

Insulation Volume Of A Home

Bressler Insulation

Insulation is by far the single largest product, by volume, that a home is built of. If all the insulation materials of a house were put into a pile and measured by size, the insulation would be over half the volume of that house. There would be some variation from building to building, but on a simple building, on a cubic foot basis, about 50%-60% of a buildings volume is composed of insulation. So, what does this really mean. We use insulation for different things. The most common idea is that insulation saves money on energy which is true. However this is just one small component of what insulation really does. It provides comfort to the homeowner, it helps with indoor air movement and HVAC. It can help to or contribute to mold. It helps to control moisture. It helps to control air movement and it helps to control condensation.

Given the large volume of insulation materials used in the house why do we pick out the products that we do. Sometimes we look at the long-term energy saving comparisons of different products. Sometimes we pick a product out for recycled content. Sometimes it's for long term durability and mold resistance. Sometimes we chose Green Guard certified products for indoor air quality. Sometimes we look at transportation fuel usage. Sometimes we look the amount of air pollution reduction from using more efficient insulation.

There is no perfect product for each job. So we must make the tradeoff between durable, energy efficient and Green Guard rated products against products which may be less expensive or greener upfront but lacked the durability, performance, and Green Guard rating. Also Climate dictates the use of the best product. What may work well in a moderate climate does not work well in extreme climates.

Insulation products continue to evolve. Cellulose insulation was first used in 1810. Rockwool came out around 1930. Fiberglass was introduced in 1940 and spray foam was starting to get used as residential insulation in the early 70's. As each new generation of insulations evolve, the performance keeps improving over the older insulation products.

The question of which product to use will never have an easy answer, it could be the cheaper newspaper (cellulose) or the more expensive spray foam. Often the initial upfront cost is the issue, giving products like cellulose the advantage. If willing to spend more, the energy efficiency, durability and mold resistance of spray foam gives it the advantage.

Deciding on the goal of what is expected from the insulation should be looked at first and then working backwards to find the product that matches that goal. This works better than picking a product upfront and then trying to match that product to what is wanted in the building.