

# A Whole New Story:



**InsulStar® and Sealite™** add energy efficiency and comfort to an historic American home.

## PROBLEM

- > 1811 house needs major renovations to improve energy efficiency
- > Lack of space in walls makes adding insulation difficult



The Joseph Story House in Salem, Massachusetts is an Historical Landmark built in 1811 for Supreme Court Justice Joseph Story. The new owners, Neil and Martha Chayet, wanted to renovate the home to make it energy efficient and environmentally friendly. Built long before insulation was the norm, the home had none, and adding insulation was a problem because the framing allowed only an inch and a half of space between the brick substrate and the new walls. The job was made even more complicated by the historic nature of the home, which had moldings and other woodwork done by Samuel McIntire, a well-known 18th Century architect and woodcarver.

## SOLUTION

- > InsulStar® is used in the walls, basement and other areas for its exceptional R-value
- > Sealite™ is used in floor and interior walls to dampen sound
- > Use of spray foam allows the home to maintain its historical features and still be energy efficient



The contractor, Anthony Delulis of Delulis Brothers Construction Co, contacted Paul Dion, owner of Closed Cell Structures, an applicator of InsulStar® and Sealite™. "He came to me because he knew that foam had a higher R-value and that he could at least get something into that wall," Dion explains. "The problem was getting something in there that would be flat enough that they could still get the sheetrock on top of it." The architect was also an advocate of spray foam. "The architect was very responsive to using spray foam because he knew the foam would outperform any type of conventional insulation they could put in there," Dion says. The owners were very receptive to the idea of using spray foam, according to Dion. "The team brought spray foam to their attention as an alternative to using rigid board. Foam would be able to penetrate behind some of the moldings and give them a monolithic seal, whereas they would only get about an inch and a half of thickness with rigid foam."



Applying the spray foam was a big job – the home is over 10,000 sq.ft. In the walls, InsulStar® was used "because of the high R-value and because of the moisture barrier, being on a porous [brick] substrate," Dion says. "It was used everywhere. We sprayed all the basement walls and a couple of crawlspaces underneath the living space." Sealite™ was also used, "primarily as a sound barrier between the floors and separating adjacent walls of different rooms, like bedrooms and bathrooms."

The historical nature of the home added to the difficulty of the job. "There were a lot of very-difficult-to-get-at window box type moldings that had to be preserved because the National Historical Society wanted them in there," Dion explains. "We had to do some cutting of those panels and then spraying behind them and then putting the panels back. The challenge was trying to make it energy efficient while keeping as much of the original structure as possible." But in the end, that's exactly what they accomplished.

## RESULTS

- > Home built in 1811 now has energy efficiency demanded of 21st century living



With the addition of spray foam insulation and a variety of other energy efficient features (a new geothermal heating system, new windows), this home that was built in 1811 has been brought into the 21st century. "It's going to be Energy Star rated and they're in the process of LEED qualification," says Paul Dion. And the Chayets aren't the only New England homeowners turning to spray foam insulation to save energy. "Energy is, right now, at the forefront of everybody's thinking," Dion says. "My phone is ringing off the hook with people who want me to come in and look at their house and find out how we can make it tighter." Meanwhile, spray foam has already helped the Joseph Story House begin a whole new chapter in its long history.

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



# About InsulStar® and Sealite™



InsulStar® is a 2.0 lb/cu ft high density, closed-cell spray polyurethane foam (SPF). Sealite™ is a 0.5 lb/cu ft low density, open-cell SPF insulation. Used in different situations depending on specifications and needs, each product is applied as a two-part liquid foam that is sprayed in place and quickly expands to fill all gaps and voids to walls, ceilings, attics, or floors. Then, the foam 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 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 above R 6.4 per inch, compared to fiberglass batt at R-3.5. Its ability to stop air infiltration and eliminate convective looping saves 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.

## COMFORT

The closed-cell, fully adhered structure of InsulStar® forms an air 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.

- > 0.5 lb/cu ft low density, opened-cell spray polyurethane foam
- > R-value above R 4 per inch
- > Saves 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 noise-reduction qualities

## EFFICIENCY

Sealite™'s R-value is above R 4.1 per inch, compared to fiberglass batt at R-3.5. It offers exceptional insulating power that can reduce energy consumption and save on monthly power bills.

## GREEN

Sealite™ foam insulation is a two-part liquid formulated from renewable agricultural resources that is sprayed in place with an environmentally friendly water blown agent.

## COMFORT

The opened-cell liquid quickly expands filling all gaps and voids, and cures to form a fully adhered, solid, monolithic insulation envelope. Sealite™ forms a highly effective air barrier that seals the walls to prevent air penetration and block outside noise pollution, creating a quieter home. It is blended with an anti-microbial ingredient to inhibit mold, mildew and bacterial growth. Sealite™ will not settle, shrink, or deteriorate, and it's guaranteed to retain its R-Value and noise-reduction qualities over the life of the structure.

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

