## Invest in the right insulation package.

The tale of two homes		
2,115 square foot two story home built on a crawl space. Based in Indianapolis, Indiana with Indianapolis climate and energy costs.	2,115 sq.ft. Home with Standard Insulation (R13 walls/R38 attic, no air sealing)	2,115 sq. ft. Home with Knauf Insulation EcoSeal System (EcoSeal Package R15 walls/R49 attic)
Purchase Price	\$200,000	\$202,833
Monthly Payment (5%, 30 year, PMI + tax)	\$1,597	\$1,614
Monthly Energy Bill	\$200	\$147.50

## The difference

For only \$17.60 more per month on the mortgage, a home owner will save \$52.50 a month on energy bills.

## That's a \$34.87 benefit per month, \$418.44 benefit per year and \$2,929.08 benefit over 7 years!

This amount increases to \$3,345.21 over 7 years assuming energy costs increase 3% annually.

## Impact on the environment

Insulation System	EcoSeal R15/R49 System	SPF (Open Cell)	Wet Sprayed Cellulose
Primary Ingredients	<ul> <li>Post consumer recycled glass</li> <li>Sand</li> <li>Corn</li> </ul>	<ul> <li>Oil derivatives</li> <li>Fire retardants</li> <li>May have bio-based content</li> <li>May have CFC's</li> </ul>	<ul> <li>Post consumer recycled paper</li> <li>Post industrial recycled paper</li> <li>Fire retardants</li> </ul>
Recycled Content	55% post consumer	None	55% post consumer 30% pre consumer
Recycling Impact	2,124 glass bottles saved from US landfills	None	Equivalent of 294 Sunday newspapers
Fire Retardant Type	None - glass does not burn	May have some persistent or bioaccumulative	Borate Ammonium sulfate
Fire Retardant Amount	None	10% by weight (26 lbs)	15% by weight (336 lbs)
Water Added to Structure	None	little if any	24 gallons

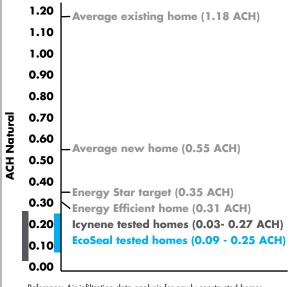


**Q.** How much EcoSeal should it take to properly air seal the example house (2,155 sq ft, two-story on a crawl space)?

A. Applied as instructed to the Qualified EcoSeal Installers, it should take about 2½ to 3 five gallon buckets.

Q. How does the air sealing performance of the EcoSeal System compare to SPF (open cell)?

A. Properly installed EcoSeal will result in a natural air change rate of less than 0.35 ACH, ASHRAE's threshold for adding additional mechanical ventilation. Natural air change rates of less than 0.10 are possible and have been documented.



Reference: Air infiltration data analysis for newly constructed homes insulated with lcynene spray foam, Nov. 2007, HAHB research

**Q.** Does the EcoSeal System meet the EPA Energy Star requirements?

A. Yes. They EcoSeal System actually exceeds EPA Energy Star requirements (based on "Air Infiltration Testing" for Knauf Insulation by NAHB Research Center #4109007032710. March 27, 2010). Q. Is EcoSeal fire rated?

A. EcoSeal is Class A rated for Fire and Smoke and does not exceed 25 Flame Spread and 50 Smoke Developed when tested in accordance with ASTM E84.

**Q.** How does the EcoSeal System compare the SPF (open cell) from an acoustical standpoint?

A. EcoSeal System Sound Transmission Class (STC) values beat foam. Source: Comparative testing at Riverbank Acoustical Lab, June 2010 using Knauf Insulation EcoSeal with EcoBatt and Knauf Insulation Jet Stream Ultra and spray applied foams.

Q. Isn't EcoSeal just another form of caulk?

A. No way! First of all, EcoSeal is applied at 2,200psi which means it penetrates cracks, seams and openings. Caulks are simple surface applied and do not penetrate. Secondly, EcoSeal is an elastomeric sealant which means it maintains flexibility and will not crack or split. Even when exposed to extreme temperature ranges. Many caulks will become brittle and crack when faced with significant temperature fluctuations.

**Q.** If I use the Knauf Insulation EcoSeal System, will I be able to qualify the home for the NAHB National Green Building Standard?

A. Yes, based on thermal and air sealing performance of the EcoSeal System, it should enable maximum points under the National Green Building Standard, energy efficiency clauses, the air infiltration clause and the recycled materials clause.



For more information call (800) 825-4434 ext. 8300

or visit us online at www.knaufinsulation.us

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