

# InsulStar® High Performance Insulation



## The Big Green Barn: InsulStar® helps a California business on their path to Platinum LEED certification.

### PROBLEM

- > Owner of construction company wants new headquarters to be as energy efficient as possible
- > Building is a historical landmark that needs extensive renovation



Chris Avant, owner of Canyon Construction in Moraga, California, wanted to create new offices for his company that would employ the latest energy-saving technologies to cut electricity use by 75 to 80%.

Unfortunately, the building he chose was over ninety years old and, in his words, "in very poor shape. The foundation was shot, the roof was gone, and there was water damage." But he wanted it anyway. "I chose it for its historic charm and beauty, and the history associated with it." That history includes being a hotel, grocery store, and from the 1920s until 1997, a very popular bar known as The Moraga Barn (because during prohibition, using the word "Bar" was illegal).

And since 70% of his company's business involves renovation, he was prepared for the task at hand. In fact, the condition of the building actually suited his plans perfectly. "I saw this building as an opportunity to show people that a green building doesn't need to have one type of aesthetic. That it can be very traditional or very contemporary."

### SOLUTION

- > InsulStar used in the walls and ceiling to create an ultra-tight insulation shell



To insulate the building, Chris chose InsulStar high performance spray foam insulation from NCFI. "We were going for the most energy efficient solution we could find, and foam was that solution." He did have some concerns about the fact that InsulStar is petroleum based. His NCFI rep put it all in perspective when he said that it may take five or six barrels of oil to do the building, but without foam insulation, that's five or six barrels a year in terms of energy loss.

Chris was also impressed by the service he received from NCFI. "One factor in choosing InsulStar was NCFI's willingness to do the science and run an analysis of our whole building. Their analysis ensured the insulation was going in the right place and being done the right way."

Using foam in the walls and the ceiling, Chris was able to create an ultra-tight insulation shell. On top of that, he added a double layer of dry wall that, Chris said, "creates density on the interior of the shell, and that allows your heat to stay in there."

### RESULTS

- > The new headquarters will be an example of "green" building technologies and may receive Platinum LEED certification



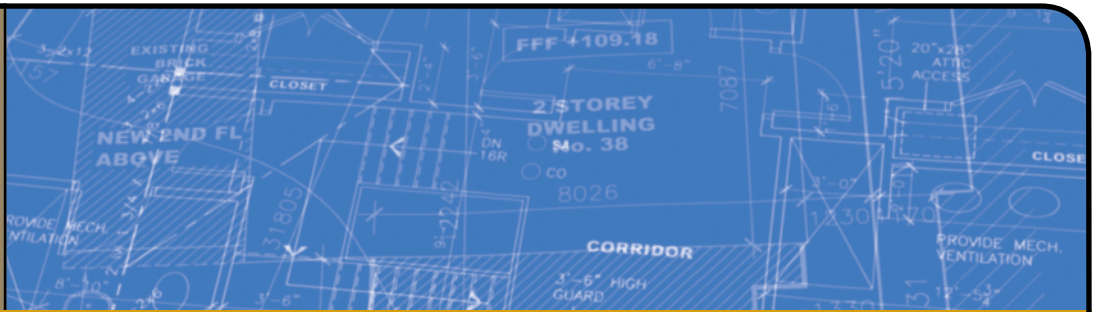
By combining InsulStar with a host of other energy efficient technologies, Chris created a building that he is confident will receive a Platinum LEED certification (the highest possible), a nationally accepted benchmark for high performance green buildings. "It will happen," he says.

Chris plans to use the Barn as an example of what can be done with new green technologies. "A place to show homeowners, city officials, and even other builders and designers what's out there in terms of modern technologies and how we can integrate those technologies into an existing building." Using a building with a storied past, Chris is demonstrating what the future should be, and thanks to him the old Barn has never been better.

Learn more at [www.InsulStar.com](http://www.InsulStar.com)  
or by calling 1-866-NSULATE (1-866-678-5283)



## About InsulStar®



InsulStar is a nominal 2.0 lb/cu ft high density, closed-cell spray polyurethane foam (SPF) from NCFI Polyurethanes. It is a two-part liquid system that is sprayed in place and quickly expands to fill all gaps and voids. It then cures to form a fully adhered, solid, monolithic insulation envelope.

- > 2.0 lb/cu ft high density, closed-cell spray polyurethane foam
- > R-value above R 6 per inch
- > Saves an estimated 40% on energy bills
- > Environmentally friendly
- > Forms seal that blocks air infiltration, noise, dust and pollen
- > Blended with anti-microbial to inhibit mold, mildew and bacterial growth
- > Adds structural rigidity

### EFFICIENCY

InsulStar's R-value is R 6.4 per inch, compared to fiberglass batt at R 3.5. Its ability to stop air infiltration and eliminate convective looping saves the homeowner an estimated 40% on energy bills.

### GREEN

In addition to its dramatic energy savings, InsulStar is formulated with renewable agricultural resources and uses a state-of-the-art, environmentally friendly blowing agent with zero Ozone Depletion Potential. NCFI Polyurethanes was awarded the 2004 Stratospheric Ozone Protection Award, an international award from the EPA for their work in developing environmentally friendly SPF systems.

### COMFORT

The closed-cell, fully adhered structure of InsulStar forms an airtight seal that blocks air infiltration, noise pollution, dust and pollen. The low moisture vapor permeance eliminates the need for any additional vapor retarders. This low permeance works to control moisture vapor movement, thereby eliminating the moisture accumulation necessary to support mold growth. Additionally, InsulStar is blended with an anti-microbial to inhibit mold, mildew and bacterial growth.

### STRUCTURAL RIGIDITY

InsulStar also adds structural rigidity to the home. In a test conducted by the National Association of Home Builders Research Center, it was concluded that a 2x4 wall sprayed with polyurethane foam insulation had two times the racking strength of a wall filled with fiberglass batt insulation.

### ABOUT NCFI

From the carpet you walk on, to the warmth of your home in winter, to the sofa you and your family watch television on, NCFI Polyurethanes has been working hard since 1964 to make your world a more comfortable, secure, affordable place to be. You may not be aware of us, but our products touch millions of lives, and you can rest assured that we're constantly working to make life easier and better for you and your family.

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Winner of 2004 EPA award for protecting the Earth's ozone layer.

high performance  
spray foam offers more

  
**NCFI**  
POLYURETHANES  
A whole new comfort level, for you and for the world.