

# CASE STUDY

Artistic Homes, New Mexico



## PRODUCTS USED

Knauf Insulation  
EcoSeal™ System

## PROJECT

Artistic Homes, New Mexico

"We spent a lot of time caulking and foaming prior to insulation. EcoSeal is an ideal replacement for much of that work. It performed for us. EcoSeal allows us to address areas that currently aren't addressed in our regimen - spots where you just can't get in with expandable foam and caulking."

"EcoSeal is the 'right next step' for builders. If you do building science and building techniques correctly, EcoSeal helps you create a more efficient, quality home."

**Tom Wade**  
President,  
Artistic Homes



## CHALLENGE

With increasing demands for greener housing and pending building code changes, more attention is being placed on the well-documented fact that air leakage is critical to home energy efficiency. Tom Wade, president of Artistic Homes in New Mexico, wanted to improve the tightness of his homes, all currently built to at least LEED-H Silver standards and HERS scores of 54 or lower.

Historically, he had achieved tightness by hand-sealing joints with caulk or expanding foam and using a BIBS® insulation system. Wade, a strong proponent of indoor air quality, did not want to use open or closed cell sprayfoam insulation because of its petroleum base and potential for off-gassing. Artistic's homes are also certified under ENERGY STAR's Indoor Air package.

A sealing and insulation system would have to provide value and improve on already-good performance. Artistic homes feature efficient, right-sized HVAC and produce utility bills around \$35 for "near-zero" homes. Homeowners also receive guarantees from Artistic on energy usage and comfort.

## SOLUTION

Knauf Insulation proposed the EcoSeal System with the EcoSeal water-based elastomeric sealant and Jet Stream ULTRA Fiber Glass Blowing Insulation to meet Artistic's requirements and improve home performance.

EcoSeal applies with an airless sprayer, drying to a flexible tough seal after penetrating gaps as small as 1/16" and as large as 3/8". The EcoSeal System is certified under the GREENGUARD Children and Schools program, meeting Wade's desire for high indoor air quality.

Compared to sprayfoam, the EcoSeal System provides a simple, non-toxic seal that applies in one step. Other trades can work simultaneously and just two to three hours are needed for the seal to skin over, allowing the insulation install. With the EcoSeal System, the building envelope receives both air resistance and improved R-value.

For Artistic, the EcoSeal System provided a nearly 35 percent increase in tightness. While Artistic already met ENERGY STAR standards with .35 natural air exchanges per hour, the system helped drop that to a

.11 rate. Additional testing has shown the EcoSeal System effective to .09 natural air exchanges per hour.

"EcoSeal applied well even in five-degree temperatures. I was impressed," Wade noted. "In looking at the blower door tests for the two homes, they scored very well."

"If a house wasn't air tight, we would have to upsize all our equipment," Wade added. "That would result in a vicious cycle of inefficiency and a lack of comfort. If you achieve air tightness through proper application of building science, then you know you've built a good home on every level."

**Knauf Insulation**  
One Knauf Drive  
Shelbyville, IN 46176

[www.knaufinsulation.us](http://www.knaufinsulation.us)

For further information contact:

**Tel:** 317-398-4434  
**Fax:** 317-398-3675  
**Email:** [info.us@KnaufInsulation.com](mailto:info.us@KnaufInsulation.com)

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