Don't spend a single dime on any siding, until you read this report!

Hi! My name is Bill Kemp, also known as "The Home Exterior Guru". Over the last 23 years, I have sold millions of dollars worth of vinyl siding and Hardie Plank as any other successful remodeler has. Many times remodelers and contractors put most of their focus on the vinyl siding product itself. How long, how thick, how smooth, how rigid, or how reliable it is, just to name a few. However, I want to take a step back and empower homeowners with some critically important information about what goes on underneath that siding. It doesn't matter whether we are talking about vinyl siding, Hardie Plank siding, or steel siding. What goes underneath matters! After studying how little attention remodelers and contractors give to this subject, I was compelled to explain. You see, in this day in time underlayment or insulation under your siding of choice is much more than a vapor barrier or a way to flatten your walls. With terms like, "Green Products", Permeance rating, mold, mildew, and "Sick Home Syndrome" insulation is far more important than you could ever imagine. To give you a solid understanding of insulation I have reviewed 5 of the most common types of house wraps and insulation. With this information you will go into a siding project feeling confident and re-assured that you have made the right decision.

1. First on the list is **House Wrap**. House Wrap is typically used in the new construction of homes and very little in remodeling siding jobs. House wrap in general prevents outside water from entering the walls. It helps keep the outside air out. Breathability or Permeance is the term used to describe how much a product will allow your home to breathe. In other words, the average household produces about 6 gallons of water vapors per day. This water vapor must be allowed to pass through your walls. If the water vapors cannot escape, then this is where you hear terms like mold, mildew, and Sick Home Syndrome start to come up. Breathable wraps allow the moisture vapors to pass through to help promote drying in wall systems. House wrap is nothing more than a thick, tough paper-like material with different fibers added to it for strength. However, when used in remodeling it is best to remove the old siding first before installing house wrap, because if it is installed over the existing wood siding, the siding will likely appear to be wavy and uneven. Another important point to consider is the *combustibility* of house wraps or insulations. Please read the manufactures' warning labels. Most manufactures of house wrap and insulation include a warning label that explains, if exposed to fire it will and can promote the spread of fire! Air movement is the only energy saving component to house wrap. DuPont Tyvek HouseWrap is one of the most popular and well known house wraps on the market. Some other notable house wraps include names like CertainTeed Housewrap, Typar Weather Protection Systems, Benjamin Obdyke, Pactiv HouseWrap from Lowes. Different grades of house wraps vary from perforated wraps, Low Perm Microporous film wraps, Grade D building paper, and finally 15lb. felt paper. House wraps are usually sold in rolls and vary in sizes from 3ft x 100ft to 9ft x 100ft and range from $28.00 to $249.00 per roll.

2. Pactiv/Amocor XP 14 Green Guard insulation is the most common insulation product used by remodelers and home improvement contractors. The thickness of Amocor varies from 3/8 of an inch thick to 1 inch thick. The most common size used is 1/4 inch. This product comes as a fanfold type of material with an average size of 4' x 50' size sheets. Its primary function when installed is to provide a flat surface for the installation of siding. It is not very energy efficient. Amocor XP 14 has an R value of less than 1! The R value is the measure of a materials resistance to heat loss. Manufactures have developed different variations of this product. Some are green, blue, or white in color. Some are uncoated polystyrene; some have a thin plastic coating with vapor holes, and some now come with an aluminum foil coating on one side. The most common difference in these products is whether or not it is an EPS (Expanded Polystyrene) or XPS (Extruded Polystyrene). Both products are raw materials of polystyrene resin, but it is the manufacturing process and performance that make the difference in the long run. EPS the plastic resin is expanded, then molded together to form a closed-cell material that uses trapped air as its insulating medium. XPS the plastic resin is liquefied, then extruded through a die and expanded to form a closed-cell material that uses trapped air as its insulating medium. The EPS R-value warranty is 100% R-Value warranty which means an R-4.8 insulation will remain the same throughout its lifetime. The XPS has a 90% R-Value warranty because it loses R-Value overtime. This is important to know whether the insulation you are installing on your home will retain its energy efficiency quality or will it fade away. Here are some Pros and Cons of EPS and XPS:

PROS:

- Recyclable products that assist with LEED points
- Will not support mold or mildew
- Longer R-Value term
- Can be installed below grade

CONS:

- Sun exposure will deteriorate the product
- Solvent based materials cause irreversible damage
- Temperatures above 250 degrees will melt polystyrene
- Polystyrene is flammable

Warning Label: Foam plastic insulation will ignite if exposed to fire of sufficient heat and intensity. Protect XP 14 insulation from exposure to open flame or other ignition sources during shipment, storage, and installation. The cost of the EPS and XPS insulation ranges from $15.00 per square to $75.00 per square.

3.ESP Low-E Housewrap was introduced to me the other day. ESP stands for Environmentally Safe Products, Inc. The ESP Low-E brochure does a great job on selling the reduction of radiant heat gain in your home. They built two homes in Illinois virtually identical and only 25 yards apart. One home is wrapped with the Low-E Housewrap and the other with traditional house wrap. Next, they

compared two thermal imaging pictures of both houses (showing radiant heat transfer). The house with the Low-E Housewrap blew away traditional wrap according to the pictures. I spoke to several installers that seemed to really like the Low-E Housewrap. However, this is when my 23 years in the business and expertise kicks in. The EPS Low-E Housewrap is only 1/4" normal thickness. It is very flimsy, so I can only image this insulation following the imperfections of an uneven wall. Hence, wavy siding installation. One side has an aluminum skin for the reflection of heat. It appears to be an aluminum foil material with a woven mess running through it. The other side is this greenish plastic air foam looking stuff that looks rather cheap. The brochure claims "Engineered to release water vapor", which looks like nothing more than holes poked through it. I would not recommend this form of insulation before you install vinyl siding. The cost is about $38 per roll.

4. Entering the scene and about to take the market over is FULLBACK Progressive Foam. Progressive Foam has been around for 20 years. FULLBACK offers one of the highest insulating values of any of the products reviewed in this report. FULLBACK is an EPS (Expanded Polystyrene). Again, it will retain 100% of its reported R-Value of up to R-4. Fullback transforms ordinary vinyl siding into a "super premium wall system" providing more support than any other insulating product. Why is it important to add a superior insulation to your walls before you side your home? Well, look at it like this; the typical home has wood stud walls and wood is a horrible insulator. If you added up all of the wood studs in your walls and compared it to energy being lost; well, that would be like eliminating the insulation on one side of your home. Imagine, your builder saying to you, "Hey, we are not going to insulate this side of your home." Obviously, you would not be too happy with that conversation, when in reality that is exactly what happens when your home is framed with wood studs. Remember, your home is only insulated between the wood studs, thus the studded areas provide no insulation value. Now imagine wrapping your home with an insulated coffee cup! Heat and cold stay in or it stays out. That is the type of performance you can expect from having Fullback Insulation installed on your home before you side. Fullback will give you superior thermal comfort and energy savings. It will also make siding feel more like real wood, because it eliminates the weakness of hollow back siding when you push on it. Fullback is up to five times the impact resistance of hollow back vinyl siding. It will not contribute to sick home syndrome or mold growth; due to its high permeability rating. This "Wonder" insulator offers homeowners a Double Lifetime Warranty! So, if you sell your home the warranty will transfer to the new owners. It has been known that many forms of insulation will attract insects that will eat the insulation. However, in the case of Fullback it is treated with Perform Guard Termite Resistant product. Perform Guard uses a naturally occurring inorganic mineral (boron) that deters carpenter ants and termites. Fullback has two primary ways it can be installed on your home. The first way is called a "drop in" method. In this case the installer will drop a section of Fullback in behind the siding and nail it and the siding up. This method usually

costs a little more for installation. The other more favorable way to me is when the Fullback is factory attached to the vinyl siding. This method is less time consuming and guarantees a nice job; based on the installer, of course.

In closing, I hope this guide has assisted you in making the right choice for underlayment insulation for your home. Please check out my videos attached to this E book for my homemade burn test on some of these installation products.

For more information concerning insulation or siding products, please contact "The Home Exterior Guru", Bill Kemp at (804)780-3800n or askbillkemp@gmail.com