



## InsulStar® High Performance Insulation: a SuperStar in Bay Area Home Renovation

High-performance NCFI Polyurethanes Spray Foam insulation enables spectacular energy cost savings

### PROBLEM

Patrick Ward was renovating a 3,500 sq. ft. "Italianate"-style Victorian in Benecia, CA that had "a great location and good bones." But he was running up \$500 monthly heating bills in winter. "The downstairs heater wouldn't even heat the upstairs," he says. "We'd wake up and be able to see our breath."

Ward had restored a smaller house before – around 1,100 sq. ft. – and installed fiber insulation. "I wound up with buyer's remorse. The insulation didn't really help much."

He realized that insulation was going to be a major decision, and resolved to do his homework. Since most Bay Area contractors only work with fiberglass, he encountered a frustrating lack of knowledge about alternative insulation options. So Ward hit the internet. His online research and prior experience identified several areas of concern:

- Energy costs are rapidly rising
- Spray Polyurethane Foam (SPF) is more expensive on the front end but more efficient in the long run
- There aren't many contractors on the West Coast who install closed-cell SPF
- SPF's high R-value per inch allows more insulation in compact spaces
- Closed-cell SPF would provide a moisture barrier
- Closed-cell SPF strengthens building assemblies and offers added resistance to earthquake damage

### SOLUTION

Ward's online research eventually led him to NCFI's InsulStar and the contracting expertise he'd been looking for in American Services Company (ASC) of Dublin, CA. Ward looked at other options, and in the end was won over by a couple of key points of difference. "That's very important," says Ward, "especially when the product you're using doesn't have a large manufacturer presence in your area."

The value of that support became clear almost immediately, when NCFI's Account Manager showed up on site to make sure that everyone's expectations were met. "When they send out a rep like that you know you have the right company," says Ward.



### RESULTS

Ward realized overall energy cost reductions of 88 percent. "After we insulated the upstairs, our energy bills dropped from \$500 per month to just \$160. Now with the downstairs sprayed it's under \$60 per month." While these results aren't typical – InsulStar usually saves up to 40 percent – Ward is thrilled with how quickly his investment is paying off.

They also noticed a dramatic improvement in the comfort level. "You could feel it just walking around in the house," says Ward. "It didn't matter where you were. There's no air flow or infiltration issues."

As expected, InsulStar has addressed Ward's concerns about moisture-related problems, and the family is also pleased with the product's noise barrier properties. "My wife remarked at how quiet it was right away. The contractor told us to expect noise reduction. But it was surprising how quiet it really was."

The Wards are ecstatic with InsulStar. The performance of the product has met or exceeded their expectations on all fronts, and NCFI's commitment to service surpassed anything he could have anticipated.

For more on the Ward house project, visit the project blog at [campingwithamortgage.blogspot.com](http://campingwithamortgage.blogspot.com).



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## About InsulStar®

InsulStar is a high density, closed-cell spray foam insulation 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. The resulting insulation barrier offers many benefits that standard fiberglass insulation cannot claim.

**Efficiency.** InsulStar's R-value is about R-6.8 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.

**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.

**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 ODP. 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 a low-permeance air seal that blocks air infiltration, noise pollution and water vapor movement. In most cases, the need for additional air barriers and vapor barriers is eliminated. By controlling water vapor, condensation will not occur, thus eliminating the moisture to support mold growth. Additionally, InsulStar is blended with an anti-microbial to inhibit mold, mildew and bacterial growth.

## Technical

InsulStar is a nominal 2.0 lb/cu ft density, closed-cell spray polyurethane foam (SPF) that provides higher R-value per unit thickness than can be achieved with standard fiberglass insulation. SPF is produced from two specially formulated liquid components, which are precisely metered, heated, and pumped through pressure hoses to a mixing nozzle. The composite liquids are sprayed onto the surfaces to be insulated where it reacts, expands and cures to form a fully-adhered, seamless, structural, solid insulating blanket.

## 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 1963 to make your world a more comfortable, secure, affordable place to be. In fact, our products touch millions of lives each day – we're the company responsible for so much of the comfort, safety, and convenience that you take for granted. But even if you aren't aware of us, rest assured that we're very aware of you, and we're constantly working to make life easier and better for you and your family.



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