials long distances to cellulose insulation plants. In addition, recycling newsprint locally as cellulose insulation makes it unnecessary to expend energy transporting it to distant landfills or de-inking plants.

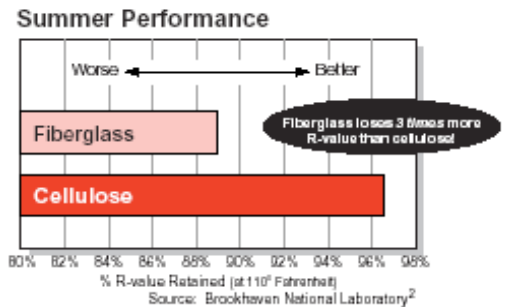
OPERATION: Energy Conservation

Just as significant as its recycling advantage is the superiority of T•A•P as an insulating material. Many independent insulation authorities agree that cellulose is the best fiber thermal insulation, and an impressive body of scientific research supports this belief.



Studies at Oak Ridge National Laboratory have proven that cellulose is not subject to the convective effects that degrade the actual R-value of other loose-fill fiber insulation materials at low attic temperatures. Spun glass fiber is an excellent air filter; we use it in the air returns of our home heating/AC systems because air readily moves through it. But in our attics, that means that fiberglass insulation lets the radiant heat from the sun heat up our ceilings, so that the AC has to run longer to cool the house. And in winter, warm air from inside the

house escapes through the ceiling and is replaced by heavier cold air, making our furnace work harder and longer, driving up energy usage and cost. T•A•P is denser than fiber glass, and a poor air filter, so that it retards this convective heat transfer.



Even at mild temperatures, without the convective effects of wind currents, T•A•P, with an R-factor of 3.7/inch, performs well against glass fiber @ approximately 2.5 (blown) to 3.2 (batt). To achieve the US Energy Department’s recommended R-value of 49, would require about 13 inches of T•A•P, or about 20inches of glass fiber—pretty much an impossibility in a peaked-roof attic!

Comfortable Conservation™

Here’s a number you can “hang your green hat on”: Typical energy savings from choosing T•A•P will range from 20 to 38%. Whether you measure it in kilowatts or dollars, expect big savings while reducing your “carbon footprint.”

DISPOSAL:

Since T•A•P is blown into attics, and sprayed into and onto walls, never cut or trimmed on the job, there is virtually no waste: any excess T•A•P is swept up or vacuumed and fed back into the hopper for re-use. This is a significant reduction in the disposal stream at the building site: the portion of the dumpster usually filled with cut and torn batts will have more room for other building product waste. Finally, if T•A•P ever must be removed because of damage (e.g., flooding or animal destruction), it may be land-filled without restriction, and presents no environmental hazard if ever removed.

Additionally, T•A•P is an EPA-labeled building product which has undergone “Fungi Resistance” testing (ASTM Method C1338) as is stated on its label. Other forms of insulation do not undergo this qualification, and may support mold growth during construction, or upon moist conditions.

T•A•P Helps Keep Bugs Out—and Comfort In!™



www.TAPinsulation.com

