BRANDS TO FIT EVERY APPLICATION

**InsulStar**
High Performance Closed-Cell Insulation

**Sealite**
High Performance Open-Celled Insulation

**InsulBloc**
Closed-Cell Commercial Insulation

**AgriThane**
Closed-Cell Agricultural Insulation

**EnduraTech**
Premier Roofing Systems
InsulBloc® Masonry Insulation

A High-Performance Closed-Cell, Spray-In-Place Insulation Providing A Seamless Air Barrier And Dampproofing In One Application.
InsulBloc® Masonry Insulation
A High-Performance Closed-Cell, Spray-In-Place Insulation
Providing A Seamless Air Barrier And Dampproofing
In One Application.

For insulating exterior masonry walls or masonry cavity walls, there is no better choice than InsulBloc. InsulBloc is a 2 lb/ft³ density, spray-in-place closed-cell foam that forms a fully-adhered and seamless insulating, dampproofing, and air blocking membrane. InsulBloc offers higher R-values per unit thickness than can be achieved with any other type of commercially available insulation. InsulBloc can be applied to any masonry or construction material including concrete block, concrete, brick, steel, wood, laminates, and exterior sheathing boards, and it conforms to any design shape, insulating around brick ties, corners, angles and curves. InsulBloc leaves no gaps or joints, eliminating thermal bridging and thermal bypass associated with preformed boards.

The Problem

Exterior Masonry Walls
In traditional exterior masonry or concrete wall construction, high heat transfer of the masonry is very inefficient and provides a cold surface which can set up condensation situations leading to water damage and mold growth. Insulating with fiber based materials or rigid boards leaves seams and gaps in the thermal blanket. Additional materials must be used to provide the water seal and moisture vapor retarder.

Masonry Cavity Walls
In traditional masonry cavity wall construction, a dampproof coating is applied to the exterior of the concrete masonry unit (CMU) wythe followed by the installation of preformed insulation board between the brick ties or wall cladding attachments. This leaves gaps, breaks, and holes in the insulation at joints and penetrations. Preformed boards can restrict your design options, allowing for only flat walls and surfaces. Sealing joints of dissimilar building materials for air, water and heat infusion is also very difficult if not impossible.

The Solution

The InsulBloc® Masonry Insulation System. InsulBloc is a closed-cell, spray-applied polyurethane foam insulation system that performs as a dampproofing and air barrier membrane. Spray-applied as a liquid, the insulation expands within seconds to form a seamless barrier that fills and seals large and small gaps, seams and penetrations. Joints between dissimilar materials, such as steel columns and masonry units, and joints between different building elements, such as roof decks and walls, are snugly sealed to prevent heat, air and moisture transfer. Building owners save energy; have healthier interior environments with reduced potential for mold growth. With InsulBloc’s cost being about the same as conventional dampproofing and board insulation, it’s easy to see why InsulBloc has been used for over 40 years.

The End Result –
More than just insulation, InsulBloc provides superior wall insulation offering high performance and exceptional value.
A wall covered with InsulBloc spray foam will lower your energy costs, keep the occupants more comfortable and lower cost for repair and maintenance. Add up the benefits and it’s easy to see that InsulBloc is the commercial masonry solution you’ve been looking for.
How InsulBloc® Masonry Insulation Works

**InsulBloc In A Masonry Cavity Wall**

Applied between the masonry block and brick face, InsulBloc forms a fully adhered and seamless membrane that bridges and seals construction gaps and holes around penetrations while providing the highest R-value per unit thickness of any commercially available material plus provides an air barrier, a water barrier and a moisture vapor retarder.

**InsulBloc In An Exterior Masonry Cavity Stud Wall**

Design with the studs offset by 1” from the masonry wall. InsulBloc is applied to the masonry surface, expanding out to form a seamless membrane, sealing between the wall and the studs. Additionally, the membrane seals the wall to floor and wall to roof deck joints. InsulBloc has no thermal or moisture gaps resulting in superior thermal control with an air barrier and Class II vapor retarder. In one simple step, InsulBloc provides multiple benefits.

**ARCHITECT BENEFITS**

InsulBloc high performance insulation provides architects with the highest quality spray foam technology on the market today, offering these benefits:

- **Adaptable** to uniquely shaped structures and difficult-to-insulate designs.
- **Easy to install** so the job is finished under budget and ahead of schedule.
- **Insulates, dampproof and air seals** in one step creating a seamless membrane.
- **Watertight** within seconds of being applied. Seals roof to wall joints, blocking wind driven rain penetration.
- **FEMA Class 4** flood resistant material.
- **Uses no harmful ozone-depleting chemicals** – NCFI was awarded the Environmental Protection Agency's Stratospheric Ozone Protection Award.
- **Proven Performance** – for over 40 years, InsulBlock has been used as a high performance insulation solution.
- **Building code compliant.**

**BUILDING OWNER BENEFITS**

InsulBloc high performance insulation can save property owners money while making their building healthier and more comfortable.

- **Save** on your monthly energy bills.
- **Provides superior R-value** greater than 6 per inch, reducing both heating and cooling.
- **Creates an air barrier** that helps eliminate leaks and energy loss.
- **Provides a vapor retarder** that aids in controlling moisture problems.
- **Water barrier** that helps block wind driven rain to prevent water damage and repair cost.
- **Improves indoor air quality** by helping block dust and pollutants.
- **Reduces your energy consumption**, lessening your environmental impact.
- **Provides consistent interior temperatures** – no drafts, no cold or hot spots.
- **Helps reduce outside noise** by creating a seamless, airtight insulated barrier
- **Never settles, shrinks, compresses or sags**, maintaining its insulation efficiency for the life of the building.
- **Proven insulating power** – spray polyurethane foam systems have been applied successfully for over 40 years.

**InsulBloc Polyurethane Foam Typical Physical Properties**

<table>
<thead>
<tr>
<th>Description</th>
<th>Typical Physical Properties</th>
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<tbody>
<tr>
<td>Description:</td>
<td>Closed-cell spray polyurethane foam</td>
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<tr>
<td>Closed-cell content:</td>
<td>Greater than 90%</td>
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<tr>
<td>Density:</td>
<td>1.9 to 2.0 lb./cu.ft. nominal (ASTM D 1622)</td>
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<tr>
<td>Compressive strength:</td>
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<tr>
<td>R-value:</td>
<td>&gt;6.3 @1” (ASTM C 518)</td>
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<tr>
<td>Flame spread:</td>
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<td>Smoke development:</td>
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<td>Air permeance:</td>
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<td>Tensile strength:</td>
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<td>Hydrostatic pressure:</td>
<td>No Failure @ 56 ft. Head Pressure (AATCC 127)</td>
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<td>FEMA flood resistance:</td>
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* Physical properties may change based on job specifications.
NCFI – An Innovative Leader for Five Decades.

Since 1964, NCFI has been an industry leader and innovator of spray foam insulation and roofing systems solutions. NCFI’s superior insulation and roofing technologies not only help families and commercial businesses save on heating and cooling costs, they have helped secure homes and commercial facilities against some of nature’s harshest forces such as hurricanes. Additionally, we sell and service the equipment that enables these applications, assuring end users of a single, reliable support resource for their foam-in-place operations.

Highest Product Quality Available.

We start with the finest raw materials from proven, reliable sources to develop our high-quality, advanced spray polyurethane foam and premium acrylic coatings. Our high performance products must pass an array of quality control measures before ever reaching the job site. All ingredients are accurately weighed and blended for optimum performance for you. All systems are quality control tested for conformity to NCFI specifications. Our spray polyurethane foam is shipped from our manufacturing facilities to meet your special project requirements.

The Best Trained Applicators In The Business.

Before becoming a Gold Star Applicator, NCFI provides a comprehensive training program so contractors can meet and exceed the customer’s needs. Our hands-on training covers all technical aspects of accurately applying spray polyurethane foam and how to properly operate spraying equipment with step-by-step procedures, parts information, and troubleshooting guides. NCFI’s experienced staff can show contractors the most efficient way to apply our high-quality spray polyurethane foam and premium coatings to provide a high performance solution. Beyond product and equipment training, NCFI offers on-site technical representatives to help explore the best approach to solving your unique construction problems.
The most important building product you’ll never see!™
**InsulStar®** is the most energy-efficient closed-cell polyurethane spray foam insulation system available. It is formulated to provide maximum benefits to homeowners in addition to significant savings on energy costs. It helps stop air leakage, reduce noise, and block dust, pollen and other airborne pollutants. It helps control moisture movement to prevent condensation conditions, thereby helping reduce and eliminate moisture that can lead to mold growth. When applied directly to the roof deck, InsulStar® adds structural strength and greatly increases the ability to withstand uplift from high winds.

**The Problem**

More and more, builders and homeowners are coming to understand that without an effective air and moisture barrier, a home is subject to water damage and air leaks that cause condensation and mold growth. The results can damage the structure and reduce the life of a building, in addition to making the occupants uncomfortable and costing them money in higher energy bills.

**The Solution**

**InsulStar®** is a 2lb/ft³ density, closed-cell polyurethane foam insulation applied as a liquid to the wall, ceiling, attic or floors. The liquid reacts, expands, and cures in place, forming a fully adhered, seamless insulating and air-blocking membrane that helps seal walls to prevent air penetration and block outside noise pollution. The results are a quieter home and lower energy costs. The closed-cell structure of InsulStar® blocks air movement and has a low permeance, which controls moisture vapor movement, eliminating the need for an additional vapor retarder. When moisture vapor is controlled, condensation will not occur, thus eliminating the water to support mold growth. **InsulStar®** is naturally able to inhibit the growth of bacteria, and fungus (mold) per the ASTM G-21 and E-1428 tests. The anti-microbial properties do not protect occupants of spaces insulated with InsulStar® from the effects of molds, mold spores, or disease organisms that may be present in the environment.

**The End Result**

Superior Home Insulation Offering High Performance and Exceptional Value. By designing and building a highly energy-efficient, low-maintenance home, the reduction in energy used for heating and cooling will lower demand on utility companies for the life of the house. With **InsulStar®**, you can insulate directly to the roof deck, putting all of the space under the roof to use. By putting HVAC duct work in conditioned space, energy waste from leakage is eliminated. This additional conditioned space can then be utilized for computer rooms, bonus rooms, playrooms, or closet space. Previously wasted attic areas become valuable living space for very little cost, while adding tremendous retail market value to the house. Add up the benefits and it’s easy to see why **InsulStar®** is the high-performance insulation you’ve been looking for.
How InsulStar® Closed-Cell Insulation Works

InsulStar® foam insulation is a two-part liquid, formulated from renewable agricultural resources, that is sprayed in place by specially trained GoldStar™ contractors. This liquid quickly expands, filling all gaps and voids, and cures to form a fully adhered, solid, monolithic insulation envelope that is a highly effective air barrier and moisture vapor retarder. InsulStar®'s high R-value allows designers to reduce the depth of exterior walls and still obtain high energy efficiency. This means more living space in your home. By simply changing the exterior walls from 2” x 6” studs to 2” x 4” studs, a 2,500 sq. ft house gains almost six square feet of living space – reducing the wood required and saving two trees.

A. Under Roof Deck (unvented)
B. Unvented Attic w/ storage space
C. Unvented Attic - limited access
D. Vented Attic Knee Wall - no access
E. Vented Attic Floor
F. Basement Walls
G. Unvented Crawlspace Walls
H. House Walls
I. Vented Crawlspace Ceilings

Homeowner Benefits

+ Significant savings on your monthly energy bills.
+ Provides superior R-value of 6.8 at one inch, reducing both heating and cooling costs.
+ Creates an air barrier that aids in eliminating leaks and energy loss.
+ Provides a vapor retarder that controls moisture problems.
+ Specially formulated to inhibit mold, mildew and bacterial growth.*
+ Improves indoor air quality by helping block dust and pollutants.
+ Reduces your energy consumption, lessening your environmental impact.
+ Reduces outside noise by helping create a seamless, airtight, insulated barrier.
+ Strengthens roof deck attachment against high wind. Has Florida product approval (#9975) and Miami Dade NOA approval (#12-0810.09) to reinforce roof deck attachment against hurricane-force winds.
+ Strengthens walls and increases overall structural integrity by adhering and bonding to the wall surface.
+ Provides secondary water barrier.
+ FEMA Class 5 Flood-Resistant Material.

Builder Benefits

+ Adaptable to uniquely shaped, hard-to-insulate designs.
+ Easy to install so you finish a job under budget and ahead of schedule.
+ Creates a fully adhered and monolithic membrane for a seamless insulation envelope.
+ Watertight within seconds of being applied.
+ Can be applied to the underside of roof decks to form conditioned or cathedralized attic areas.
+ Normally unusable attic area can be “harvested” by converting it into usable living space.
+ Crawl space insulation can be installed in a non-vented configuration for greater energy savings.
+ Building code compliant ESR #1615.
+ Installed by trained and highly experienced GoldStar™ contractors.
+ Damp-proofs by creating a seamless membrane between the inner and outer walls.
+ Proven insulating power – spray polyurethane foam systems have been applied successfully for more than 50 years.

*The anti-microbial properties do not protect occupants of spaces insulated with InsulStar® insulation from potential deleterious effects of molds, mold spores, or disease organisms that may be present in the environment.
About NCFI
An Innovative Leader for Five Decades

NCFI has been an industry leader and innovator of spray foam insulation and roofing systems solutions since 1964. NCFI’s superior insulation and roofing technologies not only help families and commercial businesses save on heating and cooling costs, they help secure homes and commercial facilities against some of nature’s harshest forces. We also sell and service the equipment to facilitate these applications, assuring end users a single, reliable support resource for their foam-in-place operations.

Highest Product Quality Available

We start with the finest raw materials from proven, reliable sources to develop our high-quality, advanced spray polyurethane foam and premium acrylic coatings. Our high-performance products must pass an array of quality control measures before ever reaching the job site. All ingredients are accurately weighed and blended for optimum performance. All systems are quality control tested for conformity to NCFI specifications. Our spray polyurethane foam is shipped from our manufacturing facilities to meet your specific project requirements.

The Best Trained Applicators in the Business

Certification as a GoldStar™ Applicator requires contractors to successfully complete a comprehensive NCFI-led training program, ensuring they are properly equipped to meet and exceed each customer’s needs. Our hands-on training covers all technical aspects of accurate spray polyurethane foam application and proper equipment operation, including step-by-step procedures, parts information, and troubleshooting guides. Contractors learn the most effective ways to apply NCFI’s high-quality spray polyurethane foam and premium coatings to achieve a high-performance solution. Our technical representatives can join you on-site to help explore the best approach to solving your unique construction problems.

Using less energy helps the environment. InsulStar® can help cut your energy use and reduce your carbon footprint. NCFI, maker of InsulStar®, is an Energy Star partner, member of the US Green Building Council, and winner of a prestigious award from the Environmental Protection Agency for protecting the ozone. See inside to learn why InsulStar® is among the most sustainable of all insulations.

The most important building product you’ll never see!”

- Contains renewable agricultural products, including sugar cane, sugar beets and corn. NCFI has formulated spray polyurethane foam containing sucrose-based, agriculturally derived ingredients since the 1960s.
- Provides a higher R-value than conventional insulation, lowering monthly energy bills.
- Reduces energy consumption, lessening your environmental impact and carbon footprint.
- Helps improve indoor air quality, because it aids in blocking dust and pollutants, and is naturally able to inhibit the growth of bacteria and fungus (mold) per the ASTM G-21 and E-1428 tests.
- Requires less lumber, because InsulStar® requires only 2” x 4” studs, not the 2” x 6” studs needed to fit batt insulation. Building a typical house in the US with 2” x 4” studs instead of 2” x 6”’s saves an average of two to three trees.
- Promotes a sustainable design, because it never settles, shrinks, compresses or sags, maintaining its insulation efficiency for the life of the structure.
- Contains no ozone-depleting chemicals. NCFI is the winner of an EPA Stratospheric Ozone Protection Award for extraordinary accomplishments and significant contributions to protect the environment.
- Reduces the amount of waste and debris that go into landfills. It strengthens walls and increases overall structural integrity by adhering and bonding to the wall surface, so buildings last longer and don’t need to be replaced as often.
Introducing
The Best Spraying Next Generation
Open-Cell SPF Insulation

Contractor Recommended “best Appendix X foam on the market.”
Sealite™ OCX

It’s About Time Someone Introduced the Next Generation Open-Cell SPF Insulation that Eliminates the Need for Ignition Barriers in Attics and Crawl Spaces

- No ignition barrier required in attics and crawl spaces (meets or exceeds requirements for AC 377, Appendix X)
- Developed to insure ideal insulation and processability
- Industry leading yield

Sealite™ OCX

The Next Generation Open-Cell SPF Insulation

Sealite™ OCX insulation saves the homeowner on energy costs compared to other traditional insulations. OCX provides the desired R-value, plus the added advantages of spray-in-place polyurethane: helps stop air flow into and out of your home, aids in reducing noise, and helps block dust, pollen and other airborne pollutants for a more comfortable and healthier environment.

- Processes, cuts, and trims with ease
- High Yield: 16,000 to 18,000 board feet
- No preheating of material
- Processes at a wide range of ambient temperatures

How Sealite™ OCX Open-Cell Insulation Works

Sealite™ OCX insulation is a two-part liquid polyurethane system formulated with renewable agricultural resources that is sprayed in place with a water-blown blowing agent by specially trained GoldStar certified contractors. OCX quickly expands, filling all gaps and voids, and cures in place to form a fully adhered, solid, monolithic insulation envelope that is a highly effective air barrier, and requires no additional ignition barrier. OCX will not settle, shrink, or deteriorate, and it’s guaranteed to retain its R-Value and noise-reduction qualities over the life of the home.

www.NCFI.com

Commitment to Sustainability

- No additional ignition barrier required
- Saves time and money
- Contains no ozone-depleting chemicals

NCFI is the winner of an EPA’s prestigious Montreal Protocol Award (Stratospheric Ozone & Climate Protection Award) for extraordinary accomplishments and significant contributions to protect the environment.

- Seals the structure creating a draft free environment
- Contains renewable agricultural products, including sugar cane, sugar beets, and corn
- NCFI has formulated spray polyurethane foams containing sucrose-based, agriculturally derived ingredients since the 1960s
- Provides great thermal performance, lowering monthly energy consumption
- Reduces energy consumption, lessening your environmental impact and carbon footprint
- Does not support growth of bacteria, fungi or mold
- Promotes a sustainable design: never settles, shrinks, compresses or sags, maintaining its insulation efficiency for the life of the structure
The Problem
It’s important to think about the value and comfort provided by your thermal insulation system when planning a new home, commercial building, or renovating an older one. People are coming to understand that having a comfortable space means having more than just standard insulation. Today’s home or building owner wants insulation that will substantially lower energy costs, and will protect against dust, pollen and other airborne pollutants, all at an affordable price.

The Solution
Sealite™ OCX is a 0.5 lb/ft³ low density, open-cell foam insulation that is applied as a liquid to the walls, ceilings, attics, or floors. The foam reacts, expands, and cures in-place, forming a fully adhered, seamless insulating and air blocking membrane. OCX offers exceptional insulating power that can reduce energy consumption and save on monthly power bills. OCX also forms an air barrier that helps seal the walls to prevent air penetration and block outside noise pollution, creating a quieter home, or building. Additionally, OCX does not support growth of mold, mildew and bacteria.

The End Result
Economical Wall Insulation Offering High Performance and Exceptional Value
By designing and building a highly energy-efficient, low maintenance home, or commercial building, the reduction in energy demands for heating and cooling will lower demand on utility companies for the life of the building. In the design phase, you can use Sealite™ OCX to insulate directly to the roof deck, bringing all of the space under the roof into use. Previously wasted attic areas become valuable living space such as computer rooms, bonus rooms, playrooms, or closet space for very little cost, while adding tremendous retail market value to the house. Additionally, in an existing building where HVAC ducts are lying in a vented attic, you can use Sealite™ OCX to create an unvented attic that brings the HVAC ductwork into conditioned space, significantly reducing the energy load. Add up the benefits and it’s easy to see that OCX is the high performance insulation solution you’ve been looking for.

Sealite™ OCX Polyurethane Foam Typical Physical Properties*

| Description: Open-cell spray polyurethane foam insulation | Renewable Content: 9% per ASTM-D6866-12 |
| Density: 0.5 lb./cubic foot nominal | Flame spread: ≤25 (ASTM E 84) @ 4” |
| R-value: R-13 at 3.5”, R-20 at 5.5” | Air Impermeable: 0.005 L/s/m² |
| Fungi Resistant: No Growth ASTM C1338 | Smoke development: ≤450 (ASTM 84) @ 4” |

*Physical properties may change based on job specifications

Builder Benefits
Sealite™ OCX High Performance Insulation provides builders with an affordable, top quality spray foam alternative, and saves time and money:

- Adaptable to uniquely shaped structures and difficult-to-insulate designs
- Cost effective and easy to install so you finish a job under budget and ahead of schedule
- Sustainable, contains renewable agricultural resources and uses no harmful ozone-depleting chemicals. NCFI was awarded the EPA’s (Environmental Protection Agency) Montreal Protocol Award (Stratospheric Ozone Protection Award)
- Creates a fully adhered and monolithic membrane for a seamless insulation envelope
- Seals construction gaps and cavities in floors and ceilings
- Can be applied to the underside of roof decks to form conditioned attic or cathedral ceiling areas
- Installed by certified GoldStar contractors with advanced training and SPF education
Introducing
The Best Spraying Next Generation
Open-Cell SPF Insulation

About NCFI®

We Pioneered Spray Foam Insulation in the 1960s. We’re Still Leading the Way.

NCFI has been the industry leading innovator of spray foam insulation and roofing systems solutions since way back in 1964. We pioneered the use of polyurethane foam for insulation, and responsibly sustainable manufacturing processes and products, and we’re still leading the way. We are the proud recipient of the EPA’s prestigious Montreal Protocol Award (previously Stratospheric Ozone and Climate Protection Award) for exemplary accomplishments and significant contributions to protect the environment.

We help families and commercial businesses save money on heating and cooling costs, provide healthier air, and a more comfortable environment. For the industry, we have over 50 years of solid, hands-on experience selling and servicing top-quality spray equipment to give end-users a single, reliable support resource for their foam-in-place operations.

Highest Product Quality Available

We start with the finest raw materials from proven, reliable sources to develop our high-quality, advanced spray polyurethane foam and premium acrylic coatings. Our high performance products pass an array of quality control measures before ever reaching the job site. All ingredients are accurately weighed and blended for optimum performance. All systems are quality control tested for conformity to NCFI’s rigid professional specifications. Our spray polyurethane foam is shipped from one of our many manufacturing facilities, or distribution warehouses across the US to meet your special project requirements.

The Best Trained Applicators in The Business

Before becoming a GoldStar certified applicator, NCFI provides a comprehensive training program so contractors can meet and exceed any and all customer needs. Our hands-on training covers all technical aspects of accurately applying SPF foam, and how to properly operate spraying equipment with step-by-step procedures, parts information, and troubleshooting guides. NCFI’s experienced staff can show contractors the most efficient way to apply our high-quality SPF and premium coatings to provide a high performance solution. Beyond product and equipment training, NCFI offers on-site technical support to help explore the best approach to solving your unique construction situations.

Contractor Recommended “best Appendix X foam on the market.”
AgriThane® Advanced Agricultural Insulation

A High-Performance SPF Insulation System Designed to Save Big on Energy Costs, Control Moisture, Provide More Consistent Temperature Control, Eliminate Air Infiltration, and Lower Overall Operating Costs.
**AgriThane® Advanced Agricultural Insulation**

A High-Performance SPF Insulation System Designed to Save Big on Energy Costs, Control Moisture, Provide More Consistent Temperature Control, Eliminate Air Infiltration, and Lower Overall Operating Costs.

Agri-Thane® is the most energy-efficient, closed-cell spray foam insulation system available for agricultural applications. Renewable resources are a part of our formulation. It can save the agricultural business owner a considerable amount on energy costs, compared to other conventional types of insulation, and will eliminate air infiltration, allowing for a more consistent and controlled environment for poultry and livestock. It can also be used for insulating liquid storage tanks, freezers, and cold storage facilities for storing perishable items such as potatoes, onions, tomatoes, and nuts, among others.

(Please consult NCFI Polyurethanes for proper cooler and freezer applications and design.)

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**The Problem**

More and more, rising energy costs are cutting into the bottom line of agricultural business owners and operators. The costs of heating and cooling poultry houses, swine barns, farrowing houses, equine barns, cold storage facilities, and so on, is becoming a larger and larger operating expense. And those costs will only increase in the future.

**The Solution**

AgriThane® is a 2.0 lb/ft³ density, closed-cell foam insulation that goes on as a liquid, filling the cracks and crevices prior to expansion, adhering to virtually any clean and dry substrate and forming a fully adhered, seamless insulating system. Agri-Thane® offers exceptional insulating performance that can reduce energy costs considerably. It forms a water barrier, sealing the structure to prevent moisture penetration. It also blocks air movement and has a low water vapor permeance, which controls moisture vapor movement. It can be used to completely seal bottoms or tops of grain storage silos, either concrete or galvanized steel, and livestock or poultry feed storage bins. AgriThane® also adds structural rigidity, and can help “tighten” older buildings made of metal or wood.

**The End Result**

A Superior Agricultural Insulation System That Increases Energy Efficiency, Reduces Operating Costs, and Assists in Achieving Increased Farm Production. By investing in AgriThane®, a highly energy-efficient, high-performance insulation system that also acts as an air barrier, moisture barrier and, in some cases, a structural complement to older metal or wood structures, additional long term savings can be achieved.

EnduraTech Premium Coatings give long-lasting protection when used on metal roofs, tanks, silos, and other agricultural projects.
How AgriThane® Spray Foam Insulation Works
AgriThane® spray foam insulation is a two-part system, formulated from renewable agricultural resources, that is applied by highly trained applicators. This liquid quickly expands, filling all gaps and voids, and cures to form a fully adhered, solid, monolithic insulation envelope that is a highly effective air and moisture barrier. AgriThane® is available in natural or black for poultry house blackout conditions.

Benefits
AgriThane® Advanced Agricultural Spray Foam Insulation Systems can save agricultural business owners and operators money by making their structures much more energy efficient.

- Saves considerably on monthly energy bills.
- Provides superior R-value per inch, reducing both heating and cooling costs.
- Creates an air barrier that eliminates leaks and energy loss.
- Controls moisture to help prevent mold and mildew.
- Reduces your energy consumption, lessening your environmental impact.
- Provides consistent temperatures – no drafts, no cold or hot spots – for better production by poultry and livestock and less loss of stored harvests.
- Provides blackout – available in black to provide blackout conditions that have been shown to improve growth rates in poultry.
- Contains renewable agricultural resources.
- Never settles, shrinks, compresses or sags, maintaining its insulation efficiency for the life of the structure.
- Strengthens walls and increases overall structural integrity by adhering and bonding to the wall surface.
- Dampproofs by creating a seamless membrane between the inner and outer walls.
- Has proven insulating power – spray polyurethane foam systems have been used successfully in agricultural applications for 35 years.

The Many Uses of AgriThane®
Because of AgriThane®’s superior insulating power, airtight closed-cell formulation, and simple spray-on application, its uses in an agricultural setting are virtually limitless. Here are a few ways AgriThane® can be used to cut your costs:

Liquid Storage Tanks*
AgriThane® can be sprayed directly on vertical or horizontal tanks of any shape, making it an excellent choice for insulating tanks and storage vessels for liquid materials such as water, fats and oils, and slurries. It can also be applied for insulating processing tanks used in the beverage and spirit processing industries.

Cold Storage and Freezer Applications*
AgriThane® is an excellent choice for the farm or ranch to insulate various types of out buildings such as workshops, equipment storage, bagged or bulk feed storage, and general use type structures. It will help keep work areas comfortable in winter or summer, and will actually “tighten” a building constructed of metal panels and add to its structural integrity. It also reduces interior noise levels.

Grain Storage and Silos*
AgriThane® can be used to help control dust and moisture problems experienced around grain and animal feed storage by sealing cracks and seams along exterior and interior bin bottoms or tops. It also helps reduce insect migration and can conserve heat during drying. It provides an airtight seal that reduces waste during fumigation of grain storage facilities. When used with NCFI Polyurethanes EnduraTech™ line of premium roof coatings, AgriThane® can also be used to refurbish old or weathered silo tops, eliminating the need for any costly replacements or repairs.

Livestock Housing*
AgriThane® can be used to insulate dairy barns or milk houses, swine holding or farrowing houses, horse barns, and cattle barns. It provides consistent temperature control to reduce stress levels in livestock caused by temperature extremes during summer or winter months. It can also be used to reduce radiant heat under sheds and covers during summer months.

Poultry Houses*
AgriThane® can be used in existing houses, new houses or for retrofit projects. It is a superior choice for solid or curtain wall designs. By eliminating air infiltration, it can increase tunnel fan operation. It can also improve the structural integrity of older style houses. AgriThane® can be formulated and applied in black for providing blackout conditions.

*EnduraTech™ Premium Coatings give long lasting protection when used on metal roofs, tanks, silos, and other agricultural projects.

AgriThane® Spray Foam Typical Insulation Physical Properties*

<table>
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<tr>
<th>Description</th>
<th>Value</th>
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<td>Density</td>
<td>~1.90 to 2.1 lb./ft. nominal (ASTM D 1622)</td>
</tr>
<tr>
<td>R-value</td>
<td>&gt;6.8 @ 1” (ASTM C 518)</td>
</tr>
<tr>
<td>Compressive strength</td>
<td>&gt;25 psi (ASTM D 1621)</td>
</tr>
<tr>
<td>Moisture vapor permanence</td>
<td>1.3 perms</td>
</tr>
<tr>
<td>Water penetration</td>
<td>No Failure @ 56 ft. Head Pressure (AATCC 127)</td>
</tr>
<tr>
<td>Air permeance</td>
<td>0.000 scfm/ft² @ 1.57 psf (ASTM E 283)</td>
</tr>
<tr>
<td>Resistance to solvents</td>
<td>Excellent</td>
</tr>
<tr>
<td>Max service temperature</td>
<td>180°F</td>
</tr>
</tbody>
</table>

* Physical properties may change based on job specifications.
NCFI – An Innovative Leader for Five Decades.

Since 1964, NCFI has been an industry leader and innovator of spray foam insulation and roofing systems solutions. NCFI’s superior insulation and roofing technologies not only help families and commercial businesses save on heating and cooling costs, they have helped secure homes and commercial facilities against some of nature’s harshest forces, such as hurricanes. Additionally, we sell and service the equipment that enables these applications, assuring end users a single, reliable support resource for their foam-in-place operations.

Highest Product Quality Available.

We start with the finest raw materials from proven, reliable sources to develop our high-quality, advanced spray polyurethane foam and premium acrylic coatings. Our high-performance products must pass an array of quality control measures before ever reaching the job site. All ingredients are accurately weighed and blended for optimum performance for you. All systems are quality-control tested for conformity to NCFI specifications. Our spray polyurethane foam is shipped from our manufacturing facilities to meet your special project requirements.

The Best Trained Applicators In The Business.

Before becoming an applicator, NCFI provides a comprehensive training program so contractors can meet and exceed the customer’s needs. Our hands-on training covers all technical aspects of accurately applying spray polyurethane foam and how to properly operate spraying equipment with step-by-step procedures, parts information, and troubleshooting guides. NCFI’s experienced staff can show contractors the most efficient way to apply our high-quality spray polyurethane foam and premium coatings to provide a high-performance solution. Beyond product and equipment training, NCFI offers on-site technical representatives to help explore the best approach to solving your unique construction problems.
NCFI –
An Innovative Leader for Five Decades.

Since 1964, NCFI has been an industry leader and innovator of spray foam insulation and roofing systems solutions. NCFI’s superior roofing technologies not only help businesses save on heating and cooling costs, they have helped secure commercial facilities against some of nature’s harshest forces such as hurricanes. Additionally, we sell and service the equipment that enables these applications, assuring end users of a single, reliable support resource for their foam-in-place operations.

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The Best Trained Applicators In The Business.

Before becoming a Tier One Applicator, NCFI provides a comprehensive training program so contractors can meet and exceed the customer’s needs. Our hands-on training covers all technical aspects of accurately applying spray polyurethane foam and how to properly operate spraying equipment with step-by-step procedures, parts information, and troubleshooting guides. NCFI’s experienced staff can show contractors the most efficient way to apply our high-quality coatings to provide a high performance solution. Beyond product and equipment training, NCFI offers on-site technical representatives to help explore the best approach to solving your unique roofing problems.

Whatever your roofing needs, whatever your roofing problems, EnduraTech™ is the roofing solution you’ve been looking for. EnduraTech™ offers four distinct roofing systems, each designed to address specific concerns:

EnduraPlus

For re-roofing, the EnduraPlus™ Roofing System is the best option. It offers improved structural integrity, seamless breathable spray-in-place rigid polyurethane foam and protective elastomeric coating to provide a durable, lightweight, energy efficient, and weather resistant solution.

EnduraRock

The EnduraRock™ Roofing System is the best choice for flat roof construction. Combining improved structural integrity and seamless spray-in-place rigid polyurethane foam, acrylic coatings and a layer of protective gravel, EnduraRock™ is a quality roofing solution that will pay long-term dividends.

EnduraMetal

For existing metal roofing, choose an EnduraMetal™ Roofing System to protect against and prevent leaks, rust and additional roof repairs while reducing your energy costs and providing a more comfortable environment. EnduraMetal™ can be configured to many roofing structures, making it extremely adaptable for any roofing situation.

EnduraStore

For a roofing restoration project, choose the EnduraStore™ Roofing System. EnduraStore™ will cost a fraction of a complete tear-off roof replacement while providing a durable surface and superior low maintenance solution for the property owner.

How The EnduraTech™ Premier Roofing System Works

The EnduraTech™ System protects and strengthens your roof with two key components: EnduraTech™ Spray Polyurethane Foam (SPF) and EnduraTech™ Premium Acrylic Coating.

Step One – EnduraTech™Advanced Spray Polyurethane Foam (SPF) Roofing

The EnduraTech™ System begins with a layer of spray polyurethane foam. SPF gives you the best possible performance and value for your commercial roofing project, with substantial cost savings in installation, operation, and long-term sustainability.

SPF offers:
- **Improved Energy Efficiency and Lower Operating Costs**

Coated SPF roofing technology outperforms every other system on the market when it comes to maximizing energy and cost savings. NCFS SPF provides an outstanding R-value that is customized to meet your project needs.

- **Ease of Installation**

SPF is applied as a spray and requires no screws or fasteners, so its flexibility is limitless. The polyurethane foam adheres directly to a wide variety of existing substrates and can literally be applied to any shape, configuration, or contour. Coated SPF can be applied over existing roofs, so usually there’s no need to tear the current roof off and pay for disposal.

- **Durability**

SPF is seamless and watertight and its water and wind uplift resistance have been proven under hurricane conditions. Because of its durability and the fact that it can be recoated multiple times, there are buildings that still have coated foam roofs that were installed over 30 years ago.

Step Two – EnduraTech™ Premium Acrylic Coating

The EnduraTech™ Premium Acrylic Coatings provide a complete solution whether you have an existing metal, asphalt or tar roof. To meet different climate requirements, we offer a variety of coating options that provide superior reflectivity, and many also meet Energy Star guidelines for improved energy efficiency:

- **EnduraTech™ R – Standard Acrylic Roof Coating**
- **EnduraTech™ O – Quicksetting Acrylic Roof Coating**
- **EnduraTech™ HT – High Tensile Acrylic Roof Coating**
- **EnduraTech™ AP – Acrylic Primer**
- **EnduraTech™ XP – Acrylic Modified Primer**
- **EnduraTech™ S – Trowel Grade Sealant**

The End Result – A Superior Roof Offering High Performance and Exceptional Value

An EnduraTech™ coated SPF roof will lower your energy costs, keep your tenants more comfortable and require less of your time in repair and maintenance. Add up the benefits and it’s easy to see that EnduraTech™ is the roofing solution you’ve been looking for.

CONTRACTOR BENEFITS

EnduraTech™ Premier Roofing Systems provide contractors with the highest quality roofing material and technology on the market today. Our advanced spray polyurethane foam roof systems are:

- **Lightweight** and very adaptable to uniquely shaped structures and difficult-to-flash penetrations.
- **Cost-effective** since no tear off is required and there’s no landfill fees.
- **Easy to install** so you finish a job under budget and ahead of schedule.
- **Watertight** within 30 seconds of being applied to a dry, clean substrate.
- **Effective at preventing leaks** by sealing the roof with a monolithic, self-flashing surface even on slopes.
- **Easily adaptable**, making flashings and detail areas trouble free.
- **Fully adhered**, with no penetrating fasteners, therefore attaching easily to most types of decks and substrates.
- **Resistant to severe weather** in a variety of climate conditions.

BUILDING OWNER BENEFITS

EnduraTech™ Premier Roofing Systems can save building owners both time and money. EnduraTech™ Premier Roofing Systems are:

- **Sustainable** by recoating at the end of their warranty period to extend the warranty and the life of the roof.
- ** Safely formulated** without asbestos or formaldehyde.
- **Fast and easy to apply** to the building so the owner experiences minimal business interruption and inconvenience during installation.
- **Durable protection from severe weather**, such as storms, hail, and high winds.
- **Energy saving**, providing superior R-value per inch, reducing both heating and cooling costs.
- **Able to withstand high-wind conditions** with superior adhesion properties for multiple substrates.
- **The best way to eliminate thermal bypasses** in and out of the building at insulation joints and mechanical fasteners.
- **The best thermal insulation** commercially available.
- **Exceptionally reflective** to abate urban heat islands.
- **Time tested and proven**, as spray polyurethane foam roofing and insulating systems have been applied successfully for over 35 years.
- **Less maintenance** if damaged, since caulking is sufficient for repair in most cases.
Residential Geotechnical Polyurethane Foam Systems

Lifting Polyurethanes To A Whole New Level®
**TerraThane™ FEATURES AND BENEFITS**

+ Available in hydrophobic/hydro-insensitive formulations  
+ Injectable through 5/8-inch injection holes, making it less intrusive  
+ Flows well under the slab section to ensure complete void fill  
+ Controlled expansion  
+ Fast cure times. Concrete sections can be put back into use immediately after repair  
+ Lightweight—which reduces loads on existing soils

**TerraThane** geotechnical polyurethane foams are ideal choices for making repairs to sunken or misaligned concrete slab sections around residences and structures. Sunken or misaligned sidewalk sections, foundations, patios, concrete steps and driveways can be repaired in most cases by injecting TerraThane under the concrete to raise and level it to its original position, possibly avoiding costly tear-out and concrete replacement.

**Typical repairs include:**

- FOUNDATIONS  
- SIDEWALKS  
- PATIOS  
- POOL DECKS  
- ENTRY WAYS  
- DRIVEWAYS  
- CONCRETE STAIRS  
- CONCRETE PORCHES  
- GARAGE FLOORS

All TerraThane polyurethane systems are tested per ASTM test methods which include, but are not limited to: density, compression strength, tensile strength, dimensional stability, closed-cell content, water absorption and shear strength.

[www.NCFI.com](http://www.NCFI.com)
**TerraThane** is specially formulated polyurethane foam for sub-grade applications. Systems are available to perform in both wet and dry soil conditions. All **TerraThane** polyurethane systems are closed-cell by design to reduce or eliminate water infiltration around slab sections. Voids, or cavities, under slabs that may have been created by improperly compacted soils, poor drainage, broken or leaking waste or water lines, can be filled with a **TerraThane** system to ensure no further settlement occurs.

The injection of **TerraThane** is much less intrusive than traditional heavy, cement slurry injection methods. 5/8-inch holes are drilled and used as injection points—compared to 1½-inch to 2-inch holes for cement slurries or traditional mudjacking methods. **TerraThane** is lightweight, yet strong and durable, adding minimal weight to the existing soils. Typical densities, or pounds-per-cubic-foot (PCF) weights range from 2.1 PCF up to 4.0 PCF. Strength values range from 38 PSI to 100 PSI. Much higher densities and strength systems are available.

Prior to application the use of the concrete section(s), the function of the concrete section(s), and the loads put upon the concrete section(s), will determine which **TerraThane** system is best suited for making the repairs. This is determined by performing a pre-job inspection by a qualified applicator.

**Our TerraThane™ concrete-specific geotechnical foam systems are much lighter in cubic foot weight than traditional cement slurries, easier to apply, less intrusive and much simpler to clean up.**

Total concrete tear out and replacement can be expensive. So can injury and liability issues when it comes to trip hazards and uneven sections of concrete that have sunk or cracked. **TerraThane™** geotechnical polyurethane foam products are engineered to lift and void fill beneath concrete sections and save on expensive concrete replacement.
NCFI has been the industry leading innovator of spray foam insulation and roofing systems solutions since way back in 1964. We pioneered the use of polyurethane foam for insulation, and responsibly sustainable manufacturing processes and products, and we're still leading the way. We are the proud recipient of the EPA's prestigious Montreal Protocol Award (previously Stratospheric Ozone and Climate Protection Award) for exemplary accomplishments and significant contributions to protect the environment.

NCFI was the first to develop geotechnical polyurethane foams in the 1990's. Now TerraThane products are used in a diverse range of applications and markets. Our broad product offering include the simplest sidewalk trip hazard repair to complex road and bridge repairs.

- Residential – sidewalks, driveways, patios, pool decks and foundations
- Commercial – expansive concrete slabs, parking lots, warehouse floors
- Industrial – manufacturing floor slabs, storage tank foundations
- Municipalities – streets, curbs, waste drainage systems, culvert systems
- Departments of Transportations – roadways, bridge approaches
- Specialty Applications – lightweight fill, pipe abandonment

**TerraThane Select Contractors**

NCFI Polyurethanes works closely with a knowledgeable, responsible, and professional contractor base. Each NCFI TerraThane contractor must be familiarized with the requirements of the system being applied including handling, storage and PPE (personal protective equipment) specified on technical data sheets, SDS, and NCFI's product stewardship program.