

## Frequently Asked Questions:

### What is **SEALECTION 500**?

**SEALECTION 500** spray polyurethane foam (SPF) is a complete insulation and air barrier system that insulates and air-seals walls, floors and ceiling cavities against air movement, including spaces around electrical outlets, baseboards, and where the walls meet windows and doors etc. This means that outside air (hot or cold) cannot seep through walls causing drafts or cold spots. It also means that hot humid air cannot enter the walls and condense on cold surfaces causing molds, mildew and premature decay.

**SEALECTION 500** spray foam insulation is applied by qualified trained installers, which provides a truly effective method to construct energy efficient homes and buildings. **SEALECTION 500** is a semi-rigid thermo-set polyurethane foam (see Product Specifications), which is a cellular plastic composed of millions of microscopic cells of which most are open. The application of the product is done at the job site by Certified Installers, providing a custom installation of the insulation. The application technique and nature of **SEALECTION 500** make a perfect fit to all cavities irrespective of size or shape.

By virtue of its low permeability to air, its adhesion to other building materials, and its flexibility, **SEALECTION 500** becomes much more than just insulation. It provides superior air leakage and sound control for residential construction. **SEALECTION 500** is a one step insulation and air barrier system. **SEALECTION 500** eliminates the labor intensive work associated with air-tightness detailing when insulating with conventional insulation products.

"Loose fill" insulation does not air seal the building cavities – this creates a source for air infiltration which robs the insulation of its R-value. The superior air sealing characteristics of The **SEALECTION 500** System provides virtually the same R-Value in the field as it does in the laboratory. Cold air in winter and hot muggy air in summer cannot pass through our **SEALECTION 500** foam as it can through other insulating materials, cheating those products of its performing R-value.

### What are the advantages of **SEALECTION 500**?

1. Heating & cooling costs reduced 30-50%
2. Increased sound dampening makes a "quiet" home
3. Decreased HVAC tonnage
4. Does not lose form or "settle" over time
5. Decreased air infiltration = decreased allergens & less dust accumulation



### **How much does SEALECTION 500 cost?**

SEALECTION 500 is considered to be more expensive than most conventional insulation; however SEALECTION 500 cannot be compared to conventional insulation. When using the SEALECTION 500 spray foam insulation system, it actually air seals the building and eliminates energy-robbing air leakage and the associated problems with moisture, mold and mildew and condensation problems inside the walls. When calculating the actual cost, you need to consider the possible need to downsize the HVAC systems, eliminate roof & attic vents, estimated utility savings, etc.. Additional “soft-costs” such as reduced noise & allergens should be considered as well. It is erroneous to directly compare the cost of fiberglass or loose fill insulation to that of SEALECTION 500 spray foam. **The invested premium to upgrade from standard fiberglass is an insignificant part of the overall cost of a home and your long-term energy costs. When you are planning to install an upgraded insulation package, remember that SEALECTION 500 is more expensive but it provides you with the best performance and comfort value. The additional upfront costs typically pay for themselves in energy savings within one to three years and will continue saving you money every year thereafter.**

### **EXAMPLE:**

A \$1,000 increase in the mortgage for a \$200,000 house (~2,200SFH) financed for 30yrs. @ 6% equates to a \$6 increase in a monthly payment. It is also reasonable to assume that less HVAC would be required to cool the house – a 2,200SFH traditional fiberglass house in Louisiana is usually sized with a single 5 ton unit where a foam house may use a 3 ton unit. At an average price of \$1,250 per ton, HVAC equipment savings would be \$2,500. A house of this typical size may cost \$5,000 more to have foam insulation installed v/s fiberglass – this may result in a total mortgage increase of \$2,500 (\$5,000 less HVAC savings of \$2,500) or \$15/mo. If average monthly utility bills for this home were \$300 and foam insulation saved 40% then the new utility bill would average \$180.

**The combined mortgage & utility bill would be \$105/mo. LESS than a \$200,000 mortgage with fiberglass insulation – return on investment would be two years.**

### **FOAM INSULATION COSTS LESS**

**HOMEOWNERS MUST CONSIDER THEIR UTILITY BILLS TO TRULY COMPARE THE COST OF INSULATION**



## Why do I need to downsize my HVAC when I use foam insulation?

Houses insulated with spray foam insulation require less HVAC tonnage because of the increased efficiency of the house. Spraying foam in a home that already has the HVAC installed could result in excessive moisture and decreased energy efficiency. Oversized HVAC systems will cycle more frequently – this causes two problems:

**Lack of energy efficiency:** Many people believe that larger HVAC units will save them money because they cool the house quicker – this couldn't be farther from the truth. Properly sizing HVAC tonnage is CRITICAL to the energy efficiency of a home. HVAC units that are oversized (even high efficiency models) will “short cycle”. The bulk of energy consumption in HVAC units comes from the initial 2-3 minutes of running – when your unit cycles more frequently throughout the hour you will find that you actually use MORE electricity than you would with a unit with longer & less frequent cycles. **REMEMBER:** HVAC systems are designed for air “conditioning”, not air “cooling.”

**Moisture buildup:** HVAC systems are basically large dehumidifiers. When they cool the conditioned space too quickly they short cycle and therefore fail to remove the humidity in the air. High humidity can create an uncomfortable climate and also facilitate the growth of mold. An HVAC system is what keeps your inside air less humid than our hot & sticky outside Louisiana air.

## What is the R-Value of SEALECTION 500 insulation?

The R-Values of SEALECTION 500 Insulation is rated at R-3.8 per inch. In a nominal 4-inch wall, the R-Value is about R-13, in a 6" wall about R-21. Unlike foams filled with CFC or HCFC, the R-Value of SEALECTION 500 foam does not decline as it ages.

R-Values of insulating materials are measured in laboratories and are designated a nominal R-Value per inch. In the wall or ceiling of a building most factory-made insulation materials suffer a reduction in performance due to air leakage and infiltration. The insulating value of many building components may be as low as 50% of the nominal R-Value of the insulation they contain. By contrast, the insulation of a wall containing SEALECTION 500 Insulation will perform closely to that of the laboratory tested R-Value of the material, and it seals the wall cavity from air infiltration as well. The SEALECTION 500 Insulation System is particularly suited for steel or wood frame construction. SEALECTION 500 expands 120:1 as it is installed, adhering to surrounding building components. It completely seals joints, crevices and voids, including difficult-to-insulate spaces such as steel stud "U" and "C" sections, double studs, and non-standard stud locations.

### **How long has spray polyurethane foam been used to insulate houses?**

Spray polyurethane foam was commercially developed in the United States in the mid-1960's. Homes have been insulated with spray foam since that time.

### **Are there any electric wiring overheating problems?**

There is no need to encapsulate electrical wires other than what is required with all types of insulation. As with other types of insulation such as fiberglass or cellulose, when the properly rated size and type of electrical wires are used, there is no overheating of those electrical wires.

### **Are there any compatibility concerns with other building materials?**

*SEALECTION 500* is stable in the presence of most solvents found in binders, bituminous materials, wood preservatives, and sealers. It is resistant to facers containing plasticizers, fuel, mineral oil, weak acid, and weak bases, which are typically found in residential and light commercial construction materials – i.e. you should not have any adverse reaction with common building materials, wiring or plumbing. *SEALECTION 500* Insulation is non-corrosive. It is neutral, which means it is neither acidic nor alkaline. This product will not cause corrosion to metal studs and other metal typically found in construction.

### **Does *SEALECTION 500* entrap moisture?**

*SEALECTION 500* is a breathing foam, and any moisture in the building's concrete or lumber can escape through the insulation as the building dries out, thus eliminating any risk of mildew or rot. In sub-floor installations that could be exposed to moisture (camps or houses in flood-zones), this "breathing" characteristic is important to consider – traditional insulations such as fiberglass or cellulose typically must be replaced after flooding.

### **Does the *SEALECTION 500* insulation support the growth of molds?**

No, *SEALECTION 500* Insulation offers no food value, therefore it cannot support bacteria or fungal growth. The effective air sealing characteristics of *SEALECTION 500* prevents the movement of hot air to the cold parts of the walls. This effective air-sealing process prevents condensation from taking place within the wall cavities. The elimination of condensation within the wall assemblies prevents the growth of molds & mildew.

### **What about pests i.e. roaches, ants, mice and termites?**

Again, *SEALECTION 500* insulation offers no food value, but it would not present a sufficient barrier to their entry if they decided to gnaw through it. Normally, pests take "the path of least resistance" and if they cannot detect a food source, then they would normally not attempt to go through. In this sense, *SEALECTION 500* acts as a physical barrier and an odor barrier that has shown to significantly reduce the number of pests entering the homes.

### **Won't sealing my house lead to indoor air quality problems?**

Your house does need to be ventilated. Most house design professionals will advise you to seal the house structure as tight as possible and provide the necessary ventilation through the heating and air conditioning system. Many systems employ an "air exchanger" which is designed to pre-condition (either warm or cool) the incoming outside air with the outgoing exhaust air. In this manner, you can build an extremely energy efficient exterior shell using spray polyurethane foam while still providing controlled and energy efficient ventilation.

### **Is SEALECTION 500 insulation code approved?**

Yes. Building codes provide for the use of spray polyurethane insulation in the Foam Plastic section. This section of the code also describes the use of thermal barriers.

### **What are the acoustical properties of SEALECTION 500?**

Homeowners who have used foam insulation report that this is one of the biggest benefits they perceive – foam houses are QUIET! SEALECTION 500 Insulation has excellent sound absorption properties and sound transmission properties. When comparing SEALECTION 500 to other insulations, there is a very noteworthy difference. As an effective air seal, it eliminates the air gaps through which sound travels easiest. SEALECTION 500 Insulation is superior in controlling mid-range frequencies that include the most common sounds, the human voice and stereo music. Utility rooms & bathrooms are two interior rooms that are commonly insulated with SPF to help reduce noise (NOTE: this application does require one facing wall to be erected in order to apply the foam).

### **Does SEALECTION 500 contain Urea Formaldehyde, CFC or HCFC's?**

No, SEALECTION 500 does not contain Urea Formaldehyde, CFC's or HCFC's. This insulation is a semi-rigid urethane and open cellular plastic foam in which water is incorporated as the sole blowing agent. SEALECTION 500 has obtained the seal of approval by the Environmental Choice Program of Canada (equivalent to US-EPA).

### **Are there health concerns with SEALECTION 500?**

No, SEALECTION 500 is a "green" product. It meets off gassing requirements of CGSB 51.23 92 for new residential construction. No toxic or carcinogenic products were detected.

### **Does SEALECTION 500 break down, sag or shrink?**

No, SEALECTION 500 Insulation is stable. It does not shrink or sag. The reaction that created SEALECTION 500 Insulation is irreversible and it cannot break down into its constituent parts.

### **What are the advantages of semi-flexible foam?**

SEALECTION 500 remains flexible throughout the life of the building. As the building expands and contracts with changes of season and temperature, SEALECTION 500 will move with the changes without destroying the seal.



**At what stage is SEALECTION 500 installed?**

The SEALECTION 500 Insulation System is installed after the windows, doors and roof are in, the electrical and plumbing inspections are completed, and after any other electrical or mechanical system located behind the drywall is installed. It is the **LAST** installation to take place before drywall is installed.

**Does SEALECTION 500 adhere to metal studs?**

SEALECTION 500 adheres well to steel studs and other natural materials such as cement board, wood, etc. commonly found in residential and light commercial construction. Since SEALECTION 500 will adhere to almost all surfaces in the home, areas that do not require SEALECTION 500 insulation such as windows, doors etc. must be protected from over-spray – as part of NGI’s prep work, all doors & windows are screened off with a poly covering.

**Can SEALECTION 500 be applied in an existing wall?**

Because of the 120:1 expansion ratio of SEALECTION500, we do not recommend installation in existing walls.

**Where in an existing home could I use SEALECTION 500?**

Since SPF adheres to whatever surface it is applied, it makes a great insulating agent for raised frame construction homes with sufficient clearance. Additionally, SPF can be applied to the roof decking or attic floor in most homes.

**Are other trades (workers) allowed in the general area of the application of SEALECTION 500?**

SEALECTION 500 should be installed on-site by qualified installers trained in the proper safety and handling of the chemicals. Other trades persons should be kept away from the immediate area where spraying is conducted.

**Is it possible for a homeowner to install this foam on their own?**

SEALECTION 500 Insulation has to be installed by a certified contractor with specialized proportioning equipment. The installer has been trained to work with the chemicals involved and has also been trained in a building science to provide the best installation possible.

***Call us today for a free estimate***

***318-715-FOAM (3626)***

***“We Save You Money For Life!”***

***www.NGI-LLC.com***

