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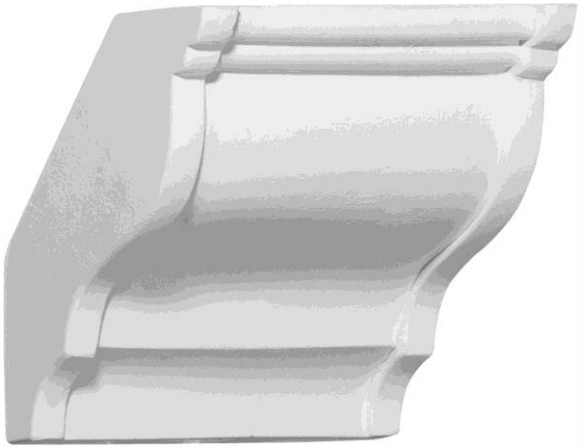
Business Training

Polyurethane Foam Common Uses



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Other Uses of Polyurethane Foam

Flotation Devices

Pipelines

Walk in Freezers

Mine Sealing

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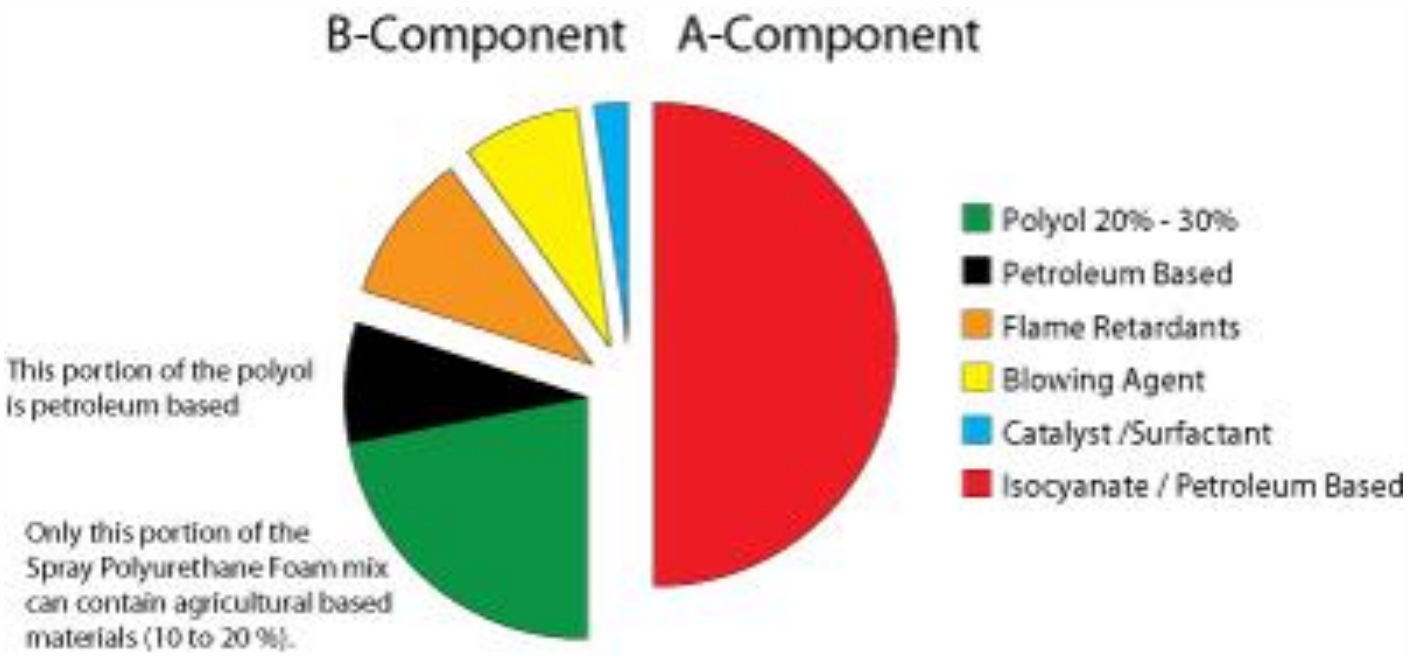
Polyurethane Foam Composition

Resin or B Component: 50%

- Polyols
- Blowing Agent
- Surfactants
- Catalyst
- Fire Retardants

Isocyanate or A Component: 50%

- Known as the Reactor or Hardener



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Evolution of Spray Foam

Open Cell Spray Foam

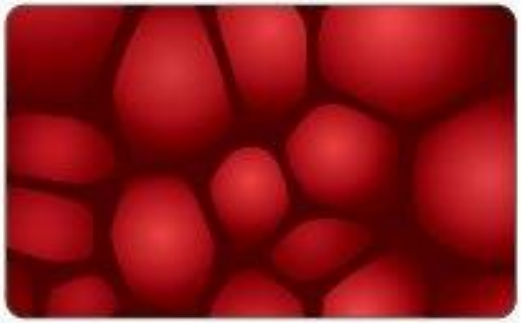
- **Greater than 90% open cell content**
- **Expands approximately 100x its liquid volume**
- **Water is the blowing agent**
- **Soft and flexible to the touch**

Closed Cell Spray Foam

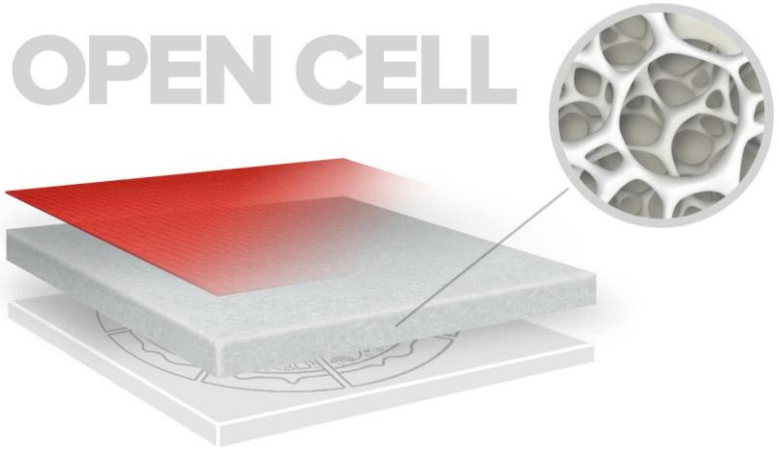
- **Greater than 90% closed cell content**
- **Expands approximately 30x its liquid volume**
- **Honeywell Solstice is the blowing agent**
- **Hard and rigid to the touch**

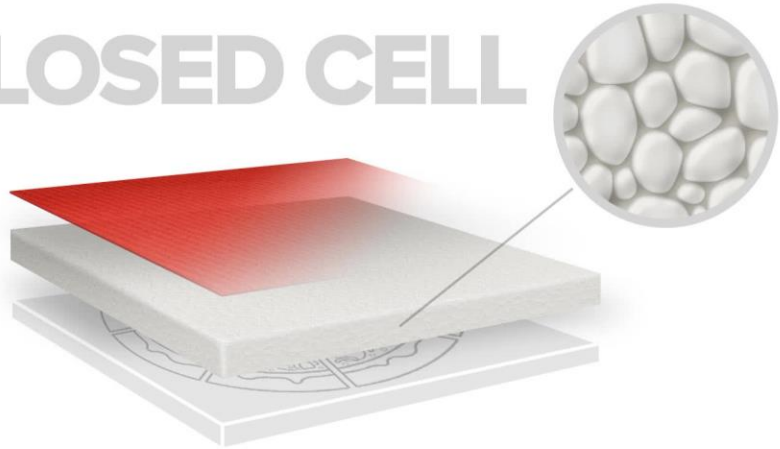
Open Cell vs. Closed Cell Foams

OPEN



CLOSED





*Closed cell sprayfoams have over 1.5 million cells per cubic inch!

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Advantages of Closed Cell Spray Foam

- Has a higher R-Value per inch (2X)
- Is an Air Barrier at 1 inch (ABAA)
- Does Not Absorb Water / Perm = <1 @ 2” (Inhibits Mold & Mildew)
- Can be used as a roofing membrane
- Adds Structural Integrity
- Superior adhesion
- Insurance Discounts (High Wind Zones)
- Inhibits insect & rodent penetration
- Approved by FEMA in Flood Zone
- Approved by IRC for duct work insulation

Advantages of Open Cell Spray Foam

- Material cost is 20-30% Less
- Attic applications are much faster
- Better sound absorption characteristics
- Lower odor in some cases
- Can be sprayed at greater thicknesses
- Can encapsulate roof rafters for a complete thermal break

Insulation Comparison Chart

Insulation Type	*Approximate R-Value per inch*	*Air Barrier*	*Structural Stability*	*Moisture Barrier*
Closed Cell Spray Foam	**7.0**	**YES**	**YES**	**YES**
Open Cell Spray Foam	**3.6**	**YES**	**NO**	**NO**
Cellulose	**3.5**	**YES**	**NO**	**NO**
Fiberglass	**3.2**	**NO**	**NO**	**NO**
Cotton	**3.2**	**NO**	**NO**	**NO**

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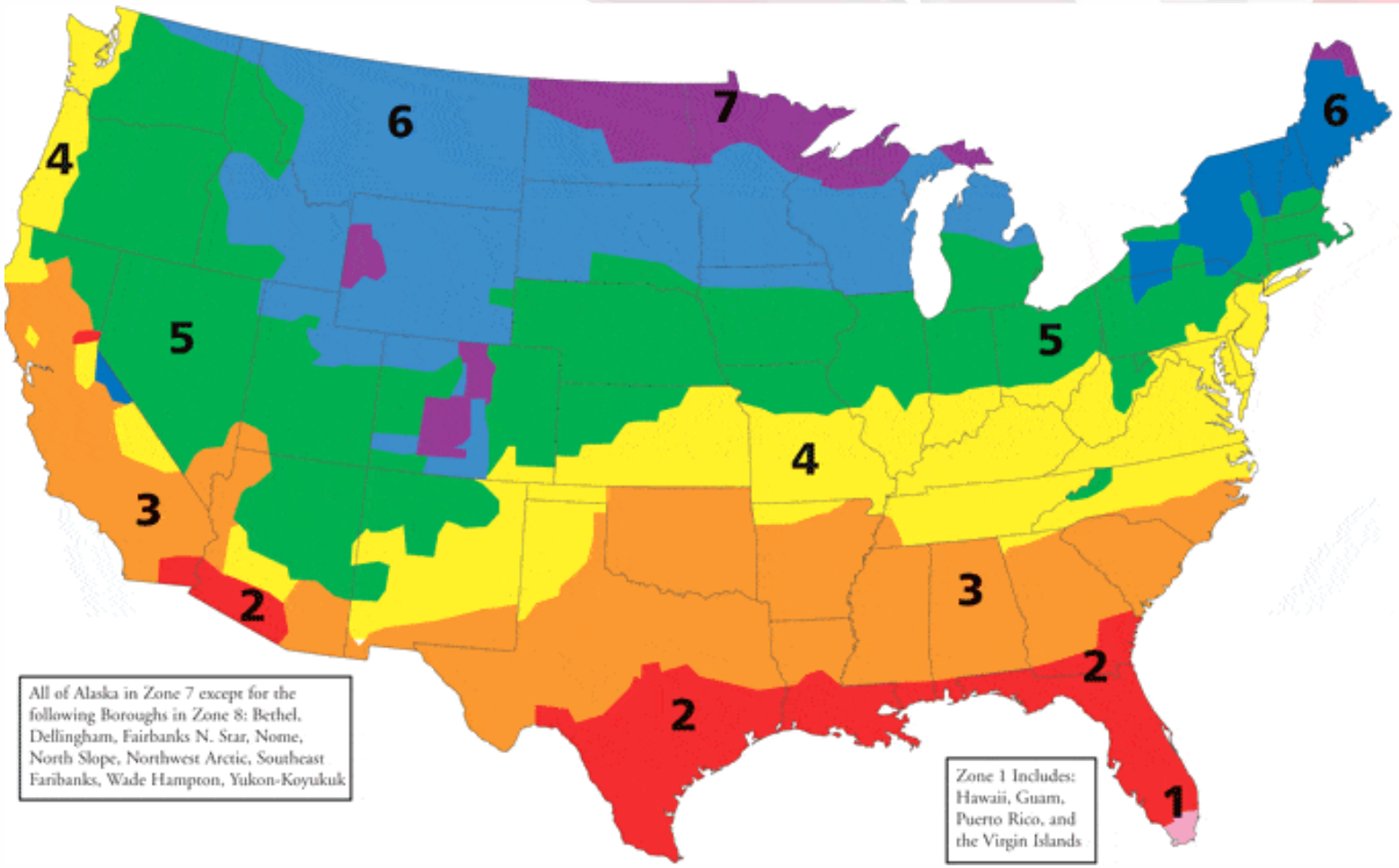
Prescriptive R-Value: Climate Zones



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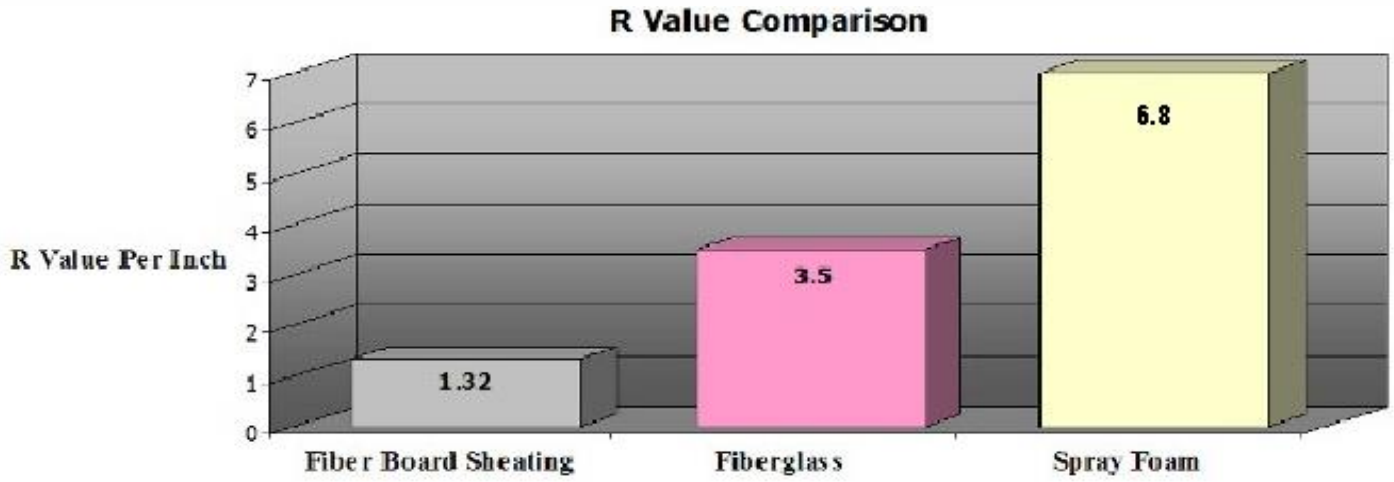
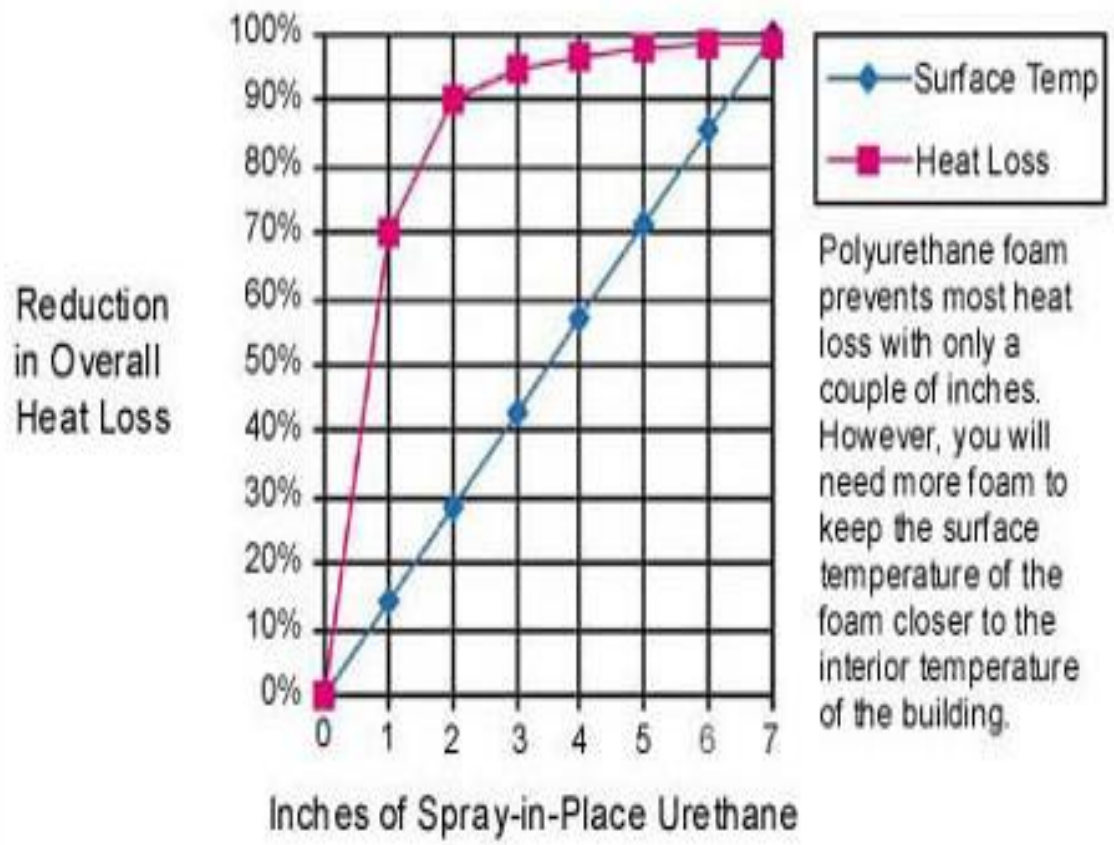
Performance R-Value



As the chart indicates, closed cell spray foam has two times the initial R-Value of Fiberglass insulation. This difference in R-Value/Thermal Performance is increased as environmental conditions vary. For example…

- The R-Value of Fiberglass insulation can diminish as much as 50% with a 40-degree variation in temperature (beginning temperature – 70 degrees F).
- A 15 mph wind can reduce the R-value of Fiberglass up to 25%.
- As little as 5% moisture can reduce the R-value of Fiberglass up to 25%.

SPF Efficiency Graph



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Res Check

REScheck Software Version 4.6.4

Compliance Certificate

Project RESIDENCE

Energy Code:	**2009 IECC**
Location:	**Perkasie, Pennsylvania**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Conditioned Floor Area:	**1,581 ft2**
Glazing Area	**19%**
Climate Zone:	**4 (5863 HDD)**
Permit Date:	
Permit Number:	

Construction Site:
Sample Rd
Perkasie, PA, PA 00000

Owner/Agent:

Designer/Contractor:

Compliance: Passes using UA trade-off

Compliance: **4.8% Better Than Code** Maximum UA: **356** Your UA: **339**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules.
It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	U-Factor	UA
Ceiling: Raised or Energy Truss	1,581	49.0	0.0	0.020	32
Wall front: Wood Frame, 16" o.c.	189	20.0	0.0	0.059	7
Windows F: Vinyl/Fiberglass Frame:Double Pane with Low-E	29			0.400	12
Windows (transom) F: Vinyl/Fiberglass Frame:Double Pane with Low-E	26			0.400	10
Door F: Solid	20			0.500	10
Wall left: Wood Frame, 16" o.c.	432	20.0	0.0	0.059	22
Windows L: Vinyl/Fiberglass Frame:Double Pane with Low-E	63			0.400	25
Wall back: Wood Frame, 16" o.c.	387	20.0	0.0	0.059	15
Windows B: Vinyl/Fiberglass Frame:Double Pane with Low-E	69			0.400	28
Windows (transom) B: Vinyl/Fiberglass Frame:Double Pane with Low-E	27			0.400	11
Door B: Glass	40			0.400	16
Wall right: Wood Frame, 16" o.c.	495	20.0	0.0	0.059	25
Window R: Vinyl/Fiberglass Frame:Double Pane with Low-E	69			0.400	28
Interior Wall to garage: Wood Frame, 16" o.c.	198	13.0	0.0	0.082	15
Interior Door to garage: Solid	18			0.500	9
Floor over basement: All-Wood Joist/Truss:Over Unconditioned Space	1,581	19.0	0.0	0.047	74

Versatility of Profoam Mobile Spray Rigs

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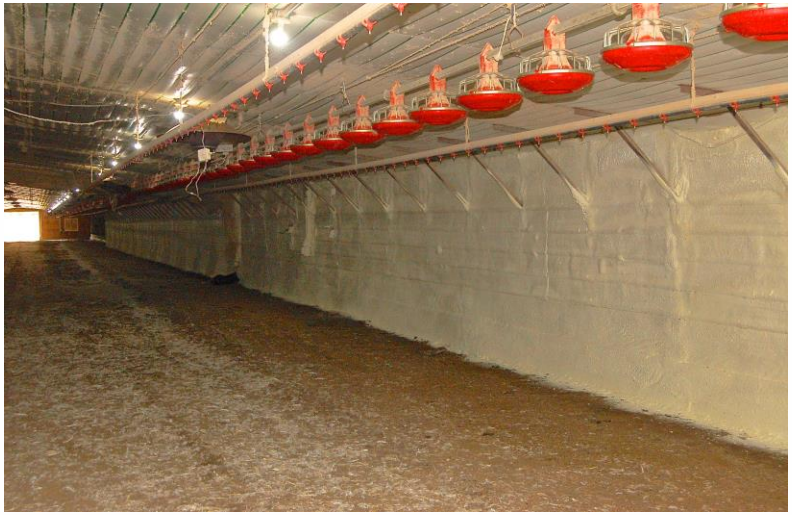
Agricultural Grade Spray Foam



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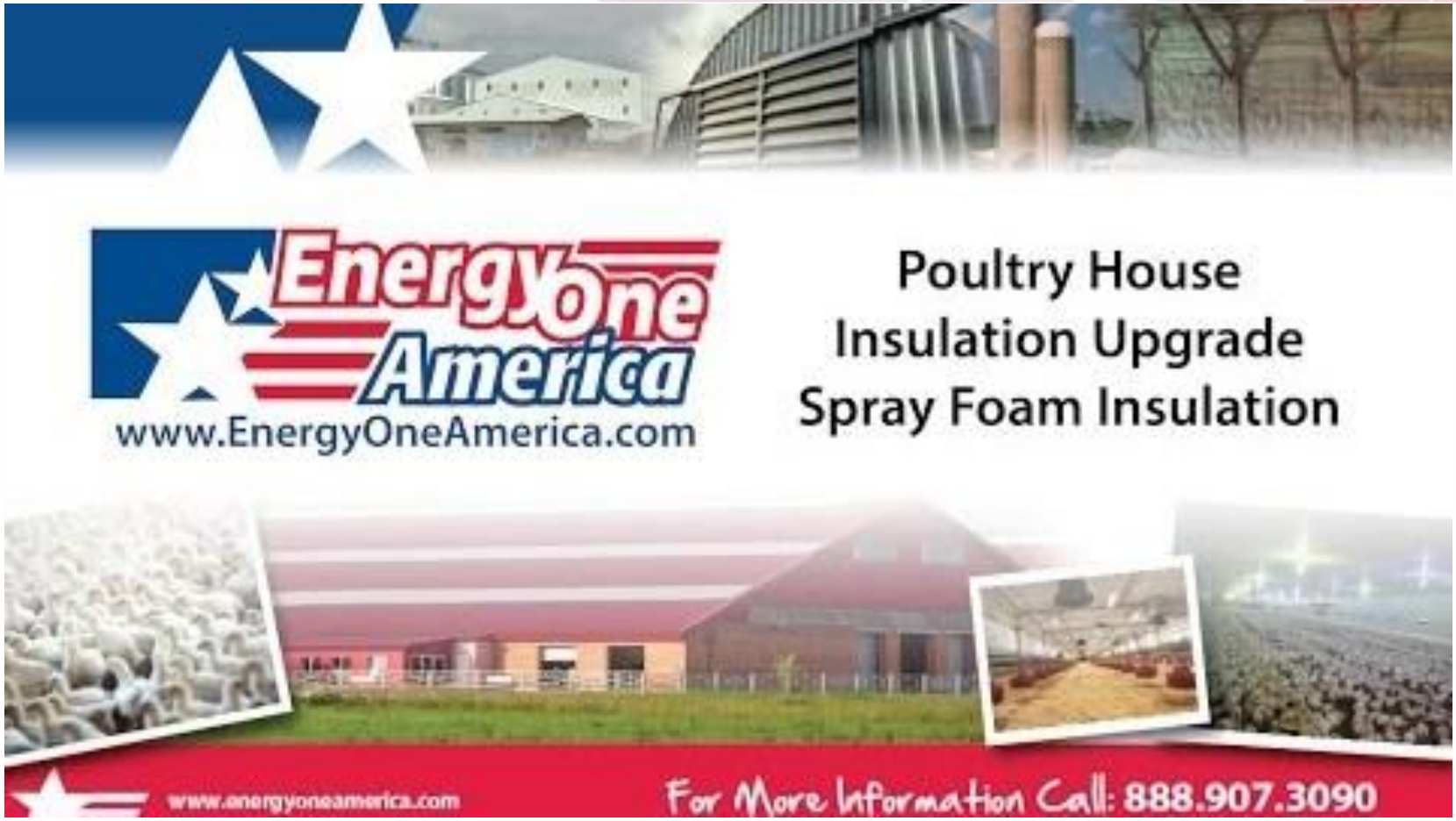
PROAG™
Agricultural Grade Spray Foam



Poultry House Application

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Exterior Commercial Applications

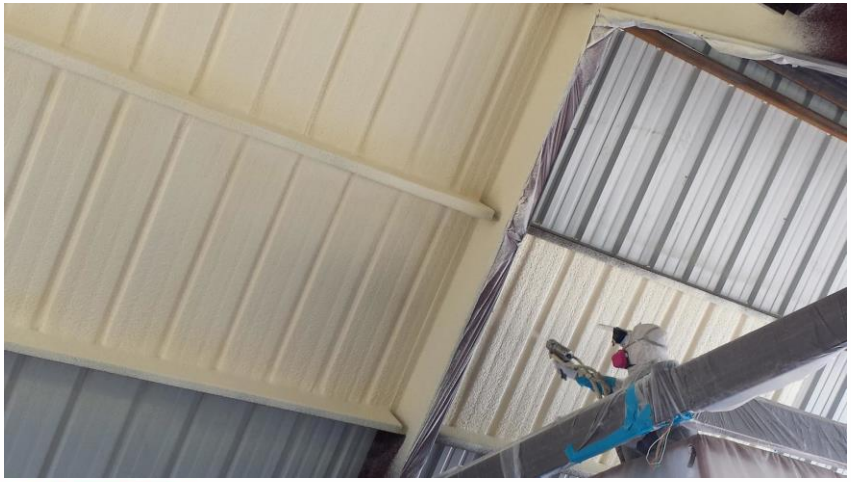
Exterior CMU Block Applications

Metal Building Applications

Metal Building Applications

1.7 PCF SPF Metal Building Application

Metal Building Applications



Metal Building Applications

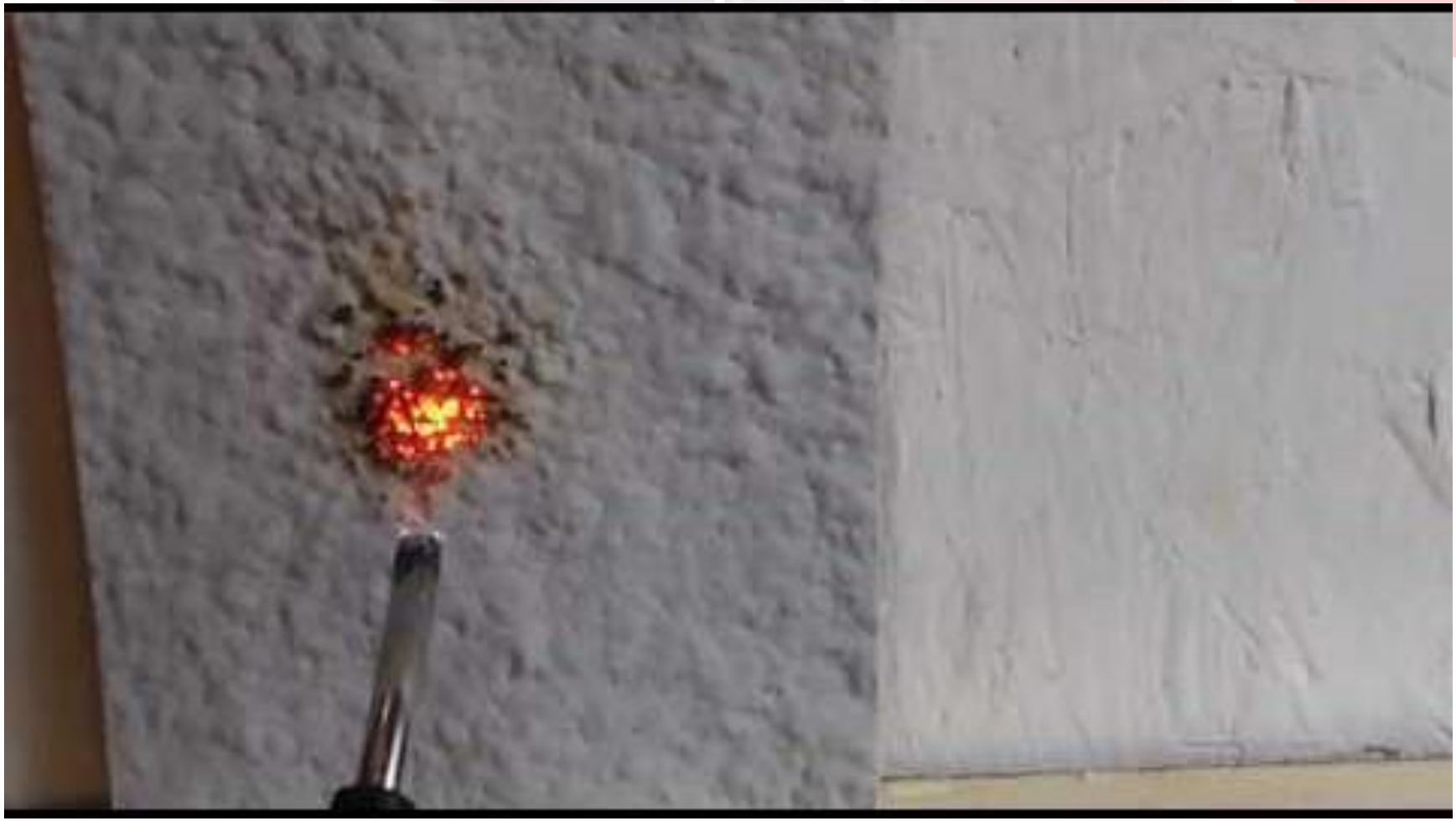
Quonset Hut Application

DC-315 Intumescent Coating

DC-315 is an:

- Ignition Barrier @ 400 sf ft per gallon
- Thermal barrier @ 115 sq ft per gallon

DC-315 Intumescent Coating



DC-315 Over Sprayfoam

SPF Roofing Applications

SPF Roofing Applications

SPF Roofing Application

Robotic SPF Roofing Application

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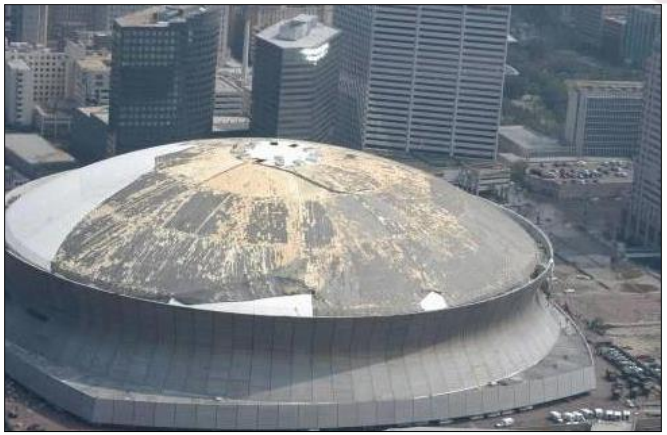
Robotic SPF Roofing Application

Robotic SPF Roofing Application

High-Profile SPF Roofing Applications



The Louisiana Superdome

- 9.7 Acre Roof
- Spray Foam Replacement
- 15 Days to Complete
- Zero Safety Incidents

High-Profile SPF Roofing Applications

TEXAS A&M UNIVERSITY

- **Over 10 Million ft of SPF Roofs**
- **Less Thank a 5 Year Payback**
- **Decades of Leak Proof Performance**

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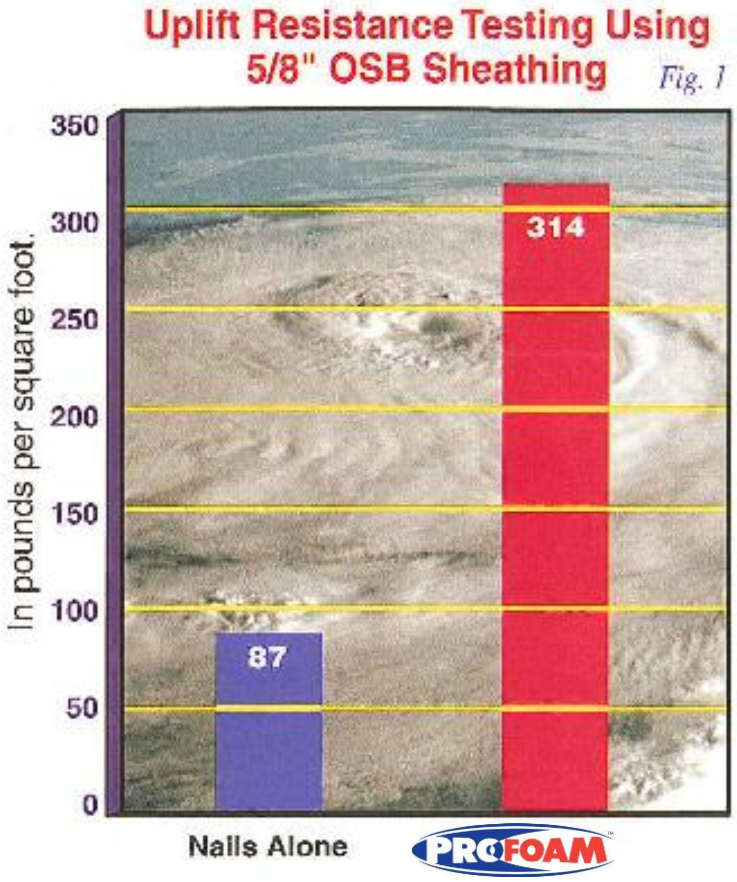
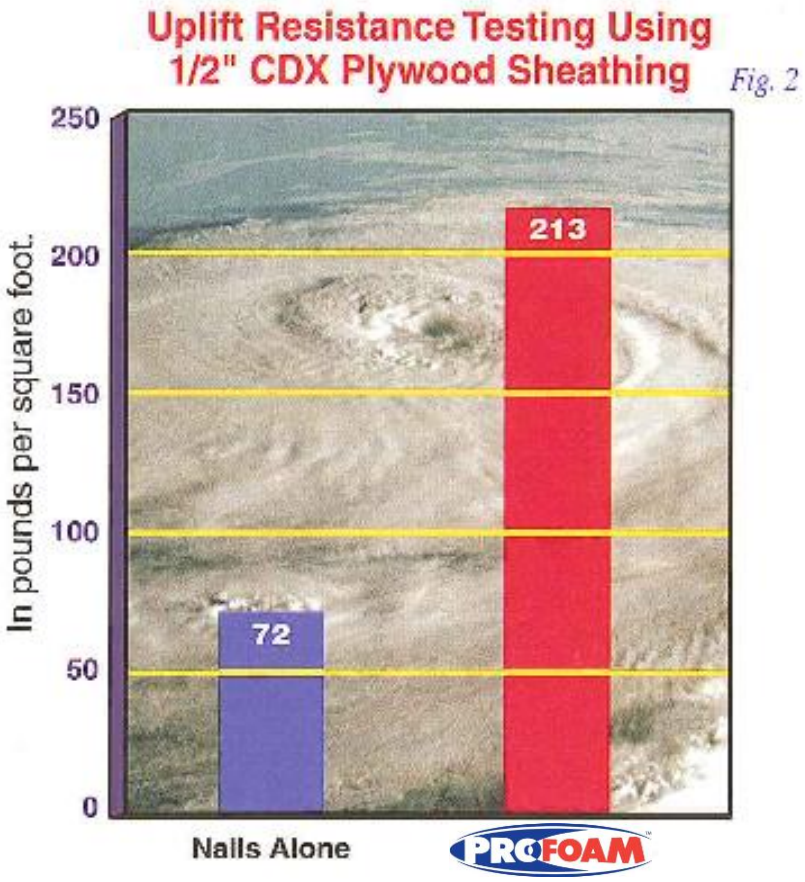
SPF Structural Integrity





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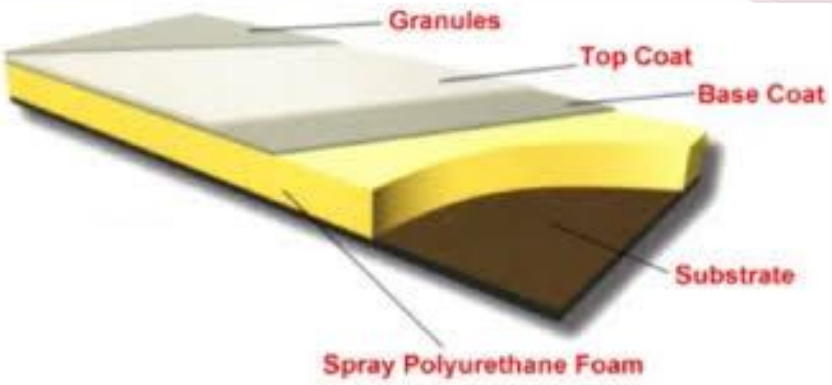
SPF Wind Uplift Test

SPF Wind Uplift Testing

Roof Coating Applications



Roof Coating Applications

Metal Roof Restoration

Roof Coating Equipment

GRACO

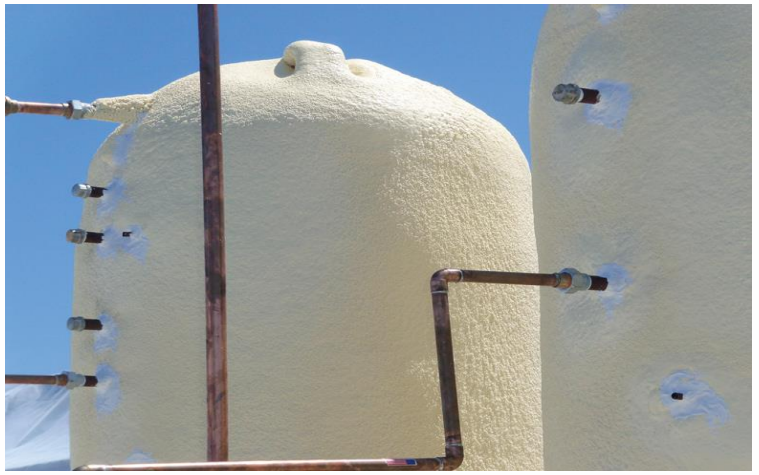
TITAN™

PROFOAM™

Concrete Lifting and Leveling

Concrete Lifting and Leveling

Spray Foam Tank Applications



Spray Foam Tank Applications

SPF Tank Application

Polyurea Applications

Polyurea Applications

Polyurea Coating Application

SPF Injection Foam Applications

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SPF Injection Foam Applications

Open Cell Wall Injection

Aminoplast Foam Injection Foam Applications

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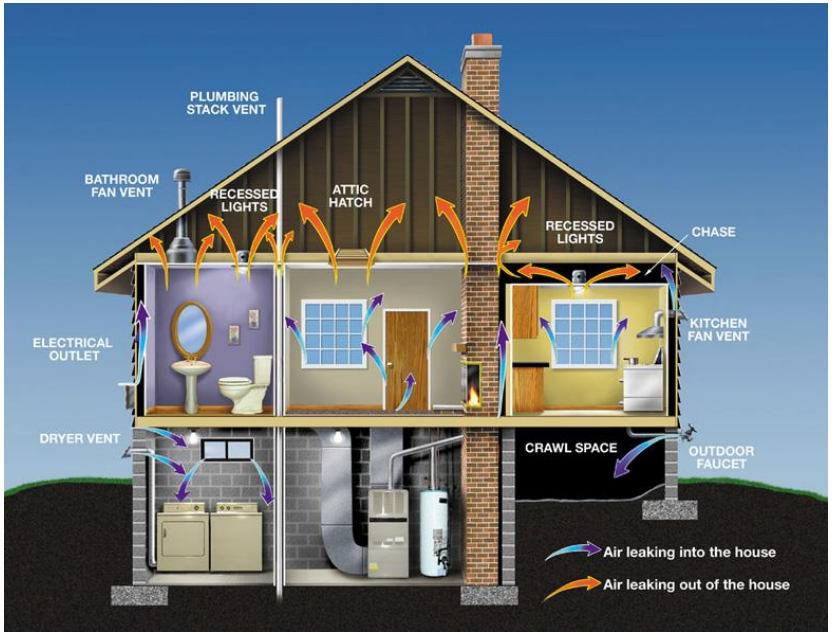
Block Fill Foam Applications

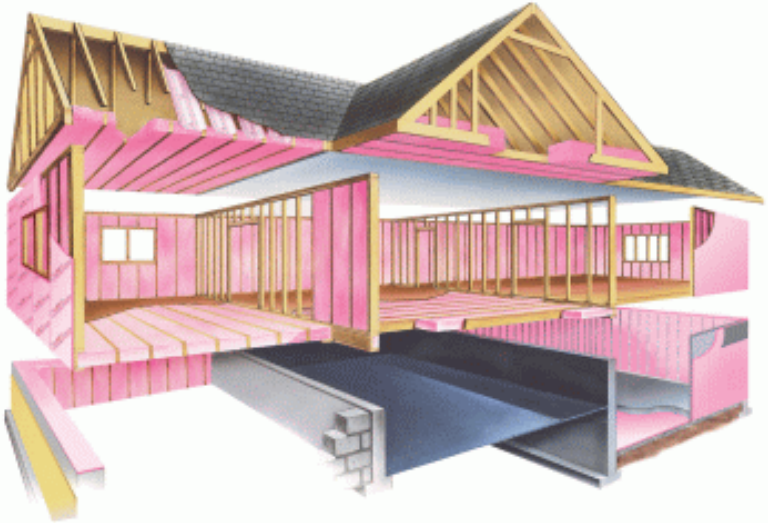
Block Fill Foam Application

Building Envelope

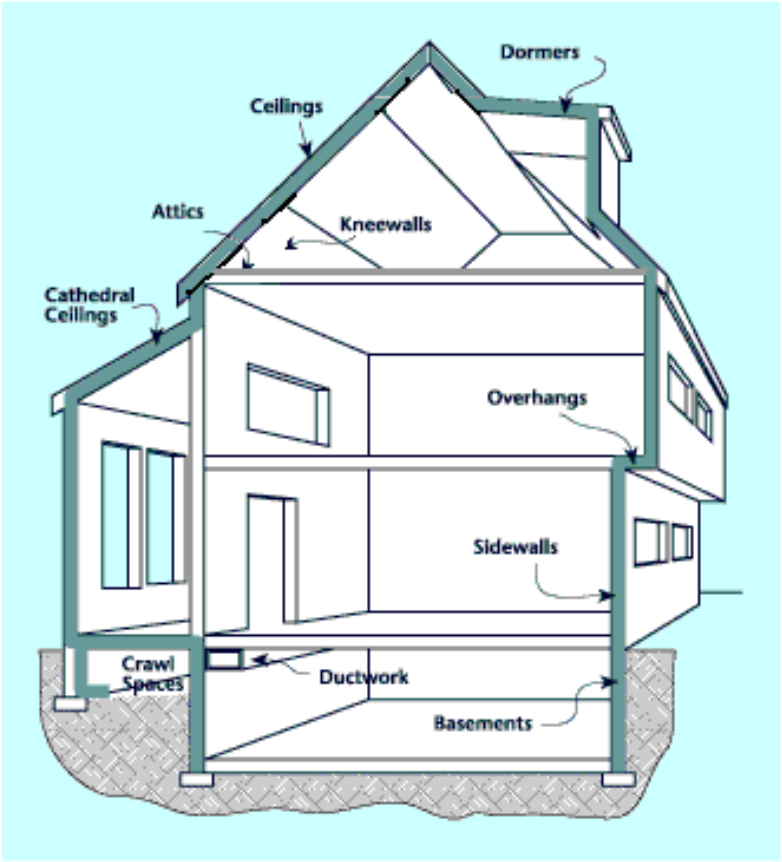
- Creating a Foam Envelope
- Crawl Spaces
- Exterior Walls
- Attic
- Basements
- Sound Abatement



Creating a Foam Envelope



Typical Fiberglass Envelope

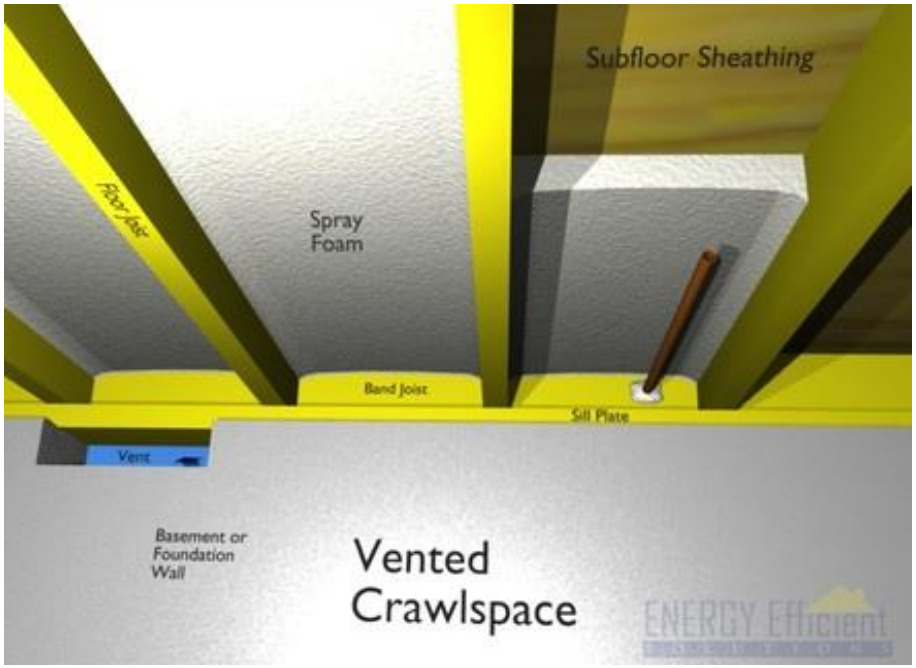


Spray foam Envelope

Spray foam insulation envelopes are created by encapsulating the entire exterior shell of the building.

Vented Crawl Space Application

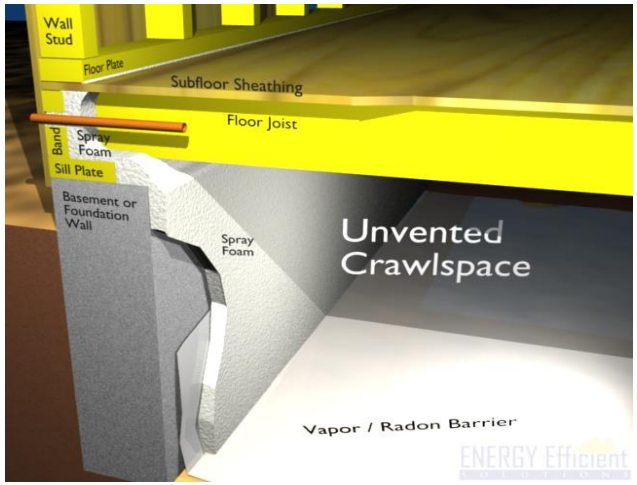
A vented crawl space is equipped with operable vents designed to provide ventilation for moisture control.

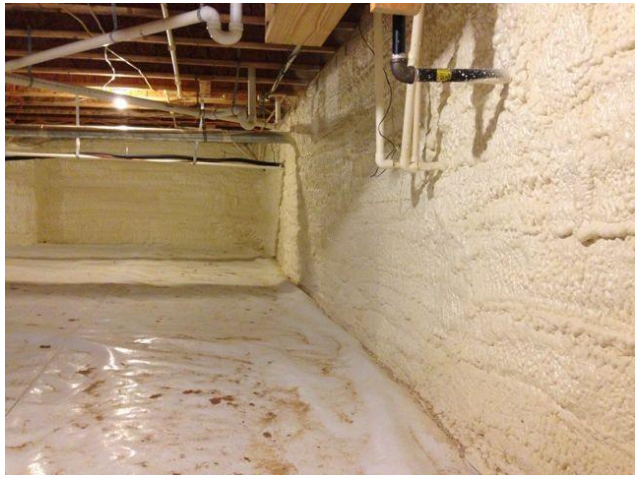


Vented Crawl Space Application

Ventilated Crawlspace Application

Un-Vented Crawl Space Application





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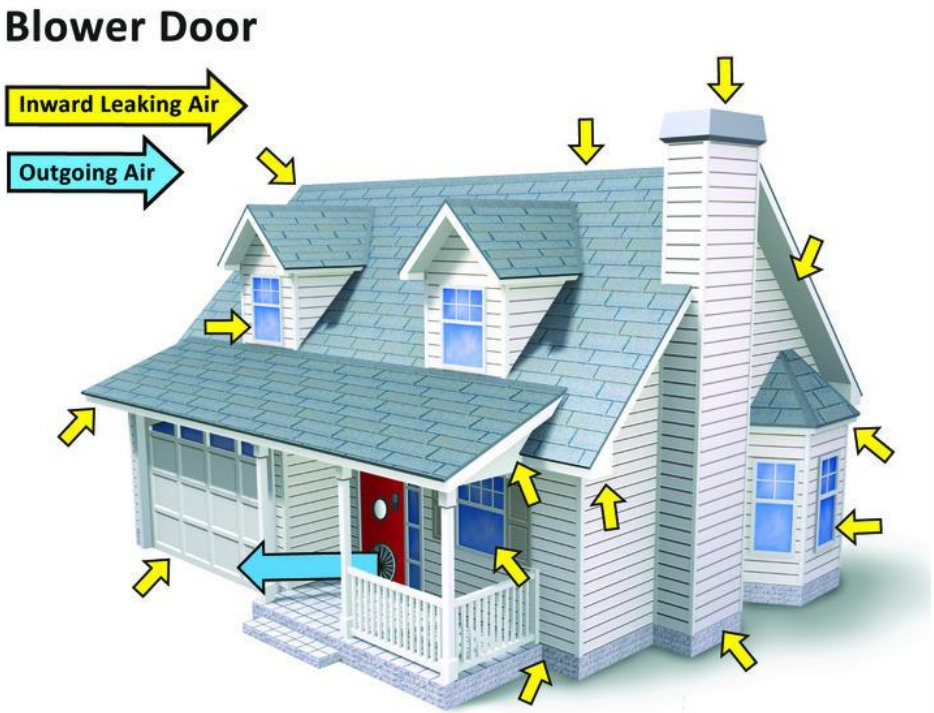
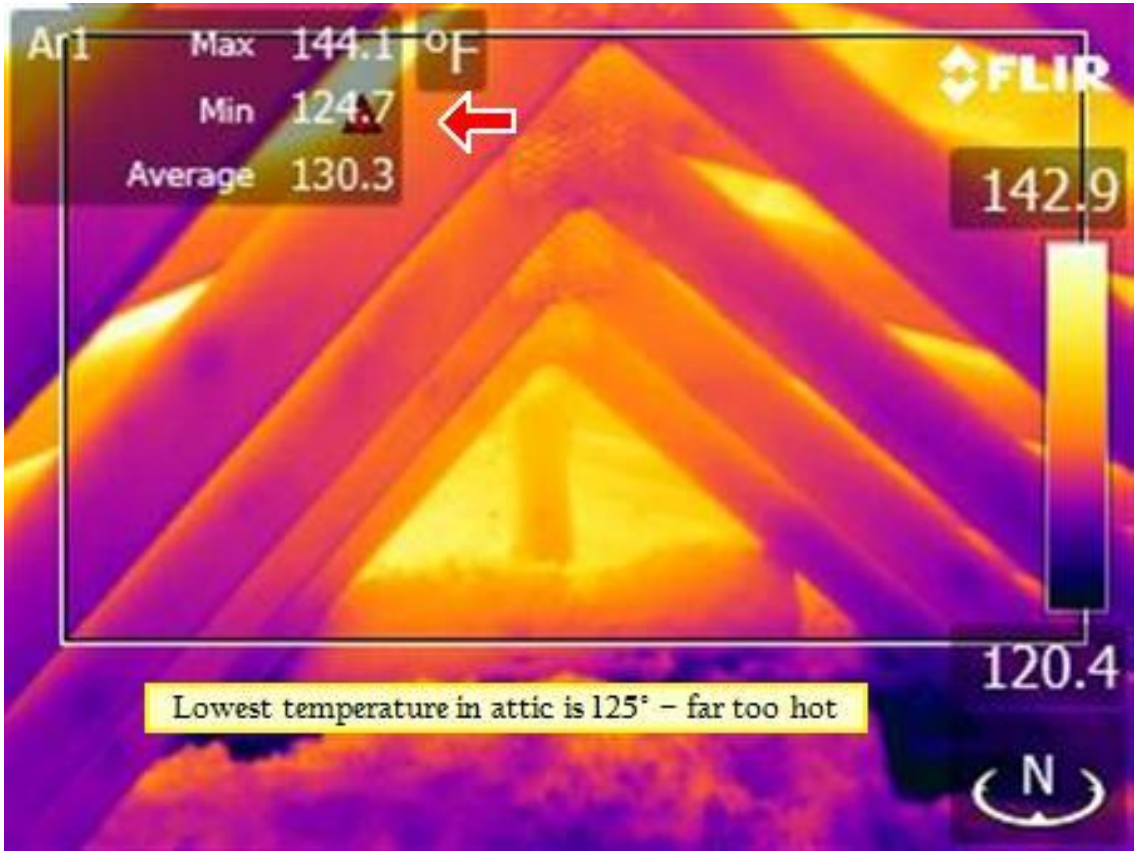
Encapsulated Crawl Space Application

Encapsulated Crawl Space

Blower Door Testing

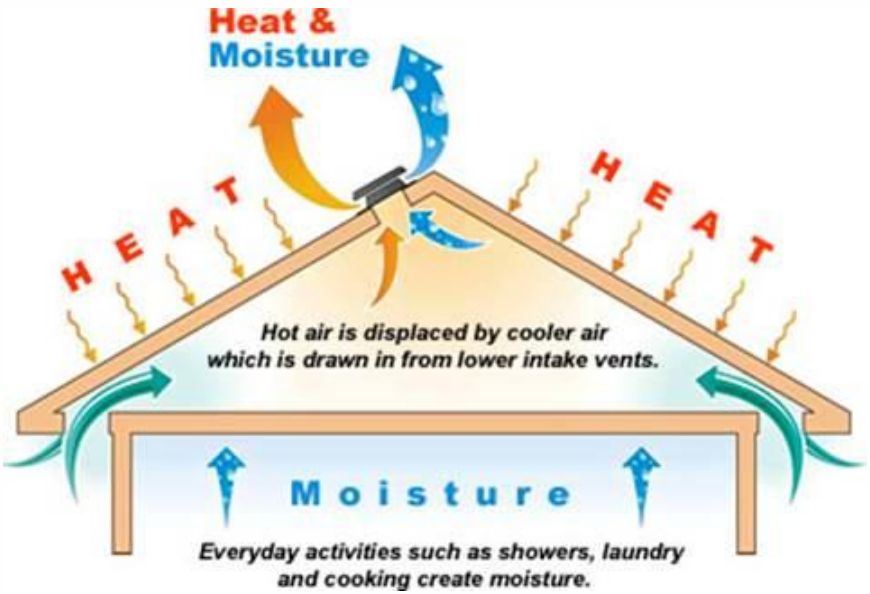


Thermal Imaging



Vented Attic Assembly

Ventilated attic assemblies are equipped with mechanical/non mechanical ventilation devices (soffit, ridge, and gable vents) designed to move outside air throughout the attic assembly in order to reduce the interior attic temperature. A sprayfoam down spray application can be used to keep the attic ventilation open.



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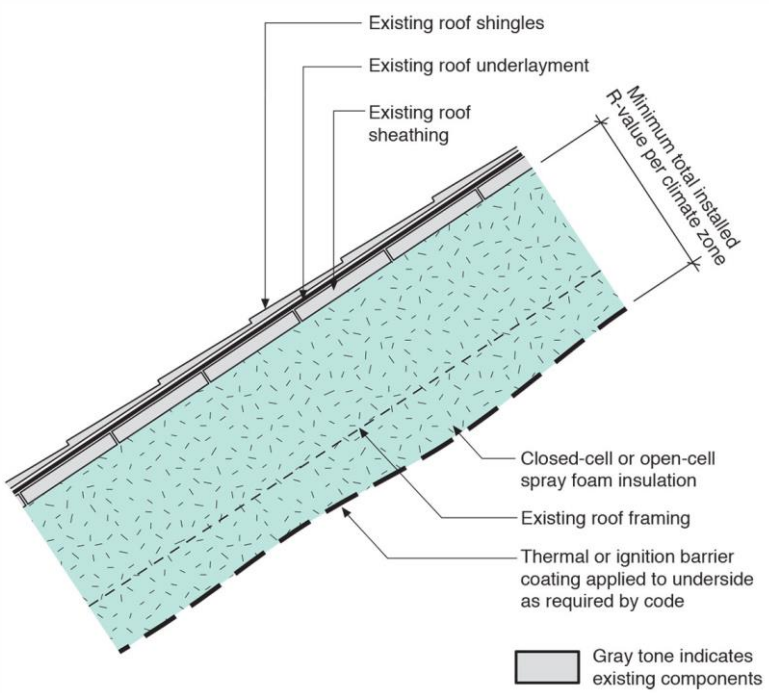
Vented Attic Assembly

Attic Downspray

Un-vented Attic Assembly

Unventilated attic assemblies are created by eliminating all ventilation devices from the attic assemblies and applying Spray foam insulation directly to the roof sheathing, thus creating a semi-conditioned attic.



Un-vented Attic Assembly

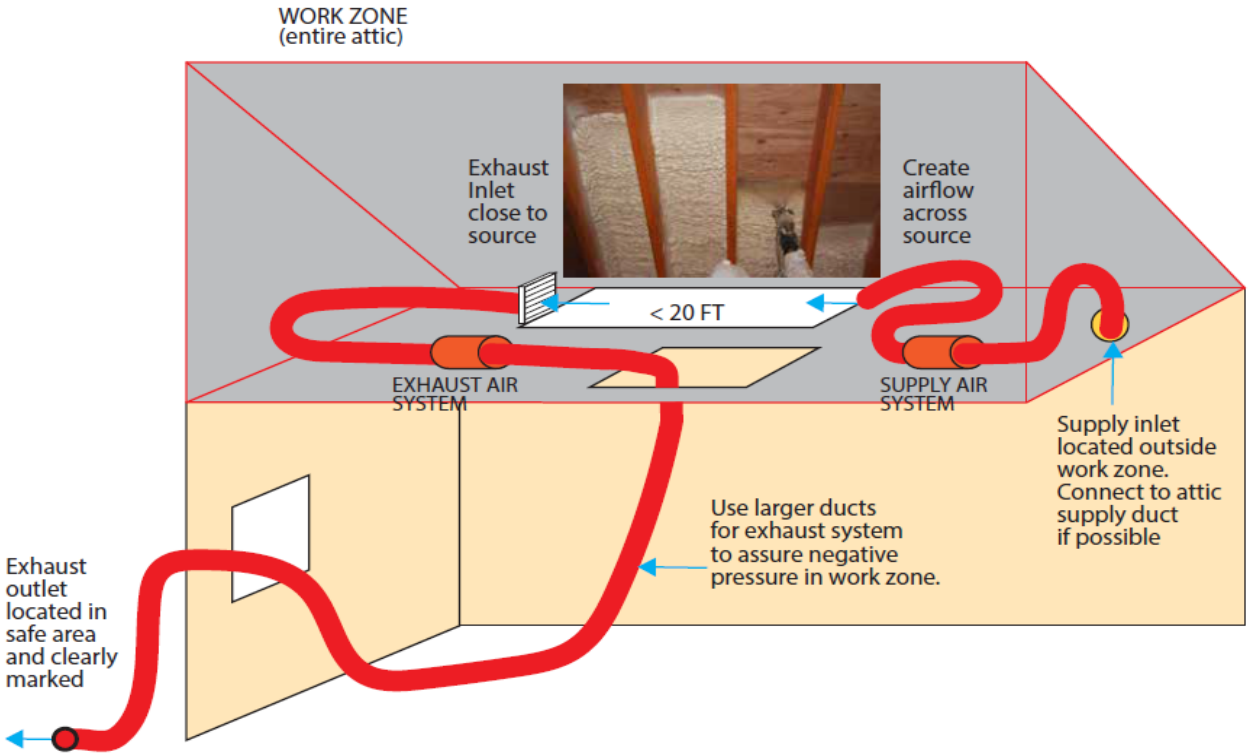
Roofdeck Application

Un-vented Attic Assembly

3” Average of Closed Cell Insulation

6” Average of Open Cell Insulation

Proper SPF Attic Ventilation System



SPF Conforms to Any Architectural Design

SPF Adheres To Any Clean And Dry Substrate

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SPF - HVAC Duct Work Applications

SPF Basement Application

SPF Basement Application

Basement Stud Wall Application

SPF Exterior Foundation Applications

SPF Exterior Foundation Applications

Foundation Waterproofing with SPF

SPF Exterior Foundation Applications

Slab Insulation Application

SPF Sound Abatement

Open Cell Foam

Interior Wall Application

Interior Ceiling Application

Insulation Accessories

insulweb®

PROFOAM™

Insulweb

Insulweb Installation

Insulation Accessories-Cardboard Inserts

Air Sealing

PROFOAM™

Air Sealing

Air Sealing Video

Low Pressure Foam Kits & Can Foam

PROFOAM™

Low Pressure Foam Kits

Foam Kit Application

Jobsite Tools/Equipment

PROFOAM

Jobsite Tools/Equipment

Turbo Cutter Video

Jobsite Tools/Equipment

Jobsite Tools/Equipment

Insulation Vacuum

PROFOAM™

Jobsite Tools/Equipment

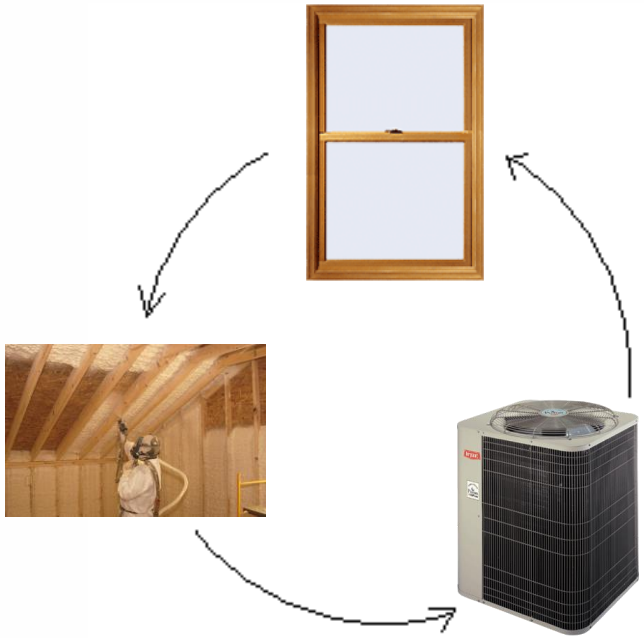
Attic Vacuum Process

Jobsite Tools/Equipment

Vaccum Removal Bags

Building a High Performance Home

A High Performance Home utilizes modern construction practices such as Spray foam insulation to create a building envelope that is energy efficient, comfortable, and healthy. By taking a whole house approach, which incorporates how the building's mechanical systems interact with the structure, will ultimately result in building a high performance home.



Benefit of Proper HVAC Sizing

- Relative Humidity and Temperature create the condition in which we describe as being “comfortable”
- SPF can make the owners task of managing the indoor air quality, Relative Humidity (RH) levels and temperature more consistent from room to room and floor to floor

It is imperative to run a room by room load calculation to determine what size system to install with a spray foamed building. It is essential to properly size the HVAC system when using closed cell polyurethane foam. An oversized unit will not run enough to remove the humidity from the interior of the building, which could lead to diminished comfort. Also, there is a greater likelihood for short cycling of the unit which could result in higher than expected utility costs.

Bigger is Not Better

Estimating

Building Plans-Budget Numbers

Estimating

This is the stage of construction that is ideal for field measurements. The house is framed up and ready for installation of mechanicals.

Estimating

Measuring Devices

Retractable Tape

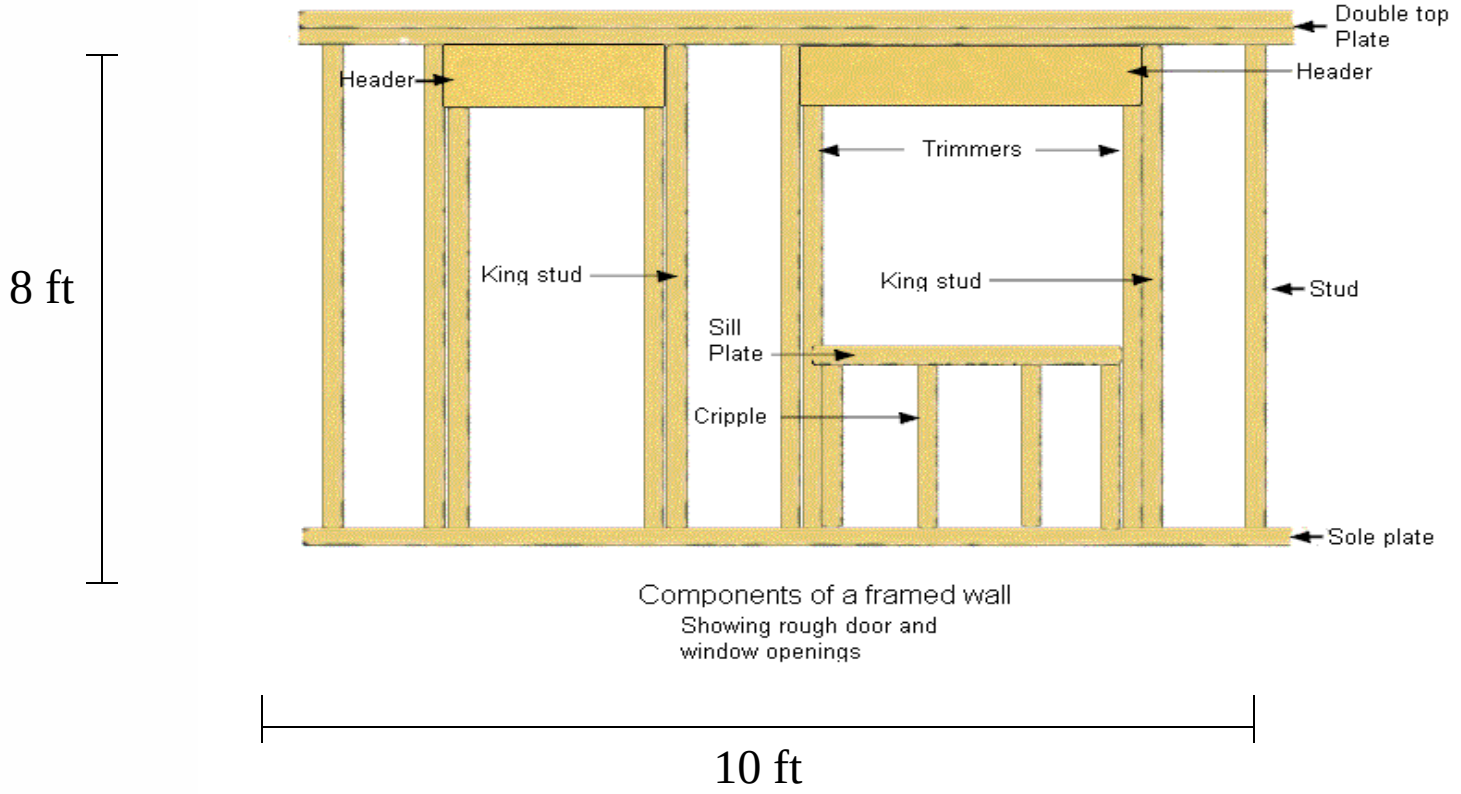
Rolling Measure Wheel

Laser Measuring Device

PROFOAM

Estimating

Determining the square footage of a wall

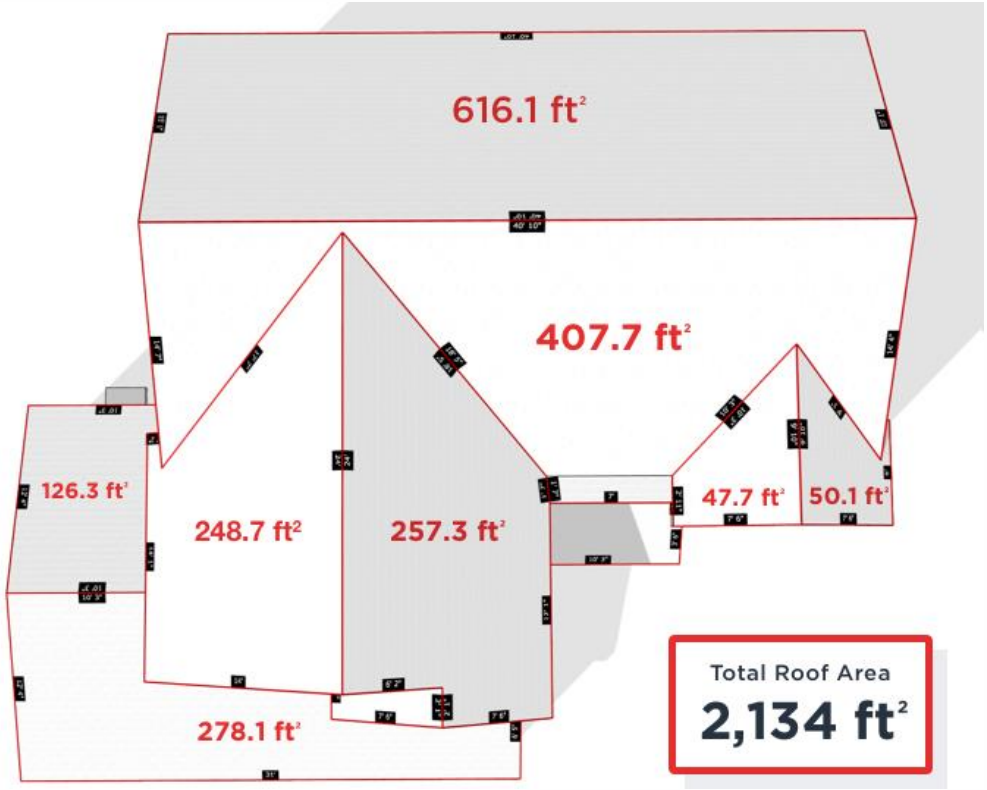


Components of a framed wall
Showing rough door and window openings

10 ft x 8 ft (L x H) = 80 square feet

To determine the square footage of a wall, simply take the linear footage (length) and multiply that times the height. The result is the square footage of the surface area.

Roof Pitch Calculator



PITCH	FACTOR
1:12	1.01
2:12	1.02
3:12	1.03
4:12	1.05
5:12	1.08
6:12	1.12
7:12	1.16
8:12	1.20
9:12	1.25
10:12	1.30
11:12	1.36
12:12	1.41

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Pricing

- Sprayfoam projects should target a minimum of a 50% gross profit (GP)
- Your sprayfoam materials should be 40% or less of the price of the job
- Labor and miscellaneous jobs costs should not exceed 10% of the price of the job
- Specialty projects should be priced as high as the market will bare

Pricing

After determining the square footage of the structure, it is now time to price out the job. Pricing for Spray foam varies from job to job depending many factors:

- ✓ **Coverage Area**
- ✓ **Level of Difficulty**
- ✓ **Environmental Conditions**
- ✓ **Type of Substrate**
- ✓ **Distance to Job Site**

Pricing

Coverage Area

The volume of coverage area is a huge factor in determining the price per square footage of a foam application. Small projects should be subject to a minimum charge and not be determined by typical square foot pricing. Large projects should be calculated at a lower than normal square foot price because the volume of area to be sprayed makes up for the pricing difference. When figuring out what your minimum charge should be, do not forget to factor in your daily overhead.

Pricing

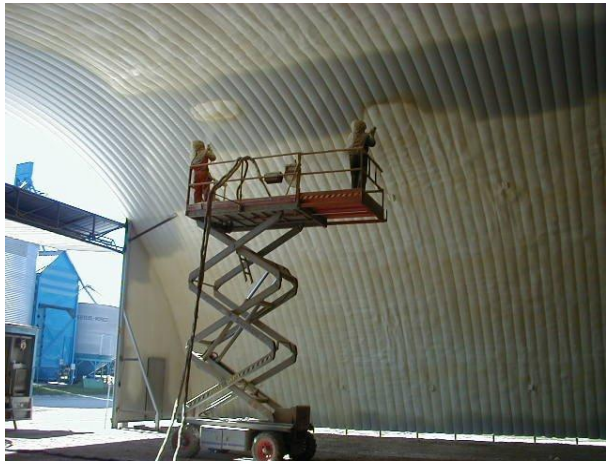
Profoam Material Price List

Product	Description	Retail Price	Weight	Yield	Credentials	Avg. Bd Ft Cost	Average Retail Price	Typical Thickness	R-Value Per Inch
ProSeal	2.0 PCF Closed Cell Sprayfoam	$1,800 Per Set	1000 LBS	+/- 4,500 BD FT	ICC - ES Report and AC377 Appendix X Approved	$0.43	$1.20 Per BD Ft	2" Avg in Walls/3" Avg in Roof Lines	6.8
ProSeal 1.7	1.7 PCF Closed Cell Sprayfoam	$1,900 Per Set	1000 LBS	+/- 5,500 BD FT	Class 1 Rated and AC377 Appendix X Approved	$0.3	$1.00 Per BD Ft	2" Avg in Walls/3" Avg in Roof Lines	7.0
ProFill Plus	.05 PCF Open Cell Sprayfoam (No Agitation Required)	$1,700 Per Set	1000 LBS	+/- 17,000 BD FT	ICC - ES Report	$0.10	$.30 Per BD Ft	3.5" Avg in Walls/6" Avg in Roof Lines	3.5
HybridPro 1.0	1.0 PCF Hybrid Cell Sprayfoam	$1,900 Per Set	1000 LBS	+/- 10, 000 BD FT	Class 1 Rated UES ES Report	$0.19	$0.45 Per BD Ft	3" Avg in Walls/5" Avg in Roof Lines	4.4
ProZone	2.8 PCF Closed Cell Roofing Spray foam	$1,900 Per Set	1000 LBS	+/- 2,700 BD FT	FM and Miami-Dade Approved	$0.70	$1.50 Per BD Ft	1.5" Avg Applied On Exterior Roofs	6.3
Pro AG	2.0 PCF Closed Cell Sprayfoam	$1,700 Per Set	1000 LBS	+/- 4,500 BD FT	Class 2 Rated	$0.37	$1.00 Per BD Ft	1-2" Avg in Metal Buildings	6.6

*Note: Prices are valid for pick up at any Profoam warehouse location. If shipping is required, shipping charges will apply without special approval. Sales tax may also apply in certain states unless customer provideds a tax exempt form.

*Prices valid for December 2019-December 31, 2020

Pricing- Level of Difficulty



PROFOAM

Pricing

Environmental Conditions (Cold)

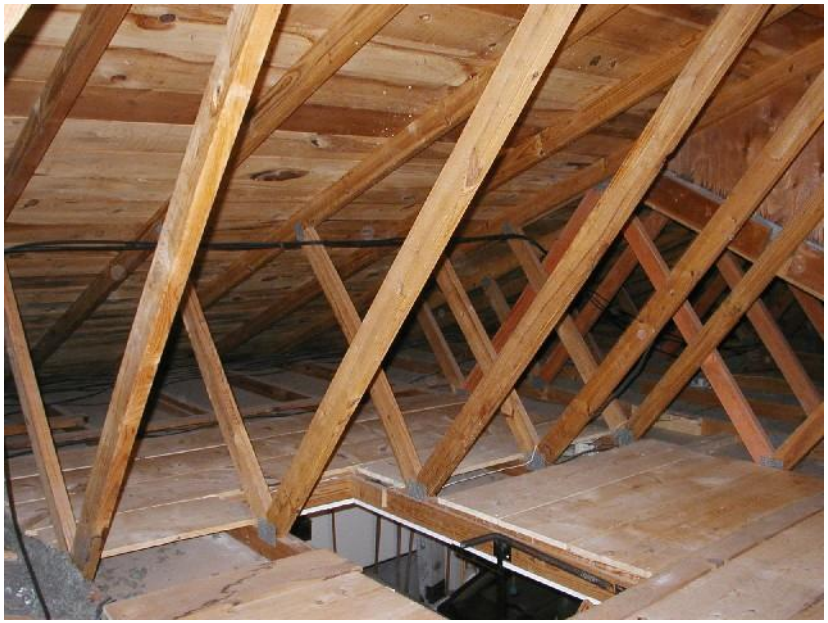
When pricing Spray foam for cold weather applications, be aware of several issues:

1. Product Yield can be significantly less.
2. Adhesion can be adversely affected.
3. Dimensional stability will be challenged.

NOTE: The type of substrate and the substrate temperature will play a huge role in product performance. Cold weather application techniques and practices should be observed.

Pricing

Environmental Conditions (Hot)



When pricing Spray foam for hot weather applications, be aware of several issues:

1. Existing attic applications require increased application pricing because of additional risk and increased time of application due to extreme attic temperatures.
2. Tank applications may also require increased application pricing depending on the surface temperature of the metal. Special primers may be required for the Spray foam application. Tanks that require heating in excess of 200 degrees F need special consideration.

Pricing

Environmental Conditions

Laser Thermometer

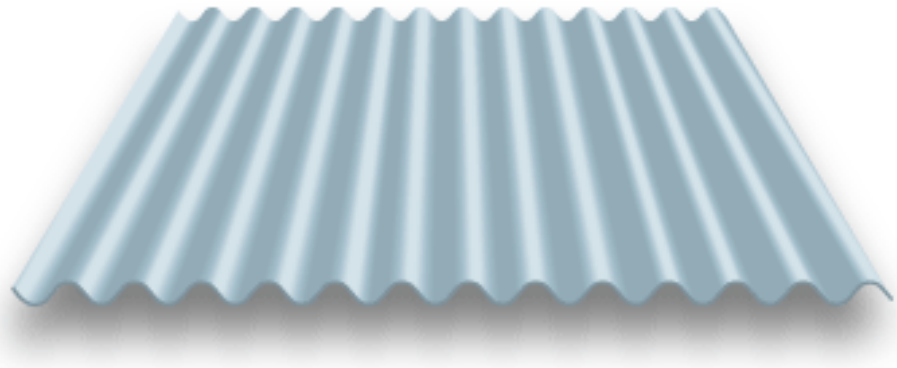
A Laser Thermometer is recommended for use in determining the substrate temperature. Ideally, a temperature of 45 degrees F or greater is desired. Applications below this temperature may require special formulations and/or spray techniques.

Using forced air heaters to raise the substrate temperature is a common practice.

Pricing

Type of Substrate

Corrugated Metal



There are several things to consider when pricing metal Spray foam applications. Corrugated metal, if stretched out, could have up to 50% more surface area. Also, metal Spray foam applications in cold weather could yield up to 50% less material coverage. Therefore, you must add more money to the job to make up for the additional product required.

Pricing

Type of Substrate

Like metal, masonry substrates adversely affect the yield of Spray foam by extracting the heat from the exothermic reaction of the two chemicals. When pricing Masonry applications, it is necessary to increase prices to offset the additional material consumption. In most cases, a 1” average of closed cell SPF is recommended on masonry.

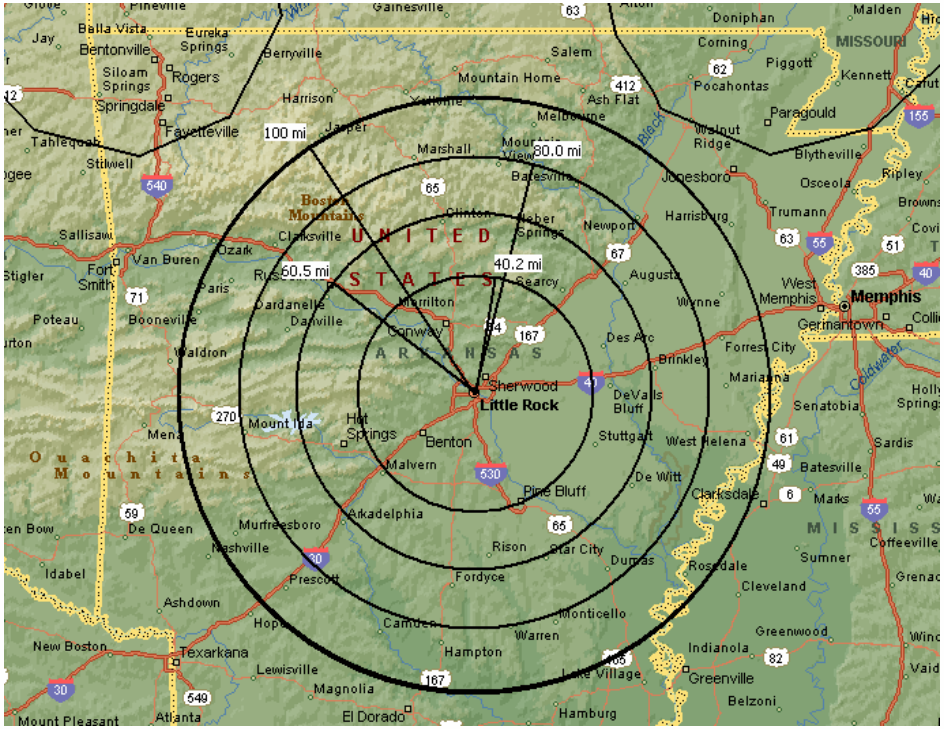
Pricing

Type of Substrate

Wood is the most common substrate for Spray foam applications. The biggest concern for problems with wood substrates is cold weather. Pricing should be inflated for wood applications with surface temperatures below 50 degrees F

Pricing

Distance to Job Site



When pricing Spray foam applications, it is important to consider the distance to the job site. It is recommended to create a territory map that identifies your core radius. As job site distances move beyond your core radius, it is vital to increase pricing to offset the additional travel expenses.

Margin Tracking

Analyze final “true” costs and compare against original estimate.

Margin Tracking

Calculating Gross Profit

In order to determine the gross profit, all costs associated with the job must be calculated and subtracted from the total price.

Example: (Job Sold for $10,000)

$ 4,000	Chemical
$ 800	Labor
$ 200	Miscellaneous (Fuel, Gun Parts, Plastic, Can Foam, Caulk, etc.)
$ 5,000	Total Job Cost

Job Site Tracking Form

$ 10,000 Selling Price

-$ 5,000 Job Cost

=$5,000 Gross Profit

Margin Tracking

Calculating Overhead

Before you can determine your net profit, it is imperative to know your daily overhead expenses.

Examples of Overhead Expenses:

- Office Expenses (Rent, Staff, Supplies, Phones, etc.)
- Insurance (Vehicle, Worker's Comp, General Liability)
- Equipment Expense
- Vehicles
- Advertising

Margin Tracking

Calculating Overhead

After calculating monthly overhead expenses, divide that number by the number of working days in each month. This would give you your daily overhead.

Example:

$1,000	Insurance
$1,000	Rent & Office Expenses
$4,000	Staff (Office)
$2,000	Equipment
$1,000	Vehicles
$500	Advertising
$ 500	Phones
$10,000	Total Monthly Expenses

$10,000 divided by 22 (working days) = $454.54

NOTE: The number of working days per month will fluctuate with schedule and the calendar.

In order to calculate the amount of overhead in each job, you would multiply the number of working days times the daily overhead. In this example, the daily overhead is $454.54. If the job took 2 days to complete, the overhead for that job would be $454.54 x 2 days = **$909.08 (Overhead)**.

Margin Tracking

Calculating Net Profit

In order to determine the net profit, you must take the gross profit and deduct your overhead.

Example Continued…

$ 10,000 Selling Price (100%)

-$ 5,000 Job Cost

= $5,000 Gross Profit (50%)

- $909.08 Overhead (2 days @ $454.54) (9%)

= $4,090.92 Net Profit (41%)

Margin and Profit

Top 4 Items that Affect Margin:

1. Overhead – In the early stages of business ownership, it is imperative to keep Overhead costs to a minimum. The smaller the overhead, the greater the net margin/profit.
2. Price – When determining net margin/profit, one of the most important factors is selling the job for the proper price. Be thorough with your measurements and careful not to heavily discount jobs for any reason.
3. Labor – It is important to have properly trained applicators that are efficient and thorough. For every day a job stretches out, another day of overhead must be factored in and deducted to determine net margin/profit.
4. Application Thickness – Ensure that the application thickness installed corresponds with the accepted proposal. If a 2" average is sold, but a 2" minimum is installed (which would be a 2 1/2" average), up to $1,000 profit could be lost on each drum set of material.

Quality Control

It is important to verify that the application crew is performing what was sold in the proposal. Yourself or your job foreman must complete a thorough job inspection before leaving the job site.

Proposals

Do's and Dont's

Do's

- Always use the word "average" after insulation thickness.
- Always submit your proposal in a timely manner.
- Always follow up on your proposal in a timely manner.
- When possible, get a signed copy of your proposal upon acceptance.
- It is strongly recommended to ask for a 50% deposit upon acceptance of proposal.

Don't's

- Never include the square footage in your proposal.
- Never include the price per square foot in your proposal.
- Never drop off, fax, mail, or email your proposal without the proper follow up.
- Never submit a proposal without including a validation date. (Example: Proposal valid for 60 days)
- Submit a proposal without thoroughly reviewing your take off and considering all intangible factors.

Proposal Example

PROFOAM™ **Proposal**

145 Newborn Road, Rutledge, GA 30663
706-557-1400 • www.profoam.com

PROPOSAL SUBMITTED TO		PHONE	DATE
Customer		770.xxx.7439	02.27.2018
STREET: 1234 XYZ Rd		JOB NAME	
CITY, STATE, AND ZIP CODE: Rutledge, GA 30663		JOB LOCATION	
ARCHITECT	DATE OF PLANS	gxxx@yahoo.com	JOB PHONE

We hereby submit specifications and estimates for:

**Install ProFill Open Cell Spray Foam Insulation @ 5 1/2" on Average in the Roof Line

$7,800.00

**Install Closed Cell Spray Foam Insulation @ 2" on Average in Exterior Walls in Basement

$1,900.00

**Removal of Old Insulation in Attic $2,800.00

We Propose hereby to furnish material and labor-complete in accordance with above specifications, for the sun of:

Dollars ($)

Payment to be made as follows:

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. This proposal is for the installation of thermal insulation only, unless otherwise specified. Any additional steps or products that are required to satisfy local building code will be done at the expense of the general contractor or building owner. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents, or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance.

Authorized Signature _____

Note: This proposal may be withdrawn by us if not accepted within 30 days.

Acceptance of Proposal – The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

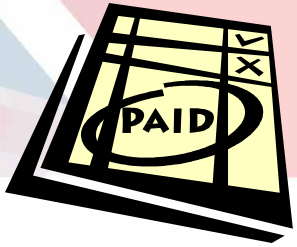
Signature _____

Date of Acceptance: _____

Signature _____

PROFOAM™

Invoices



Things to Consider

- Always submit invoices in a timely manner.
- Always discuss money before starting the job (It is crucial to know how and when you are going to be paid for your services).
- Commercial jobs sometimes hold back a 10% retainer until the project is 100% completed. Always add 10% in these instances.
- Multiple invoices are acceptable for larger, longer lasting jobs.
- Invoices should be due in full upon completion and inspection of the job by the contractor or building owner.
- **Never be afraid to ask for money.**

PROFOAM

Invoices

SPRAYFOAM GEORGIA, LLC

Invoice

Date	Invoice #
1/23/2018	1163

Bill To

Customer A
3959 Xyz Road
Somewhere, GA 30663

Terms

Due on receipt

Description	Amount
Install ProFill Open Cell Foam Insulation @ 3 1/2" on Average in the Walls	$3,150.00
Install ProFill Open Cell Foam Insulation @ 5 1/2" on Average in the Roof Line	$4,150.00
Please make checks payable to Sprayfoam Georgia	

We appreciate your business!

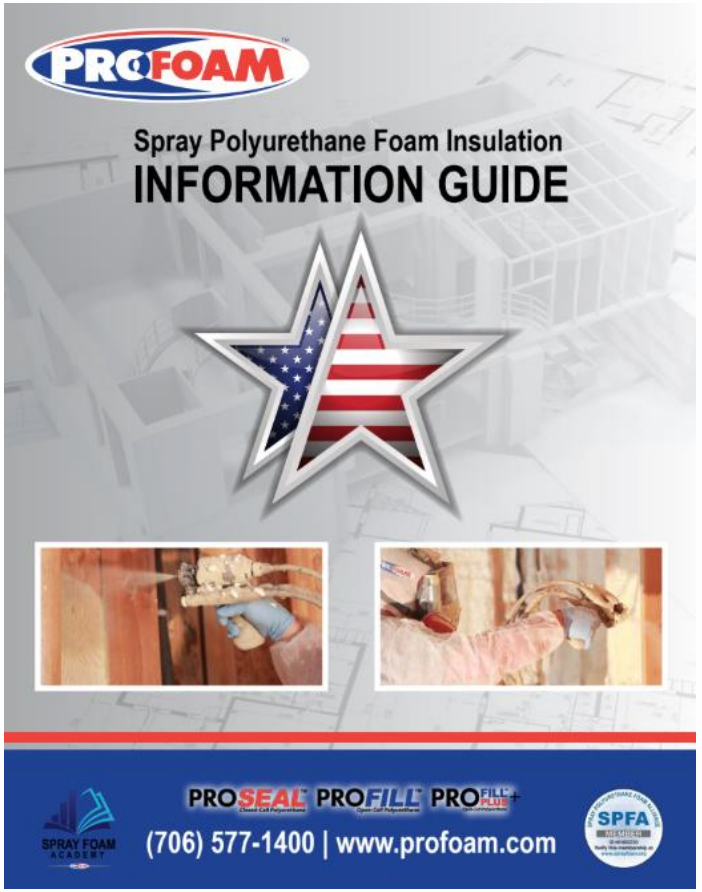
Total	$7,300.00
Payments/Credits	$0.00
Balance Due	$7,300.00

145 Newborn Road, Rutledge, GA 30663 - 706-900-9000 - xyz@sprayfoamgeorgia.com

PROFOAM™

Sales Tools/Support

- Case Studies Ebook
- Engineered Thermal Performance Ebook
- Foam Roofing Ebook
- Info Guide Ebook



Sales Strategies

- New construction projects receive ROI on day 1: For every $1,000 borrowed on a 30-year mortgage, the average cost of payback is $7.00 per month.
- Existing attic retrofit applications normally receive less than a 5-year ROI
- Use Case studies such as Texas A&M and others to present proof of energy savings

PROFOAM™

Sales Strategies

Commission Only Sales Reps