

**SHELLTER™**  
advanced building science

INCLUDED IN ALL OUR HOMES

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ALWAYS INNOVATING

[schellbrothers.com](http://schellbrothers.com) | (302) 226-1994

20184 Phillips Street | Rehoboth Beach, DE 19971

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**DID YOU KNOW?**

Schellter Advanced Building Science is included in every Schell Brothers Home.

**SHELLTER™**  
advanced building science

Schellter™ Advanced Building Science was developed as part of our continual commitment to provide our homeowners with an exceptional home worthy of the Schell Brothers name and reputation. Schellter is comprised of three components: Enerwize™, SanctuAIR™, and 4Tress™. Our goal was to use the scientific process to create a new type of home – a home that is extremely energy efficient (Enerwize), eliminates the health risks associated with homes (SanctuAIR), and provides unparalleled durability, longevity, strength, and quality (4Tress).

Schellter was developed in collaboration with one of the top building science firms in the country and incorporates the research and technologies of the U.S. Department of Energy’s Building America program along with the U.S. EPA’s Indoor airPLUS program. The extensive research and testing that went into the development of Schellter Advanced Building Science has allowed us to create homes that are leaps and bounds ahead of other new homes on the market today.

Schellter not only contributes to the pride our homeowners take in their Schell Brothers home but also increases the resale value of the home and greatly reduces the ongoing utility and maintenance costs associated with owning a home. And best of all, Schellter is included in every Schell Brothers home, paying for itself three times over.



IS IT WORTH THE COST?

This is a question we are asked often. First, all the Schellter features detailed in this brochure are included in the base price of the home. However, because Schellter far exceeds what is included in a typical new home, we understand why homebuyers may be curious about the costs associated with including such premium features and specifications.

When we were researching whether to upgrade our homes to include Schellter specs, we took one of our most popular floor plans and priced the home with the specs “upgraded” to Schellter specs. The cost difference was around \$31,000 but that cost difference applied only if the Schellter specs were offered as upgrades. We went back to the suppliers and trade partners and said, “Suppose we offer all these specs as standard in all our homes . . . what would the price be then?” Because of the high volume associated with offering Schellter specs in ALL our homes, we were able to negotiate the price difference down to around \$9,600!! Part of the savings resulted from the fact that more energy efficient homes require smaller (lower tonnage) HVAC units.

Here’s the best part: Schellter actually pays for itself three times over!! Here’s how: At today’s energy rates and interest rates, the monthly energy savings associated with Schellter specs is approximately three times larger than the increase in the monthly mortgage payment associated with a \$9,600 increase in mortgage principal. As energy rates increase, this financial benefit grows further. So, the Enerwize component of Schellter more than pays for itself, SanctuAIR, and 4Tress combined. In addition, Schellter features provide a significant boost to the resale value of a Schell Brothers home.

*“Schell Brothers has a remarkable approach to building homes - they are committed to building the best home they can. The exceptional standards set forth in the Schellter Program are among the most comprehensive in the region.”*

-Ed Minch, Energy Services Group



Energy Services Group is the region’s oldest residential energy efficiency consulting company. ESG offers computer modeling, Energy Star certification, Builder’s Challenge verification, NAHB Green certification, testing for code compliance, and guaranteed air sealing. Energy Star certification requires that air leakage in a home be tested by a 3rd party and meet a minimum ACH50 requirement. ESG conducts these tests on Schell Brothers homes and corrects any deficiencies discovered in the process. ESG plays an integral role in ensuring Schell Brothers builds the most energy efficient homes in the region.

**DID YOU KNOW?**

Schellter actually pays for itself three times over!





### DID YOU KNOW?

Homes built closer to sea level experience more rapid heat loss through the walls due to denser air being more heat conductive. For this reason, it is particularly important for houses built near sea level to be well insulated and air sealed.

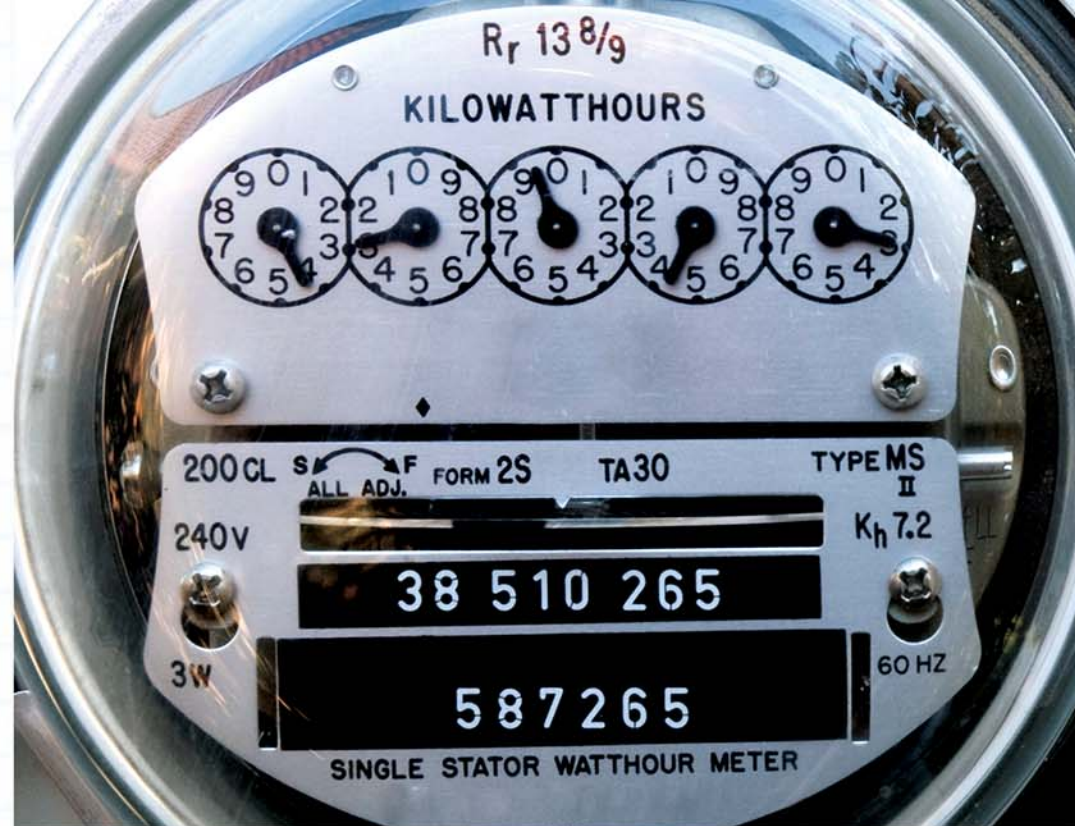
Source: askthebuilder.com

### ENERWIZE™

Enerwize sets a new standard for home energy efficiency by far surpassing the requirements and efficiency ratings of homes built to Energy Star® specifications. While all Schell Brothers homes are also Energy Star certified, the addition of Enerwize features and technology yields homes that are approximately 50% more energy efficient than a typical Energy Star certified home. In addition, Enerwize homes are over 100% more energy efficient than the average existing home, which means an Enerwize home will have energy costs that are less than half of an equivalently sized existing home. By buying a Schellter Home, you're not only saving money, you're helping our environment by reducing the carbon footprint of your home.

*"After many months spent exploring locations and costs of existing housing and new construction options, we decided the Schell Brother's leading edge technology and clean, green, energy efficient innovations were the right match for us."*

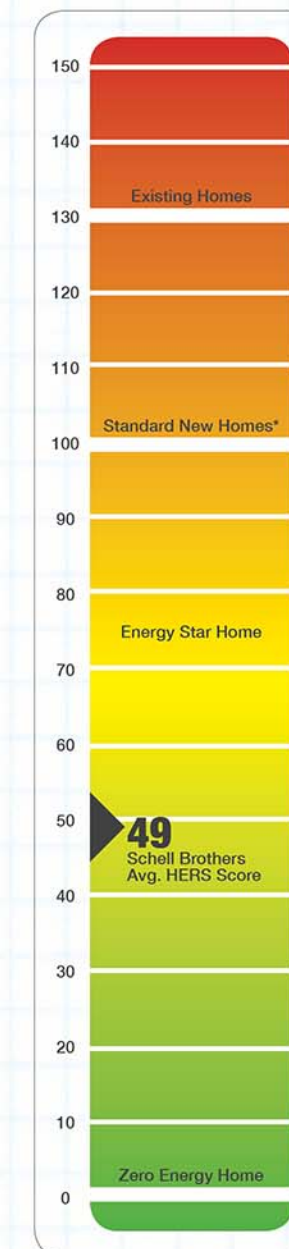
- George and Molley Rudgers, Branch Out Homeowners



### DID YOU KNOW?

The HERS Index Score functions like an energy efficiency version of a MPG (miles-per-gallon) sticker for houses, and informs you about how a home compares to other similar ones in terms of energy usage. A lower score means a more affordable, comfortable and energy efficient home.

### HERS SCALE



\* Built to 2006 IECC® (International Energy Conservation Code) standards.

Source: RESNET®



### HERS SCORE

Developed by RESNET®, the Home Energy Rating System Index (HERS) is the industry standard by which a home's energy efficiency is measured and is the nationally recognized system for inspecting and calculating a home's energy performance. The lower a home's HERS Score, the more energy efficient it is.

A home built by Schell Brothers averages a 49 on the HERS Index which means it is over 100% more energy efficient (uses 51% less energy) than a Standard New Home\* with a HERS Score of 100\*.

\* Source: RESNET®

*You wouldn't buy a new car without knowing its "miles per gallon" rating. So why buy a home without knowing its "home energy rating?"*





THE KINGFISHER



THE HENLOPEN MASTER BEDROOM



THE HENLOPEN GREAT ROOM

## SANCTUAIR™

The Environmental Protection Agency ranks indoor air quality as one of the greatest but least recognized risks to public health. Poor indoor air quality is estimated to cause thousands of deaths and hundreds of thousands of health problems each year, especially among children and the elderly. Most existing and even some new homes contain materials that emit harmful chemical pollutants (aka VOCs or Volatile Organic Compounds). In addition, many homes are breeding grounds for biological pollutants such as mold and bacteria. Respiratory health problems such as asthma and chronic coughs have often been linked directly to poor indoor air quality.

At Schell Brothers, we take this problem very seriously and have included numerous features and construction techniques in our homes to ensure a healthy environment for our homeowners and their families. We call this technology SanctuAIR. SanctuAIR includes features such as MERV 14 air filters, low VOC materials, fresh air ventilation, advanced moisture and humidity management, and many other features. With SanctuAIR, your home is your health sanctuary.

*"Our son has always struggled with asthma. It was refreshing to learn that Schell Brothers goes above and beyond and cares about indoor air quality just as much as we do. It brings us peace of mind to know that Joshua will be breathing easier in our new home."*

-The Winslows, The Retreat at Love Creek Homeowners



SANCTUAIR™  
harboring health

### DID YOU KNOW?

Schell was honored with EPA's 2015 Indoor airPLUS Leader Award. This award recognizes elite home builders and Home Energy Raters participating in the Indoor airPLUS Program. We were one of eight home builders across the nation to receive this award, selected from more than 700 home builders who have joined the Indoor airPLUS Program since it started in 2009.



JAMIE AND JACK HUDSON





THE HARTFORD GREAT ROOM



THE HEBBING POINT DINING ROOM



NICK AND PATTY QUERCETTI

## 4TRESS™

Since most people know very little about the materials and techniques used in home construction, many builders use inexpensive materials and low-cost labor to lower the cost of the home. The thinking is; why spend extra money on things the home buyer doesn't know about? Unfortunately, this philosophy yields homes with very low quality that might look fine at the outset but very quickly become plagued with costly repair and maintenance problems.

At Schell Brothers we are proud of the reputation our homes have for exceptional quality which is why we are constantly researching new products and techniques to further this reputation. With 4Tress Technology, we've taken Schell Brothers quality to a new level. All Schellter Homes meet stringent requirements in 4 categories: durability, strength, moisture & water protection, and sound attenuation.

You can be assured that a Schellter built home will stand the test of time and provide your family with safety and comfort for many years to come.

*"While my wife was checking out the newly furnished models I was busy walking your job sites and observing what goes behind your walls. Based on my experience in building I was impressed with the techniques and materials you use."*

- Nick Quercetti, Branch Out Homeowner



**4TRESS™**  
LEGENDARY QUALITY

### DID YOU KNOW?

One of the benefits most appreciated by our homeowners is how quiet it is within their new home. Advanced framing with 2x6 walls, blown-in insulation, double pane windows, and energy star air sealing combine to create a surprisingly effective sound barrier from outside noise.

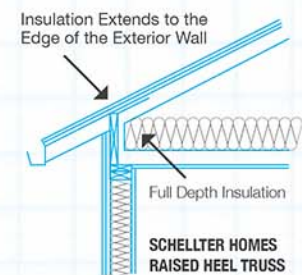




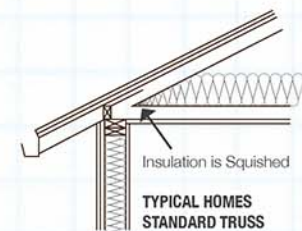
The following pages showcase examples for how Schellter is included in our homes. Each example includes an icon that represents the appropriate Schellter component that relates to that technology or building technique.



## RAISED HEEL TRUSS



A raised heel truss allows insulation to be installed to full depth.



Little to no insulation in corners allows heat transfer.

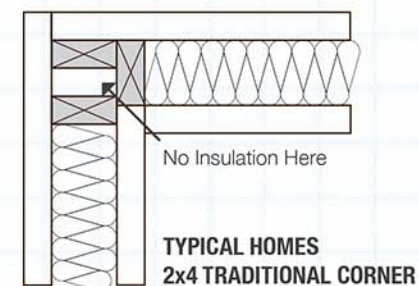
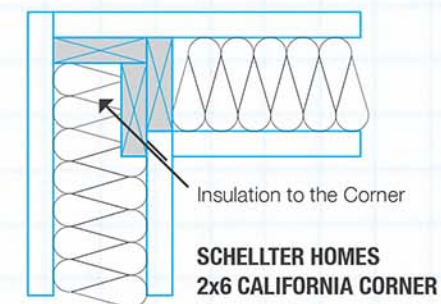
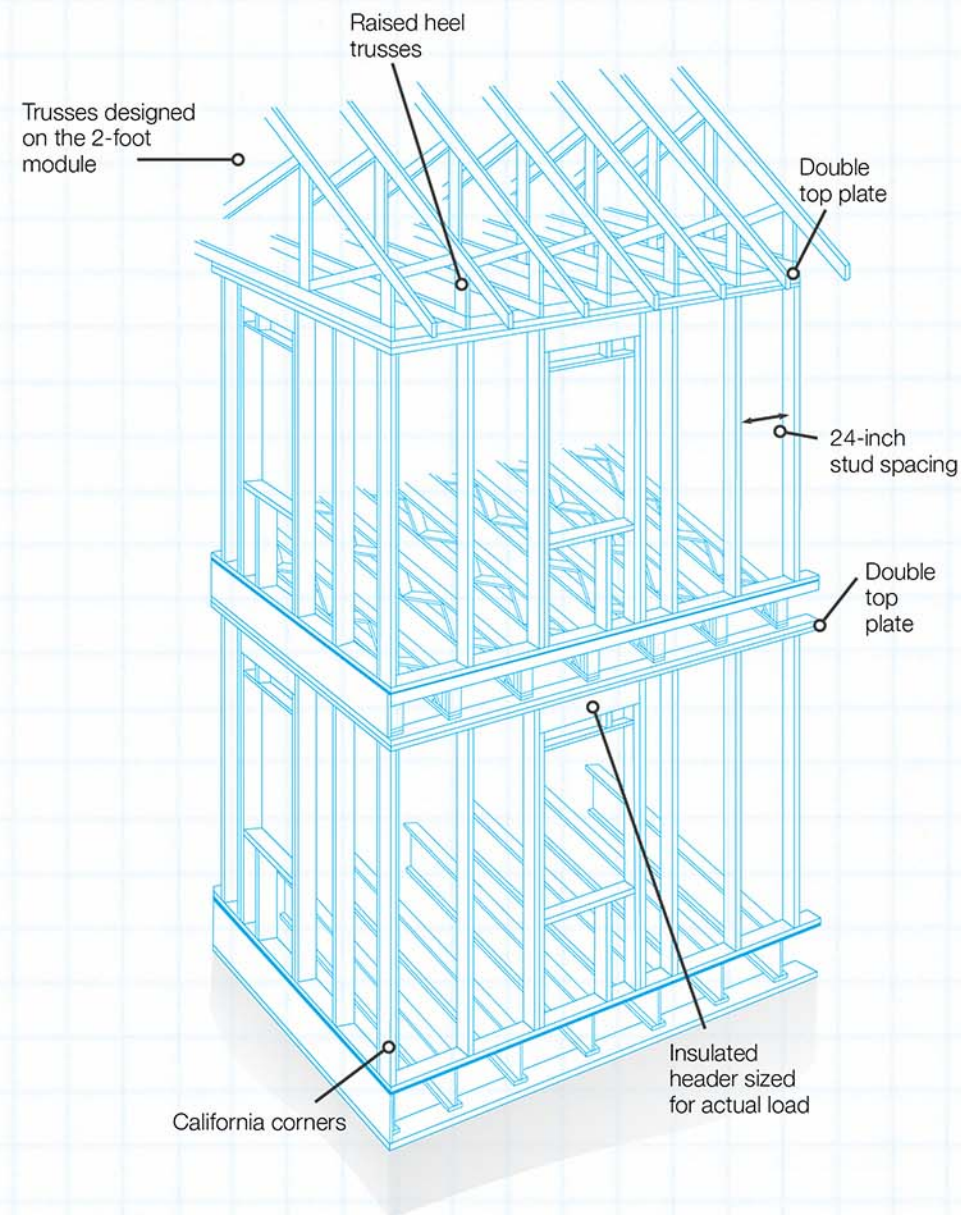
## ADVANCED FRAMING

### WHAT IS IT

A combination of new framing techniques designed to make the home stronger and more energy efficient.

### WHY YOU WANT IT

Advanced Framing techniques maximize the thermal barrier provided by your exterior walls. This is accomplished using new framing techniques to increase insulation and reduce the "thermal bridging" caused by excess wood (a very poor insulator) in exterior walls. Advanced Framing also increases the strength of a home by precision placement of studs in exterior walls to properly transfer loads (weight) from the roof all the way down to the foundation.



## 2X6 EXTERIOR WALLS

### WHAT IS IT

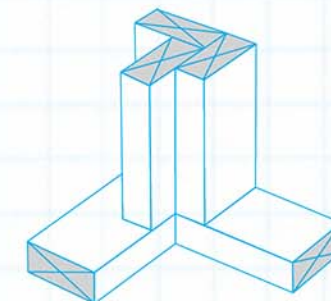
An exterior wall constructed with 2x6 studs rather than the more common 2x4 studs.

### WHY YOU WANT IT

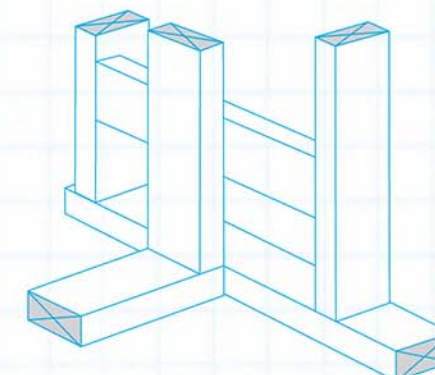
A 2x6 wall is not only significantly stronger than a 2x4 wall, a 2x6 wall allows for 57% more insulation which makes a huge difference in heating and cooling costs. The extra insulation also makes it much quieter inside the home.

**2X6 STUDS = 57% MORE INSULATION**

More insulation makes a huge difference in heating and cooling costs. **2x6 walls are also significantly stronger than 2x4 walls.**



**Schellter Homes "California" Corners**  
California corners decrease lumber use and increase insulation compared with typical corners.



**Schellter Homes T-Wall Alternatives**  
Allows for significantly more insulation at intersections of an interior wall and an exterior wall.



### DID YOU KNOW?

Schellter Homes use LP® TopNotch® 450 3/4" or equivalent sub-floor, offering superior moisture resistance and dimensional stability, backed by a 50 year transferable limited warranty. The product is Green-Made with 100% SFI®-Certified wood, and low VOC, formaldehyde free resins.

### DID YOU KNOW?

The U.S. Department of Energy estimates that the elimination of cold corners and other insulation voids, coupled with the reduced thermal bridging of wider stud spacing, can increase the effective R-value of exterior walls by as much as 30%.

### DID YOU KNOW?

Our homes are built with engineered floor trusses (basement homes) or I joists (crawl space homes), providing a solid floor system with minimal deflection. Take a short field trip through our homes and you'll notice that the floors are stronger, straighter, and quieter than floors built using traditional 2" lumber.





### DID YOU KNOW?

Stick-built homes are superior to panelized homes. There's a reason why multi-million dollar homes are stick built and not panelized.

## STICK-BUILT CONSTRUCTION

### WHAT IS IT

Walls that are framed on-site as opposed to panelized walls that are built in a factory.

### WHY YOU WANT IT

Most production home builders use panelized walls in their homes because it costs less. Although framing is certainly less expensive

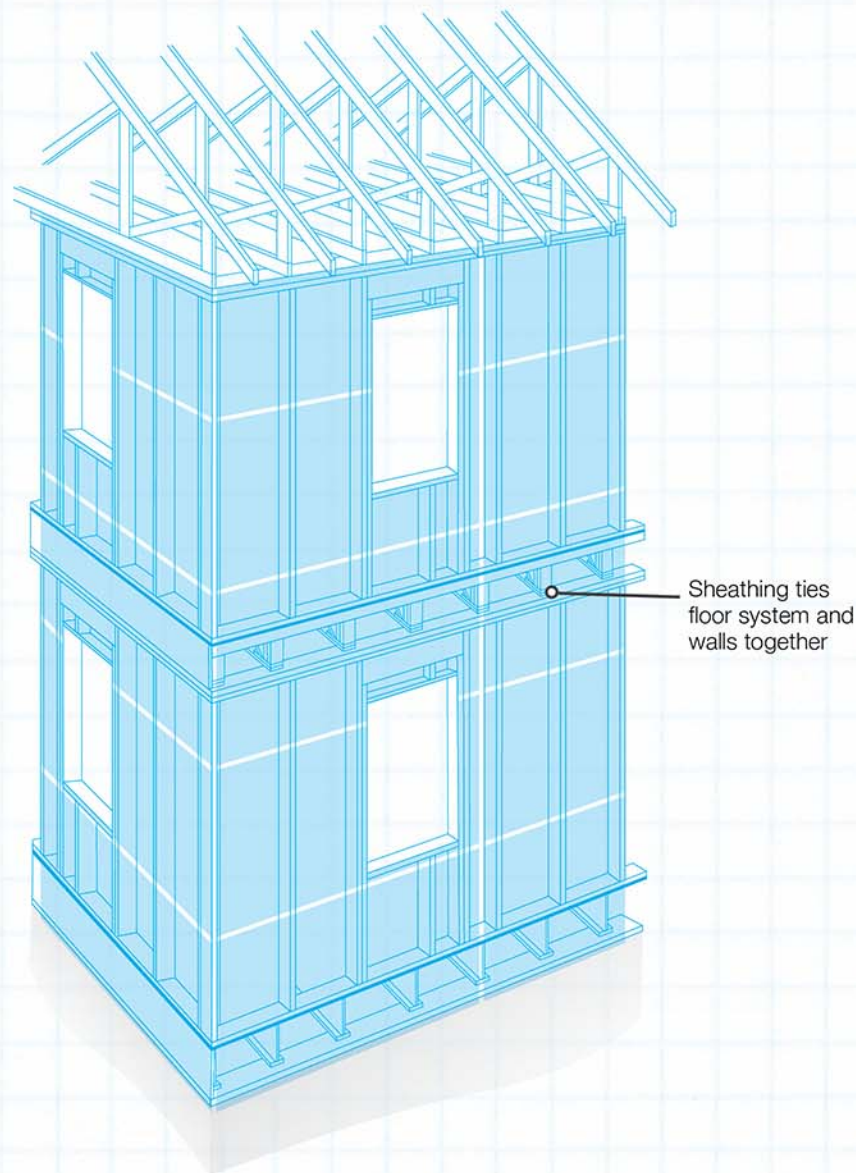
and quicker using panels, stick-built homes are stronger and more energy efficient. Each wall of a stick-built home is built as one continuous and connected structure with overlapping bottom and top plates. Wall sheathing (the OSB or plywood on the outside of an exterior wall) provides a significant amount of a stick-built home's structural integrity by tying the walls and floor systems together via overlapping sheathing. A panelized house is comprised of separate 6' to 10' wall sections that are already sheathed (covered with OSB or plywood). Therefore, there are extra

gaps in the sheathing at the end of each wall panel and at the top and bottom of the floor system. These are in the precise areas where you need solid overlapping sheathing to provide the "tie-down" strength that is so critical to the structural integrity of the home. The added strength associated with stick-built homes is one of the primary reasons factory built or panelized homes tend to suffer far more damage during tornadoes and hurricanes.

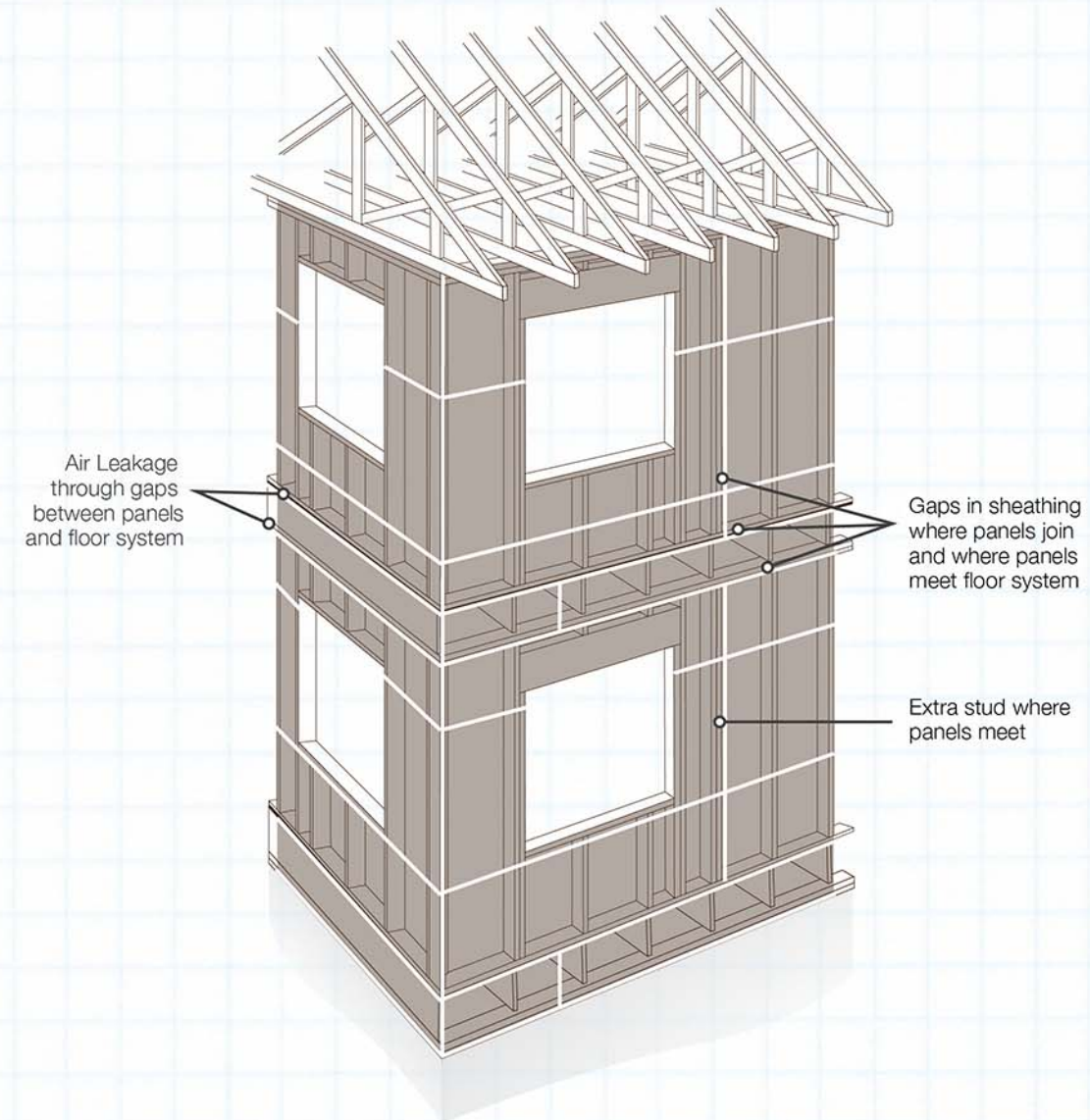
Further, panelized homes introduce extra studs into the exterior walls because there are two studs next

to each other where panels meet. Wood is a poor insulator so extra studs means extra energy loss through the walls. In addition, small gaps between studs, walls, and floor systems are a common source of air infiltration into a home. In a stick-built home, the sheathing covers these gaps and inhibits the air leak. With a panelized home, there is no sheathing to cover these gaps so other than house wrap or tape, there is little to prevent air infiltration at these areas.

## SCHELLTER STICK-BUILT HOME



## PANELIZED BUILT HOME



THE AINSLEY BEDROOM



THE HERON



THE CATALINA



THE HENLOPEN





## WHY AIR SEAL?

Insulation is like a fuzzy wool sweater on a winter day. It will certainly keep you warm if the air is calm. But, if the wind picks up, you are going to need a windbreaker to keep the breeze from carrying away the heat. Air sealing is like adding the windbreaker. It keeps the conditioned air where it belongs.\*

## DID YOU KNOW?

Air leakage accounts for 25% to 40% of the energy used for heating and cooling in a typical home.

Source: energystar.gov



## ENERGY STAR DRAFT STOPPING

We use 3rd party testing to verify that our air exchange rate is less than 3.0 ACH50. The lower the ACH, the lower the energy bill.

## DID YOU KNOW?

Air leakage occurs when outside air enters and conditioned air leaves your house through cracks and openings. Reducing the amount of air that leaks in and out of your home is a cost-effective way to cut heating and cooling costs, improve durability, increase comfort, and create a healthier indoor environment.\*

\*Source: U.S. Dept. of Energy

## ENERGY STAR DRAFT-STOPPING

### WHAT IS IT

Spray foam applied to joints and other areas of the home's exterior envelope designed to prevent unwanted airflow between the outside and inside of the home.

### WHY YOU WANT IT

Air infiltration is a major cause of heat and cooling loss within a home. Even a well insulated home can have high energy bills and uncomfortable drafts if the home is not properly draft-stopped. To ensure the exterior envelopes of our homes are sealed properly, we conduct a third party blower door test on every home. This test measures the effectiveness of the draft-stopping and allows us to identify and correct any deficiencies discovered.



ENERGY STAR DRAFT STOPPING

## AVERAGE AIR LEAKAGE

15-25 ACH50  
Standard Existing Homes

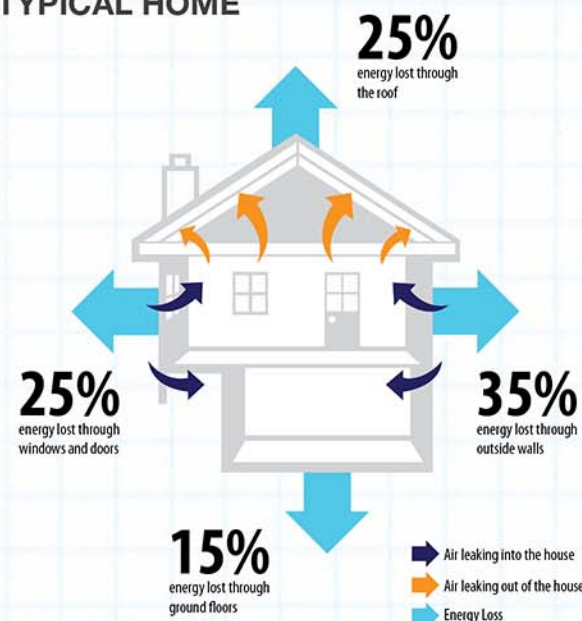
3-5 ACH50  
Average New Homes\*

1.8 AVG ACH50  
Schell Brothers Schellter Homes

Air leakage is measured in air changes per hour at a pressure difference of 50 Pascals (ACH50). Many homes have the equivalent of an open window in terms of air leakage (with all the windows completely closed).

\*Source: 2012 IECC (Climate Zone 4)

## SOURCES OF ENERGY LOSS IN A TYPICAL HOME



Source: CertainTeed



THE SANIBEL STUDY

## R-VALUE

Insulation's primary purpose is to reduce heat transfer. Measuring its effectiveness is referred to as R-Value, which measures insulation's thermal resistance, or its ability to resist the flow of heat through the insulation. The higher the R-Value, the more effective the insulation is at resisting heat flow.

## R-VALUE CHART

	STUD/JOIST SIZE	THICKNESS	R-VALUE
Typical Homes	2x4 BATT Insulation	3.5 Inches	13
Schellter Homes	2x6 Dense Pack Insulation	5.5 Inches	23

Source: Knauf Insulation

Blown-in insulation completely fills all the voids in walls/ceilings creating a consistent and more effective thermal and sound barrier.



THE SANIBEL KITCHEN

"Schell built the best house, to my eye, of the builders we checked out. We looked at a number of homes partially built and Schell was impressive for what went into the house under the skin, anyone can do great cosmetics. Engineering-wise, it is impressive how the energy saving elements work together. The mechanical systems are excellent, you have good design with great construction methods"

- James & Dianne Stevens, Senators Homeowners



BLOWN-IN-BLANKET INSULATION

## BLOWN-IN-BLANKET INSULATION

### WHAT IS IT

Dense Pack Fiberglass Insulation that is "blown-in"

### WHY YOU WANT IT

BATT insulation, still used in most new homes, loses its effectiveness when it is cut or compressed to accommodate electric boxes, wires, light fixtures, or other objects installed in walls and ceilings. Blown-in insulation completely fills all the voids in walls/ceilings creating a consistent and more effective thermal and sound barrier. In addition, blown-in insulation of the same thickness achieves higher R-Values than BATT insulation (R-23 vs R-19 in a 2x6 wall). The blown-in insulation used in Schell Brothers homes is formaldehyde free, non-combustible, non-corrosive, and moisture resistant . . . that means you get a safer product that resists mold growth to protect your home and the people in it!

Each bag of blown-in insulation contains the equivalent of over 30 recycled bottles, and is verified as a GREENGUARD® certified, low VOC Product.\*

\*Source: Knauf Insulation



## DID YOU KNOW?

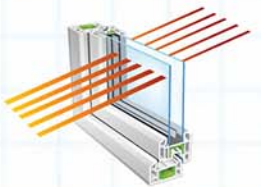
In addition to greater energy-savings, fiberglass insulation delivers excellent sound absorption. The blown-in insulation used in Schellter Homes improves Sound Transmission Class (STC) ratings by 4 to 10 points.\*



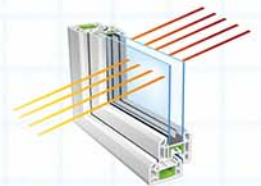


## DID YOU KNOW?

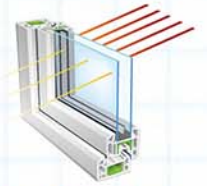
Our window provider created a brand new window specifically designed to minimize the transfer of ultraviolet light, protecting your furniture and finishes from fading.



**.47** STANDARD WINDOW U-VALUE  
R2 R-VALUE



**.32** LOW-E ENERGY STAR WINDOW U-VALUE  
R3 R-VALUE



**.26** SCHELLTER HOMES WINDOW U-VALUE\*\*  
R4 R-VALUE

## ULTRA HIGH PERFORMANCE WINDOWS

### WHAT IS IT

Extremely Energy Efficient windows with a very low U-Value (well insulated) and a very low SHGC (Solar Heat Gain Coefficient).

### WHY YOU WANT IT

A home's windows can be a major source of heat and cooling loss. Many builders reduce the construction cost and energy loss associated with windows by simply including very few windows in their homes. At Schell Brothers, we recognize that natural light in a home greatly affects the feel or happiness of the home. For this reason, we do not "skimp" when it comes to the amount or quality of windows we provide in our homes. To prevent energy loss due to the increased number of windows in our homes, our window provider created a brand new window specifically designed to meet the ultra energy efficient specs we insisted upon. In addition, our windows minimize the transfer of ultraviolet light, protecting your furniture and finishes from fading.



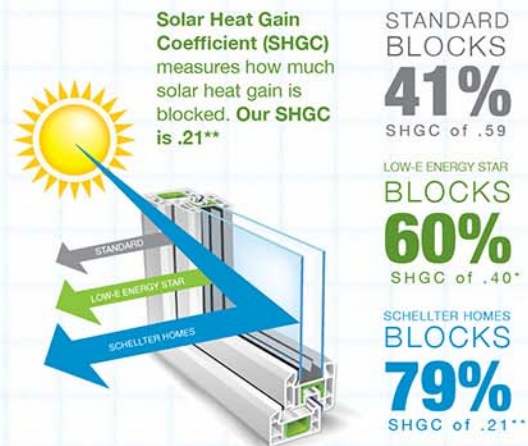
THE KINGFISHER ENTRY



HENLOPEN BREAKFAST NOOK & SUNROOM

## NOT ALL LOW-E WINDOWS ARE CREATED EQUAL.

The lower the U-Value, the greater a window's resistance to heat flow and the better its insulating value. U-Value measures the rate of non-solar heat loss or gain through a window, including the loss or gain due to the window's frame, glass, seals, and spacers. Simply put, the U-Value measures how well a window resists heat transfer through the window.



\*2012 IECC (Climate Zone 4)

\*\*SHGC and R-Value may vary depending upon window size/design



THE MULBERRY GREAT ROOM



## SCHELLTER HOMES

include a 5 CHECK system to alleviate leaks from windows and doors.

- 1 Typar or equivalent house wrap is applied to the exterior sheathing with all seams taped.
- 2 Windows are caulked into place prior to flashing being applied.
- 3 Header flashing is applied over the top flange to the exterior sheathing.
- 4 Windows are then taped per The Energy & Environmental Building Alliance (EEBA™) Guidelines.
- 5 A "rain trough" is built into all window sills. Wind driven rain has the potential to cause water to get behind the tape and housewrap along the window perimeter and flow down to the sill. A rain trough is an extra precaution designed to prevent this water from entering the house walls and causing problems such as mold and wood rot.

"Schell Brothers are at the top of their game. They go above and beyond, are extremely friendly, very professional, have great communication and I know our house will be built the right way... the Schell Brothers way!"

- Laurier Archambeault, Branch Out Homeowner

## 4TRESS LEAK PREVENTION SYSTEM™ (LPS)

### WHAT IS IT

A collection of waterproofing and water infiltration prevention features designed to keep the inside of your home water and moisture free. 4Tress LPS™ features include foundation perimeter J-drains, a sump pump, waterproof capillary break above footings, Watchdog® H3 foundation waterproofing, and our 5 Check leak prevention system for window and door installation.

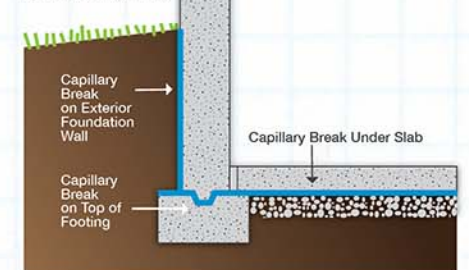
### WHY YOU WANT IT

Water infiltration can wreak havoc on a home. Not only can water leaks ruin the finishes within your home, they can cause dangerous structural issues due to wood rot. In addition, water in the home causes mold growth which can be harmful and sometimes deadly to the home's inhabitants. Building scientists have recently discovered that even a leak free home can have moisture and mold problems due to ground water wicking up the foundation walls through the footing. The waterproof capillary break installed on top of our footings prevents this from occurring.



## WATER MANAGEMENT

A waterproof capillary break is installed on top of our footings to prevent water wicking up the foundation wall.







### DID YOU KNOW?

Tankless water heaters use up to 40% less energy than a traditional tank water heater.

Source: [www.rinnai.us](http://www.rinnai.us)

*"When we decided that Delaware was the place we wanted to be, we looked for energy-efficiency and reliability and good building practices. Schell Brothers reputation in those areas were important to us and the fact that Schell is a Delaware-based, family company. The atmosphere of camaraderie, enthusiasm and knowledge at the open houses we attended made us feel confident that Schell was the right choice."*

- Bette & Maurice McGrath,  
Wagmons West Shore  
Homeowners

## TANKLESS HOT WATER HEATER

### WHAT IS IT

A tankless gas hot water heater about the size of a briefcase.

### WHY YOU WANT IT

A traditional tank hot water heater uses a tremendous amount of energy because it is constantly running. A tankless water heater only runs "on demand" when hot water is needed. Not only does a tankless water heater use much less energy than a typical tank water heater, it takes up less space, never runs out of hot water, and will last about twice as long.

**Endless  
Hot Water**  
hot water on demand



*fresh, clean  
water*

Traditional tank water heaters can get a build up of rust and scale inside their tank

**2x Longevity**

Typical life of up to 20 years

**Space  
Savings**



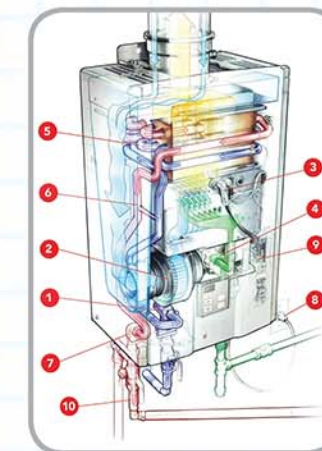
A traditional tank can take up to 16 sq feet  
A tankless is about the size of a carry on suitcase

*Would you leave your car running all day? Certainly not! Then why leave your water heater running all day when you're not at home?*



TANKLESS HOT WATER HEATER

## TANKLESS HOT WATER HEATER



1. A water-flow sensor triggers the heating sequence
2. The combustion fan forces air into the burner
3. The igniter sparks
4. The modulating gas valve supplies fuel to the burner
5. The water supply line passes through the copper heat exchanger multiple times
6. A bypass introduces cold water to the hot water
7. A temperature sensor (thermistor)
8. The electrical demands of the unit are met with a standard 120v power plug
9. The printed circuit board (PCB) is the brain of the unit
10. The hot-water supply flows to the tap at a capacity of roughly 7.5 gpm



### DID YOU KNOW?

PEX tubing won't pit, scale or corrode and, because of its flexibility, it also offers potential freeze-damage protection.

Source: Uponor



THE MULBERRY MASTER BATH



PEX PLUMBING

## PEX PLUMBING LINES

### WHAT IS IT

A plumbing system that provides direct home runs through flexible pipes to each hot water faucet.

### WHY YOU WANT IT

PEX piping systems have far fewer joints and fittings, greatly reducing the potential for leaks. In addition, hot water will reach your faucets much faster than with traditional PVC or copper pipes.



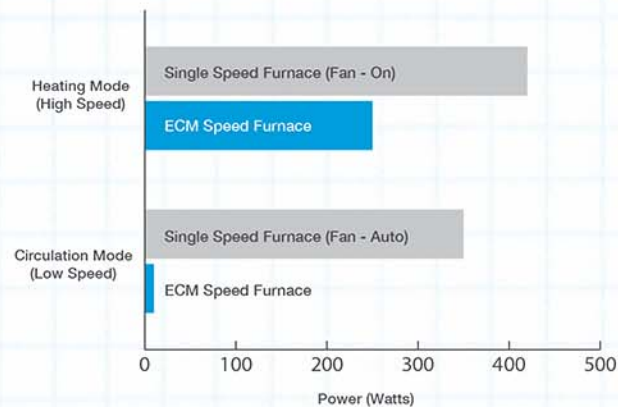


### DID YOU KNOW?

A variable speed air handler is much more effective at removing moisture (humidity) from the air, which not only improves comfort, but reduces problems caused by moisture such as mold. Some systems can remove as much as 24 gallons per day from a home!

Source: Paul Lagrange, Buildwrite Blog

A VARIABLE SPEED AIR Handler  
RUNS AT LOW SPEED **80% OF THE TIME**  
makes less noise and reduces energy costs.



### DID YOU KNOW?

Keeping humidity in the optimal range indoors helps to control bacteria, viruses, fungi (including mold), allergies, and asthma.

Source: Acunite®

## VARIABLE SPEED AIR HANDLER

### WHAT IS IT

An HVAC system that has multiple fan speeds to precisely control the speed and volume of air flowing through the system.

### WHY YOU WANT IT

A variable speed system with ECM (Electronic Communicating Motor) technology is more energy efficient as most times of the year the air handler fan will only need to run on low speeds. The system is quieter and makes very little noise when it turns on due to the ability to start with a low fan speed. A variable speed air handler is much more effective at removing moisture (humidity) from the air which not only improves comfort but reduces problems caused by moisture such as mold.



THE KINGFISHER DINING ROOM



THE HERON BEDROOM

## Cool SAVINGS - 16 SEER

Ultra energy efficient air conditioning unit.



The SEER rating is an indicator of efficiency and stands for Seasonal Energy Efficiency Rating. It measures the ratio of electricity input (KW) to BTU output.

\* Based on U.S. National Average. The 14 SEER and 16 SEER savings are compared to the 10 SEER unit.

5 Year Savings	\$465
10 Year Savings	\$930
15 Year Savings	\$1,395

5 Year Savings	\$610
10 Year Savings	\$1,220
15 Year Savings	\$1,830

## COMFORTNET™ COMMUNICATING CONTROL SYSTEM (THERMOSTAT)

### WHAT IS IT

A thermostat that is programmed to monitor and regulate both temperature and humidity.\*

### WHY YOU WANT IT

Temperature is only part of what makes a home's interior environment comfortable. High humidity can make a home uncomfortable and potentially lead to an unhealthy environment in the home due to moisture related problems. Traditional HVAC systems and thermostats only measure and regulate temperature. Our Smart thermostats combined with our variable speed air handlers allow our HVAC system to independently reduce humidity by cycling down the fan speed to remove more moisture from the air while having a minimal effect on temperature.

\*Our HVAC system can only decrease humidity levels when the A/C is running. Without a humidifier, an HVAC system has no way of increasing humidity levels.



### DID YOU KNOW?

48% of your home's energy use goes toward heating and cooling.

Source: U.S. Energy Information Admin.

"Your quality program meant that by closing we had a three-item punch list with nothing major on it, and we really had to think about what if anything to put on the 30 day list. We have built other houses, and we are impressed with the quality of the house, the attention to detail, the communication throughout the process, and the follow up."

- Robert & Cathy Teleky,  
Senators Homeowners



### DID YOU KNOW?

The amount of humidity varies depending on the season, weather and where you live. Generally, humidity levels are higher in the summer and lower during winter months. Ideally, humidity in your home should be between 30 and 50 percent. Humidity that's too low or too high can cause problems.

Source: The Mayo Clinic





### DID YOU KNOW?

A 2-Stage Furnace is not only more energy efficient, it is also quieter. A 2-Stage Furnace typically operates in the low stage most of the time, producing far less combustion noise than a Single-Stage Furnace.

## 2-STAGE HIGH EFFICIENCY FURNACE

### WHAT IS IT

An energy efficient furnace that has the ability to run at two speeds compared to most furnaces which are either on or off.

### WHY YOU WANT IT

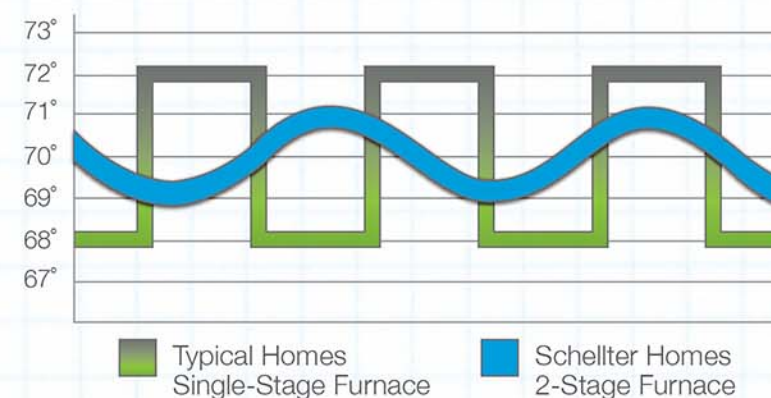
A 2-Stage Furnace is like having 2 furnaces in one; an energy efficient low-stage furnace for moderately cold days, and a heavy duty, high-stage furnace for very cold days.



BLOWER DOOR TEST

## HIGH EFFICIENCY 2-STAGE FURNACE

2-Stage Furnaces are designed to allow the system to run at lower, more efficient levels providing more consistent comfort and lower energy bills.



### DID YOU KNOW?

To ensure proper duct sealing, all Schellter Homes receive a 3rd party Duct Blaster Test which measures the amount of air leakage in the duct system so that any deficiencies can be identified and corrected prior to installing drywall.

## PROPERLY SEALED DUCTWORK LOCATED WITHIN CONDITIONED SPACE

### WHAT IS IT

Ductwork that is located predominantly within conditioned space where all the seams are sealed with tape and mastic to ensure little to no air leakage.

### WHY YOU WANT IT

According to the U.S. Dept. of Energy, up to 20% of the energy used to heat & cool a home is wasted energy lost due to duct leakage. Proper duct sealing can greatly reduce or eliminate this source of energy loss. Locating the ductwork within conditioned space further increases the efficiency by reducing the heat transfer through the duct walls.



PROPERLY SEALED DUCT WORK

## FRESH AIR VENTILATION SYSTEM

### WHAT IS IT

A ventilation system that circulates fresh air from outside into the home.

### WHY YOU WANT IT

Schellter homes are built extremely energy efficient which means there is very little air leakage through the home's exterior envelope. While this is great for energy efficiency, a home needs fresh air to create a healthy indoor environment. Schell Brothers homes include a fresh air ventilation system that circulates fresh air into the home at a rate consistent with the size of the home and sufficient to maintain healthy indoor air quality.



### DID YOU KNOW?

Indoor air quality (IAQ) refers to the condition of the air in your home. It is made up of temperature, humidity, air purity and air freshness. Poor IAQ can cause problems that effect your home furnishings, belongings and your family's health.

Source: EPA Home Helps



THE WHIMBREL DINING ROOM

### DID YOU KNOW?

EPA studies show that the concentration levels of many air pollutants are on average two to five times worse indoors than outdoors. Further, the EPA estimates that the average American spends 90% of their time indoors.





This is scary, isn't it? Don't worry this photo wasn't taken in a Schell Brothers home. This picture was taken in an existing home with mold issues. Our technologies and techniques of insulating and conditioning our crawl spaces result in a healthy environment.



## INSULATED CONDITIONED CRAWL SPACE

### WHAT IS IT

A crawl space that has no outside vents, is insulated, and is conditioned by the HVAC system.

### WHY YOU WANT IT

It is only in the last several years that building scientists have realized that traditional vented crawl spaces included in most existing homes are harmful. The moist warm air found in vented crawls in the summer months creates a perfect environment for mold and bacteria which can infiltrate the living area of the home through HVAC ducts and air leaks in the floor system. In addition, a vented crawl space makes the entire home a conditioned island surrounded by unconditioned air on all sides. Insulating and conditioning the crawl space creates a thermal connection to the ground and essentially eliminates the majority of heat loss through the floor system, not to mention eliminating the discomfort caused by cold floors in the winter.



## CRAWL SPACE DEHUMIDIFIER

### WHAT IS IT

A Dehumidifier installed within the crawl space.

### WHY YOU WANT IT

The Delaware area is very humid for much of the year and even a conditioned crawl space may experience elevated levels of humidity. Humid crawl spaces are susceptible to mold, mildew, and musty odors that can be harmful and irritating to the home's inhabitants. A dehumidifier significantly lowers crawl space humidity, thus enhancing the air quality and comfort of the home.

*We install a humidistat within the home to monitor and control the humidity within the crawl space.*

## LOW VOC MATERIALS

### WHAT IS IT

Building materials that emit little to no VOCs (Volatile Organic Compounds).

### WHY YOU WANT IT

Research funded by the EPA has found that most homes in the U.S. contain high levels of VOCs due to the products used in constructing the home. VOCs can lead to adverse health conditions such as eye, nose, and throat irritation; dizziness, headaches, loss of coordination, nausea; central nervous system, liver, and kidney damage; and even cancer. VOCs are emitted by building products such as paint, carpet, adhesives, OSB/plywood, and other building materials. The EPA discovered that not only do these products emit VOCs during installation but most will continue to emit VOCs long after installation. Schellter Homes use low to no VOC materials to ensure that our homes provide a healthy environment for our homeowners and their families.



*"We had researched builders in the Rehoboth/Lewes area and quickly learned of Schell's stellar reputation. Their amazing team and green home philosophy led us to narrow our search to only Schell communities."*

- Carol Lynn Centonze & Anne Loneragan  
Breakwater Homeowners

## DID YOU KNOW?

We use low to no VOC materials in our homes and most are GREENGUARD Certified. A GREENGUARD Certification indicates products have been screened for over 10,000 chemicals. Certified products help create healthier indoor environments.



## DID YOU KNOW?

Condensation is a major source of moisture and mold within a home. Condensation can be greatly reduced by regulating humidity levels within the home.

Source: EPA





## MERV 14 FILTERS



**MERV** (minimum efficiency reporting value) describes the size of the holes in the filter that allow air to pass through. The higher the rating (1-16), the smaller the holes, and the better the filtration

# H

**Rated high** enough to be used in hospitals

MERV 14 filters effectively reduce pollen, dust, pet dander, mold spores, dust mites and other allergens from indoor air.



Pet Dander



Mold/Fungi



Viruses



Dust Mites



Bacteria



Pollen



THE HERON BEDROOM

## MERV 14 AIR FILTER

### WHAT IS IT

A MERV 14 rated high efficiency air filter installed in the HVAC system. MERV stands for Minimum Efficiency Reporting Value and measures the effectiveness of air filters. MERV values range from 1 to 16 with a higher value being more effective. A MERV 14 filter has 20 times the surface area of a standard pleated filter.

### WHY YOU WANT IT

A typical residential air filter is less than MERV 5 and removes only large particles from the air. Most harmful particles such as bacteria, mold, and allergens are relatively small and can only be removed by more advanced filters. A MERV 14 filter will remove almost all of the harmful particles in the air. In fact, MERV 14 filters are rated high enough to be used in hospitals.



MERV 14 filters are an ideal choice for asthmatics.

## DID YOU KNOW?

In recent years, comparative risk studies performed by the EPA and its Science Advisory Board (SAB) have consistently ranked indoor air pollution among the top five environmental risks to public health.

Source: EPA



THE HENLOPEN BEDROOM

## BRINGING HAPPINESS HOME

While our culture is the spirit of Schell Brothers, the foundation of our team lies in a relentless commitment to excellence, and that means using the highest quality materials, hiring the best employees and contractors, and designing the most attractive and functional homes. The bottom line is that you deserve a home that will make you proud and that's at the forefront of our mind throughout the entire process.

Home is where you can be yourself, spend time with family and entertain friends. At Schell Brothers, we're committed to providing a healthier, more comfortable and efficient living environment that will positively impact your life for years to come. We're proud to build your home and excited to welcome you into our extended family.

*Save. Breathe. Relax. Smile.*

*"We bought a Schell home because we felt it was built well and the fact that it is an energy efficient home was important to us. Our previous home was not an energy efficient home and was poorly constructed. Our over-all experience has been over and above our expectations."*

- Michael & Theresa Maksymow, Branch Out Homeowner



THE SENARDS

## BUILDING VALUED PARTNERSHIPS



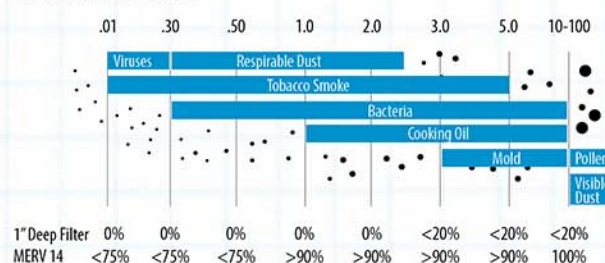
Schellter Homes receive only the highest certifications from the following organizations: U.S. Environmental Protection Agency's Indoor airPLUS Program, Energy Star®, The Home Builders Association of DE and The National Association of Home Builders® (NAHB).



In 2015 the EPA recognized Schell Brothers with the Indoor airPLUS Leader Award for our outstanding commitment to building homes with improved indoor air quality.

## Particle-Removal Efficiency - Healthy Air Cleaners

Particle size in microns



**MERV 14 filters have 20x the surface area of a standard pleated filter.**

Percentages are averages. Information may vary.