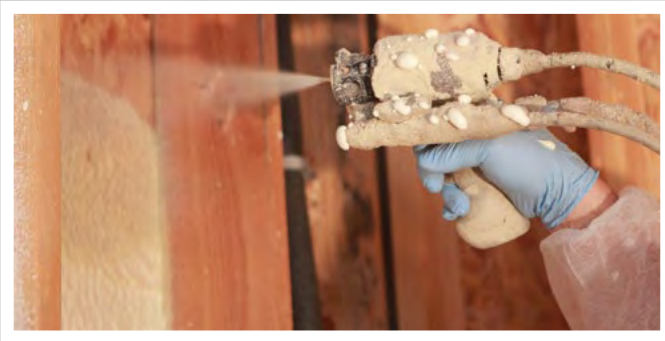




# Spray Polyurethane Foam Insulation PROJECT CASE STUDIES



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# More Than a Mansion!

SPF Takes Georgia Model Home To New Heights

*By Jack Innis*



When SPF contractor and distributor Dale Ledbetter heard about a 15,000 square-foot mansion being built as a model for a series of 27 custom homes in northern Georgia's Blue Ridge Mountains, he knew he had to get involved.

This project would be one of those rare instances where an SPF contractor could pull out all the stops. From a sealed roofing envelope to an acoustically correct 1,800 square-foot home theater, this job would have to make the owner – and his potential home buyers – fall in love with a product they could not see.

Ledbetter, head of Marietta's Profoam Distribution, heard about the modern mansion after attending a trade show. HeartLand Builders, Inc. had sent a representative to the show, who had returned to the office with a fistful of cards and brochures.

Even though they had already received a great proposal from another SPF contractor, HeartLand invited Ledbetter and Shannon Trigg, owner of Foam Plus, to bid on the job. Staying involved with projects throughout the Southeast, Ledbetter chiefly distributes Profoam products, sets up new contractors, and promotes the spray foam business.

With an extensive background in SPF, roofing, and acoustics – and a burning desire to get involved with this project – Ledbetter and Trigg won the bid on the seven-bedroom, 12-bathroom home by offering a few things their competition couldn't.



*A burning desire to showcase thermal and acoustical SPF insulation led contractor and distributor Dale Ledbetter to put out all the stops for this 15,000 sq.ft. mansion in northern Georgia's Blue Ridge Mountains.*



## A Little AC, a lot of SPF

For the most part, the house's roof insulation seems pretty standard. But this story has a few surprises in store. Since the spec mansion had a heavy slate roof, HeartLand appreciated that the roof's rigid-cell foam (the competing bid was for open-cell foam) would provide extra stability to the framing package.

"That's an extra benefit," says Ledbetter. "You're buying insulation, but you're also getting something that provides extra rigidity to you house."

Once the roof sheeting went down, Trigg was up in the attic, spraying Profoam's Proseal SFC 1.9 pounds-per square-foot, closed-cell polyurethane between the beams and rafters. The low-density foam, using Honeywell's HFC-245a blowing agent, expanded to about three inches throughout most of the house and attic. But the attic had a curious design feature: There were no ventilation cutouts.

"I know this goes against what many builders have been taught, but I've been fighting this for years," says Ledbetter. After growing up in the roofing repair industry and spending nearly a decade applying SPF, Ledbetter has learned a thing or two about roof failure and insulation.

"When shingles fail, it's usually because there is no insulation," Ledbetter says. "The attic is 140o F, the humidity is around 100 percent and the shingles are baking from underneath. They're designed to sit in the sun, not to sit on top of an oven, cooking."

Completely encapsulating the attic creates a static air bubble that goes a long way to keeping the house cool. SPF under the roof prevents more than 90 percent of heat transfer into the attic. Closed-cell foam in the rafters prevents unwanted humidity from encroaching.

"We get calls all the time from contractors who have climbed up into attics we've done and ask if the attic



*Ledbetter and Shannon Trigg, owner of Foam Plus, hope their unique combination of product and talents helps them win a future bid for 27 similar homes. Profoam's Proseal SFC 1.9 lb./sq.ft, closed-cell polyurethane between the beams and rafters adds dimensional stability.*

was air conditioned," Ledbetter says. Often, the attic is barely warmer than the house. Customers fearful of moisture buildup can rest easy, he says.

"Another important factor in keeping moisture levels down throughout the structure is to properly downsize the air conditioner. When a big AC unit comes on, it cools the house rapidly, but cycles back off quickly. The unit's dehumidifier doesn't get a chance to pull much moisture from the house. A smaller AC unit runs longer and pulls the humidity levels down," suggests Ledbetter.

Using this design, Ledbetter has weaned numerous clients off of humidifiers, dehumidifiers and fresh-air exchangers. "If the AC unit is sized correctly, that's all you have to have. Compare this to putting a power ventilator in the attic. You turn that on, and it creates negative pressure in the attic, which pulls the conditioned air out of the house through the ceiling. Plain and simple, that's just how it works. We're not guessing: we've got eight years of experience with this," he says.



## Can you Hear Me Now?



*The basement features an AVI-designed home theatre and video library. In addition to rigid cell foam, Ledbetter and Trigg teamed up to make the 30' x 60' home theatre acoustically correct with Profoam's Proseal and their .5 lb. water-blown Profill SHS.*

Virtually no expense was spared in constructing the home. The spec mansion featured a Rinnai tankless water heater, Boiseengineered silent wood floors, Solartube skylights, Viking appliances, and an AVI-designed home theatre and video library. Ledbetter and Trigg teamed up to make the 30-by 60-foot home theater acoustically correct.

SPF contractors can help homeowners gain an acoustical edge by understanding how sound travels, Ledbetter believes. With schooling in acoustical engineering and a few sound-studio construction projects under his belt, he feels that sound attenuation is fairly basic, provided foam contractors don't promote their products as soundproof.

High-frequency sounds tend to travel in a straight line and die. Bass sounds bounce around and move throughout buildings.

“If you've ever walked from a distance toward an outdoor concert, the first thing you hear is the bass notes. It's the same with bass sounds inside a house. If you put a reflective product up on the wall, the bass will bounce around the room and sound muddy. You don't want to have a fantastic sound system that doesn't sound right or that you can hear in another part of the house.”

Since the mansion's media room is in the basement, Trigg sprayed three inches of 1.9-pound rigid foam on the subterranean room's ceiling and walls. The ceiling then received an additional five inches of Profoam's 0.5-pound water-blown Profill SHS.

Beyond adding to the structure's strength, the composite foam layer will reduce reverberations passing through. “We shouldn't get a lot of bass bouncing throughout the room, and we should be pretty successful stopping sound from seeping out of the room. If the sound passes through the closed-cell, we're hoping it bounces off the rigid foam,” Ledbetter explains.



*Trigg sprayed 3" of 1.9 lb. rigid foam on the ceiling and walls, followed by 5" of .5 lb. open cell foam. If sound passes through the open cell, it should bounce off the rigid foam.*



*By making two passes - the second after the first pass has risen - Trigg's applicators allowed the foam more room to expand to its fullest, thereby using less product.*



Ledbetter cautions SPF contractors against making too many acoustic promises.

To get proper acoustics, you have to frame the structure entirely differently. “We get calls all the time asking if we can soundproof something, and we say no,” he says. “Unless the structure itself is built to stop acoustic travel, you’re not going to be able to stop the sound with foam. The customer’s going to call you back, and you’re going to wind up giving them the job.”

### Future Foamers of America

A few years ago, Ledbetter and his partners came to a business crossroads. They were handling as many spraying jobs as they could, distributing their own foam, and helping a growing number of contractors get started in the SPF business. Something had to give! They decided to set down their spray guns and focus on creating a network of SPF contractors.

The move has paid off. So far, Profoam Distributors has set up 47 contractors in protected areas throughout the country.

Their basic program includes training and a turnkey SPF rig based on an 18-foot custom-built tandem axle trailer. Trigg, who was introduced rig to service his greater Atlanta-area territory.



*With the home well encapsulated in SPF, it was important to downsize the air conditioner. Bigger units in well-insulated homes tend to not run long enough to allow humidifiers to properly remove moisture.*

Ledbetter hopes another move he made recently pays off. When he learned that the earlier competing bid on the Georgia mansion was sounding sweet to the builders, he decided to comp the foam for the project with the hope of landing the other 27 homes.

What else are you going to do when you just have to get involved?



# Atlanta Area Builder & Remodeler Choose Profoam to Solve Insulation Problems

**Contractor: Dick Dunn & Associates, Inc; Atlanta, Georgia**

Atlanta — Dick Dunn of Dick Dunn & Associates, Inc., and Atlanta-based builder of custom homes and town homes, has been involved in residential real estate and construction all his life.

“As a boy, I ‘scrapped out’ for my dad. I cleaned up the construction debris left by the tradesmen in the houses my dad was building. During summers, I worked with the crews,” says Dunn.

When Dunn began building houses for his own company, he installed the same insulation system everyone else was - glass fiber batts. But experience suggested there might be a better product. Says Dunn, “There was a house we renovated. The section we renovated had been constructed in the late 50’s or early

60’s. The glass fiber batt paper facer had become brittle and was loose from the glass fiber. The glass fiber batt was falling away from the facer and had settled.”

“I’ve always given my customers high end materials and products. I tend to build on the upper end of quality. That’s my reputation.”

“I started using spray-applied polyurethane foam on this project

[‘Old Marietta,’ a subdivision of 15 cluster homes]. The first house was in ’95 or ’96. We installed 1-1/2 to 2-1/2 inches on exterior walls. Most were about 2-1/2 inches. When we have exposure in a vault or knee wall we’ll foam these as well.”

“At first, I was concerned about the additional cost of the spray foam, but the value is so much greater. There’s the lack of opportunity for mold growth, improved sound,



*Magnolia Park, a townhouse community complex by Dick Dunn & Associates*



*Magnolia Park, a townhouse community complex by Dick Dunn & Associates*







Profoam spray applied polyurethane foam insulation is sprayed on as a liquid which immediately foams and rinses in place to fill and seal all the cracks and crevasses in the stud wall cavity. Glass fiber batts are subject to gaps resulting in air leakage, moisture infiltration and reduced R-value.



Proofing the reduction of drafts and the closure of cracks that spiders, bugs and so forth can get in. All of these little things seem unimportant but altogether my customers realize they are getting good value.”

And of course, there’s the energy savings. Continues Dunn, “One of my customers is a retired engineer. He encapsulated his entire house with spray foam. His typical heat bill [natural gas] in the coldest winter months is less than \$100 per month. Typically around here heat bills run \$300 - \$400 for the coldest month. He’s had similar experience with electrical air conditioning: no month greater than \$100. He’s been in his home for 3 years and has already recovered his additional expense.”

“One thing I was unaware about at first: because the foam goes in wet and fully adheres to the studs and sheathing, the foam provides stiffening and strengthening of walls. Especially a balloon wall that goes several stories. It was an unexpected feature and value of the product.”

Danny Feig-Sandoval, of Small Carpenters at Large, Inc. discovered

similar attributes on projects he’s worked on. Small Carpenters at Large specializes in residential remodeling and has been using spray foam since January 2000. Many of the projects on which Danny has used spray foam have been attic conversions to living space. The foam has been applied to the underside of the exposed roof deck to insulate the ceiling of the new living space.”

“We first tried spray-applied polyurethane foam on an attic job,” remarks Danny. “It was amazing. We did the job in January. Once the foam was applied, we could immediately tell the temperature difference. I was pretty convinced at that point.”

“I like the element of structurability the foam provides: there’s more ‘beef’ to it. It feels much stronger, there’s no sound transfer and a lot less bounce to the floor.” Discover what Atlanta builders and remodelers have and see how Profoam insulation will mean more value for you.

Profoam spray applied polyurethane foam insulation is sprayed on as a liquid which immediately foams and rinses in place to fill and seal all the cracks and crevasses in the stud wall cavity. Glass fiber batts are subject to gaps resulting in air leakage, moisture infiltration and reduced R-value.

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