

# Residential Insulation

PRODUCT SELECTION GUIDE





# CertainTeed Insulation

*Complete Comfort for your customers—and you*

CertainTeed knows your business depends on giving your customers the best products and service—so we do the same for you.

We're the building science experts. We help you deliver the combination of thermal performance, air tightness, acoustics and moisture management your customers need. Like you, we know that no insulation product or system is right for every part of every home, budget or climate. That's why we offer **a complete line of high performance insulation products.**

Bring us your projects. Bring us your challenges. We've been in this business—and dedicated to your success—for more than 100 years. We're here whenever you need us with the quality products, support and services that help you create the homes your customers want. Homes of Complete Comfort.



## *Quality—Selection—Service*

### Products

With a comprehensive product line, CertainTeed has everything you need to satisfy even the toughest building codes and customer demands for any new build, retrofit or remodel.

### Support

We're committed to helping you succeed. We provide prompt, outstanding technical assistance along with a full range of online calculators, marketing tools and other business-building resources.

### Service

We'll help you select and customize the best insulation system—the best solutions—for your customers. With our Service Advantage, Customer Bill of Rights and unmatched expertise, you can be sure you get what you need, when you need it.

### Sustainability

Like many of your customers, CertainTeed is committed to environmental responsibility. With the market for green buildings booming, we have the products, tools and certifications you need to meet green building standards.

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## Comprehensive Solutions Backed by Building Science

Inside this catalog you'll discover how CertainTeed's breadth of residential insulation products gives you the best solution for any location, building, budget and customer.

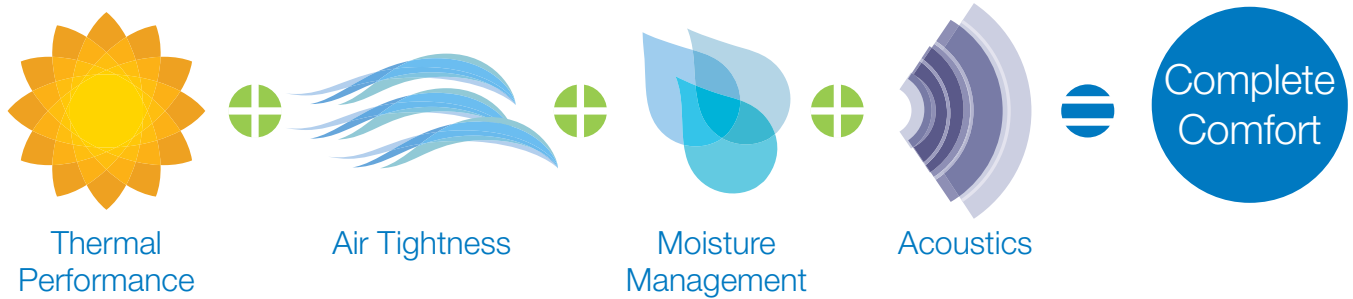
We have what you need to create the most efficient and comfortable home possible, from fiberglass Sustainable Insulation® and blowing wool to smart vapor retarders and air barrier systems.

To learn more about the many services we provide to our partners, talk to your CertainTeed representative or give us a call. We're always happy to hear from you.

*Product availability listed within this catalog is subject to change without notice and may vary by location. Additional R-Values and sizes may be available. Please contact CertainTeed for more information.*

# Complete Comfort

Your insulation choice impacts thermal performance as well as moisture management, air tightness and acoustics. It's important to choose wisely during a home's construction, as upgrading later can be difficult and expensive. When the insulation you choose successfully controls all of the following aspects, you can achieve a higher level of comfort for your customers.

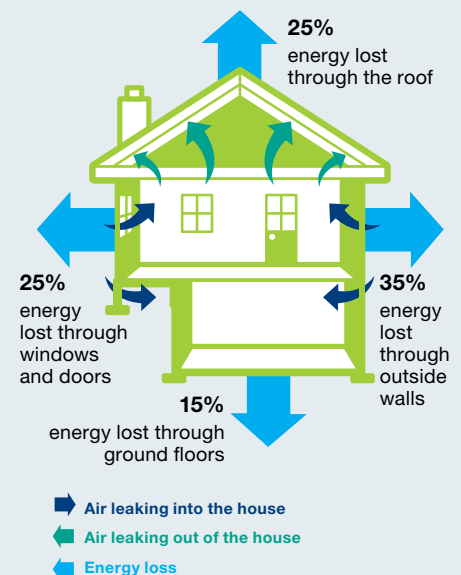


Learn more at [certainteed.com/completecomfort](http://certainteed.com/completecomfort)

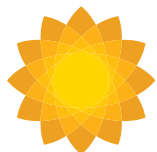
## The Benefits of Insulation

An under-insulated home will experience substantial heat loss and gain throughout the year—and there are literally millions of older homes that lack sufficient insulation. Sealing leaks and installing high quality CertainTeed insulation benefits homeowners in several ways:

- Improves comfort, with fewer drafts and hot and cold spots
- Lowers energy bills year-round for the life of the home
- Helps ensure performance of HVAC systems
- Provides potentially higher resale value
- Protects roofs against winter ice dams



# Create a More Comfortable Home



**Thermal Performance** High efficiency fiberglass insulation enables you to significantly improve the thermal performance of your customers' homes. It'll save money on energy bills, and they will enjoy a more comfortable living space.



**Air Tightness** Sealing air leaks and infiltration points creates a tighter building envelope. In addition to reducing drafts and hot and cold spots throughout the home, conditioned air stays inside where it belongs, increasing overall thermal efficiency.



**Moisture Management** Beyond traditional facings, smart vapor retarders can help reduce the risk of mold and mildew, improving indoor air quality and providing a healthier environment for occupants. There's also less chance you'll be called back to deal with moisture problems.



**Acoustics** Adding insulation helps prevent unwanted outside noise from penetrating the living space, and—when added to interior walls—limits transmission of noise from room to room.

**Fire Safety** Because fiberglass is made primarily from sand and glass, it's naturally noncombustible and stays that way for the life of the home. Other types of insulation require fire-retardant additives, which can lose their effectiveness over time.



	Thermal Performance	Air Barrier	Superior Moisture Protection	Acoustics	Fire Safety
Sustainable Insulation® - unfaced					*
Sustainable Insulation® - kraft					
SMARTBATT™					
SpeedyR™					
EasyTouch™					**
Basement Wall					
Insulsafe® SP					
OPTIMA®					
TrueComfort®					
MemBrain™					*

\*Class A fire rated.

\*\*Only Unfaced EasyTouch is Class A fire rated.



# Fiberglass Batt and Roll Insulation

Fiberglass insulation delivers exceptional energy efficiency and thermal performance that result in more comfortable living spaces and lower energy costs for homeowners.

Heat constantly moves to colder areas, which is why homes need thermal resistance (measured by R-Value) between the indoors and outdoors. **The higher the R-Value, the greater the insulating power.**

CertainTeed fiberglass insulation is compression packaged for ease of handling and comes in a wide range of R-Values, sizes and facings. **It's critical to determine the recommended R-Value according to your region.** However, code is a recommended *minimum*.

## sustainable insulation.

Kraft and Unfaced Product Availability	
R-Value	R-11 - R-49
Thickness	3½" - 15"
Width	15" - 24"



CertainTeed is dedicated to Building Responsibly™. This commitment means more than simply producing high performance insulation that has a positive impact on the environment by reducing energy consumption. It also means minimizing the impact of our manufacturing and shipping operations, and developing next-generation insulation products that raise the bar for environmental performance.

Our line of Sustainable Insulation® is just such a product. It is made with a renewable, plant-based binder, and does not have any formaldehyde, harsh acrylics, dyes or unnecessary fire-retardant chemicals added. What's more, the manufacturing process for Sustainable Insulation requires less water and consumes less energy than standard processes.

With exceptional handling benefits including superior rigidity, recovery and cutability, Sustainable Insulation improves job site efficiency. Batts and rolls are less dusty and easier to work with, while also providing the excellent thermal, acoustical and indoor air quality performance that customers demand.



## Product Benefits

Sustainable Insulation can save 12 times as much energy in the first year as the energy used to produce it. It will also last for the life of the building, as it won't settle, accumulate moisture or lose its R-Value over time.

## Green Stewardship

Sustainable Insulation meets or exceeds all performance standards required for insulation products in the U.S. and Canada. It is also GREENGUARD® Gold Certified and Home Innovation NGBS Green Certified. CertainTeed Insulation has a number of corporate affiliations and accreditations as well, including:

- ENERGY STAR®
- GreenCircle® Certified—3rd party recycled content certification
- U.S. Green Building Council (USGBC)—member
- North American Insulation Manufacturers Association (NAIMA)—member
- All U.S. manufacturing facilities are ISO 14001:2008 certified
- EPDs and HPDs are available for Sustainable Insulation products

## Fire Safety

Naturally noncombustible, unfaced Sustainable Insulation requires no chemical additives to provide the fire protection that helps give your customers peace of mind.

- Classifies as noncombustible under ASTM E136 testing
- Meets Class A Standards under ASTM E84 testing
- Accepted as a fire block in wood frame walls under international and many local building codes

Other types of insulation may be naturally noncombustible, but Sustainable Insulation is more economical, more flexible and lighter weight.

Check out all of our fire performance solutions at [certainteed.com/fireperformance](https://www.certainteed.com/fireperformance)



### Quality of Living.

**Easy to Maintain.** Delivers long-lasting comfort through thermal performance, reduced noise and better air quality.



### Renewable. Recycled.

**Plant Based.** Made of rapidly renewable content (sand), a high percentage of recycled glass and a plant-based binder.



### Make it. Move it.

**More Efficient.** Less waste in manufacturing and optimized distribution further reduce impact.



**Easy Installation.** Softer touch makes product easy to handle and install, but does not compromise rigidity or recovery.





# EasyTouch™

ENCAPSULATED FIBERGLASS INSULATION

EasyTouch™ can be used in attics, crawlspaces, above commercial ceiling grids and anywhere a Class A fire rating is needed. It is completely nontoxic and made with a plant-based binder without formaldehyde, acrylics, dyes or unnecessary fire retardants added. This product is coated with a perforated plastic film, making installs easier and cleaner with less dust and free particles. EasyTouch's coating also limits itching and irritation.

\*Only unfaced EasyTouch is Class A Fire Rated

EasyTouch Product Availability	
R-Value	R-13 - R-30
Width	15" - 24"
Length	48" - 32'

Special widths and lengths may be available. Consult your local territory manager.



## Features

- Comfort-coated with EasyTouch perforated plastic film for cleaner, easier installation
- Made with a high percentage of recycled and renewable materials, including a plant-based binder
- Versatile—endless applications
- GREENGUARD® Gold Certified—helps ensure superior indoor air quality

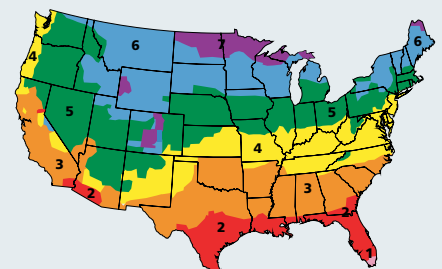
## Why insulate the attic?

If insulation is just level with or below the floor joists, an upgrade is needed. Adding insulation to a home's attic is the easiest and most cost-effective way to improve energy efficiency and reduce utility bills.



Attic insulation is the #1 home improvement homeowners can make to enhance their home's value, returning 107% on its cost.

– Remodeling Magazine, 2017  
Cost vs. Value Report



DOE Recommended R-Values for Attics	
Zone	Attics
1	R-30 to R-49
2-3	R-38 to R-60
4-8	R-49 to R-60

Based on 2015 & 2018 IECC





## SpeedyR™

### Tabless Fiberglass Insulation

SpeedyR™ is intended for use as thermal insulation in walls with standard-width wood-framed construction where a vapor retarder is needed. This product also provides excellent acoustical performance. SpeedyR has a kraft facing without flanges and can be friction-fit between wall studs for non-exposed applications; stapling is not required because the fiberglass fills the entire cavity. Installing this product will save time and improve productivity by reducing field labor.

SpeedyR Product Availability	
R-Value	R-13 - R-21
Thickness	3½" - 6¼"
Width	11¼" - 15¼"



## Basement Wall Insulation

Basement Wall Product Availability	
R-Value	R-11 - R-19
Thickness	3⅞" - 6¼"
Width	48" - 72"

Basement wall insulation is available with two facings—white PSK and standard FSK, both perforated—and is designed for use in residential applications where code or builder preference specifies an insulated basement area. This product is intended for applications where the insulation will be left exposed. It can be applied either half-wall or full-wall. (Half-wall is not recommended for hollow block walls; they should be insulated full height.) Rolls are available in 50-foot (15.25 m) lengths.



# Fiberglass Blowing Insulation

CertainTeed offers loose fill fiberglass blowing insulation products designed specifically for attics (InsulSafe® SP and TrueComfort®) and for closed cavity applications like sidewalls, cathedral ceilings and midfloors (OPTIMA®). The pneumatic blowing machines used to install these products are fast and efficient, so you can finish more projects in a day and maximize your revenue. The insulation fills every nook and cranny to deliver both thermal and acoustical benefits, and will not settle over time.

## InsulSafe® SP

### Premium Loose Fill Fiberglass Insulation

InsulSafe SP premium loose fill insulation improves energy efficiency and reduces energy consumption in both new and older homes. Installing thermally efficient InsulSafe SP fiberglass insulation is one of the most cost-effective energy conservation measures you can offer your customers. Because it's blown in, it fills in even the most hard-to-reach areas of the attic. And it can be quickly, cleanly and easily installed right over existing attic insulation.



InsulSafe SP is manufactured with no formaldehyde and is GREENGUARD® Gold Certified for low chemical emissions into indoor air during product usage.



Download our app to access:

- Attic Estimate Calculator
- Install Troubleshooting Guide
- Product Information and Videos

[certainteed.com/insulsafeapp](http://certainteed.com/insulsafeapp)

### Open Attic Application

R-VALUE	BAG REQUIREMENTS	MAXIMUM COVERAGE	MINIMUM WEIGHT	MINIMUM INSTALLED THICKNESS	MINIMUM SETTLED THICKNESS
To obtain a thermal resistance (R) of:	Number of bags per 1000 sq. ft. of net area:	Contents of bag shall not cover more than: (sq. ft.)	Weight per sq. ft. of installed insulation shall not be less than: (lbs./sq. ft.)	Should not be less than: (in.)	Should not be less than: (in.)
<b>60</b>	28.9	34.5	0.897	21.75	21.75
<b>49</b>	23.5	42.6	0.727	18.25	18.25
<b>44</b>	20.8	48.0	0.646	16.50	16.50
<b>38</b>	17.9	55.7	0.556	14.50	14.50
<b>30</b>	13.8	72.5	0.427	11.50	11.50
<b>26</b>	11.8	84.8	0.366	10.00	10.00
<b>22</b>	9.9	101.4	0.306	8.50	8.50
<b>19</b>	8.6	116.2	0.267	7.50	7.50
<b>13</b>	5.9	170.4	0.182	5.25	5.25
<b>11</b>	5.0	200.5	0.155	4.50	4.50

R-Values are determined in accordance with ASTM C687 and C518. Complies with ASTM C764 as Type 1 pneumatic application.



## Dense Pack with OPTIMA

OPTIMA blown-in fiberglass insulation provides the same reductions in air permeance as cellulose in dense packing applications—with a higher R-Value per inch, high recycled glass content and fewer packages required. Fiberglass doesn't settle, won't absorb moisture or support mold growth, and generates less dust during installation.

For additional dense pack information, contact your territory manager or refer to dense pack sell sheet (30-24-325).

## OPTIMA MidFloor

Midfloor is a reference to the space between floors in residential, multifamily and commercial buildings. Using OPTIMA blown-in fiberglass insulation to fill this space improves acoustical performance by limiting the noise transmissions between floor assemblies. OPTIMA also provides high quality fire protection benefits.

For additional midfloor information, contact your territory manager or refer to OPTIMA MidFloor Brochure (30-24-352).

# OPTIMA®

## Premium Blown-In Insulation System

OPTIMA gives homes a custom-designed, seamless, thermally efficient sound-reducing blanket that completely fills any void. No other fiberglass product installs better or can be trusted to perform better than OPTIMA. OPTIMA insulation is blown behind a special OPTIMA fabric, or equivalent, in new construction. It can also be used for retrofitting existing sidewalls. This product is formaldehyde-free and is designed specially for closed-cavity applications.



## Sidewall, Cathedral and Other Closed Cavities

THICKNESS INCHES	R-VALUE	DENSITY LBS. PER CU. FT.	MAXIMUM SQ. FT. COVERAGE PER BAG	BAGS PER 1,000 SQ. FT.	MINIMUM WEIGHT LBS. PER SQ. FT.
3.5 (2 x 4)	14	1.2	88.6	11.3	0.350
3.5 (2 x 4)	15	1.5	70.9	14.1	0.438
5.5 (2 x 6)	21	1.2	56.4	17.7	0.550
5.5 (2 x 6)	24	1.8	37.6	26.6	0.825
7.25 (2 x 8)	29	1.2	42.8	23.4	0.725
7.25 (2 x 8)	31	1.6	32.1	31.2	0.967

Coverages above are based on a nominal 31-lb. bag weight. For optional densities, refer to the OPTIMA Builder's Statement (30-24-218).





## Go Retrofitting™

Forty-six million U.S. homes either have no insulation at all in the attic or are woefully under-insulated. The TrueComfort system is an excellent way to tap this lucrative retrofit market. Distributors can purchase blowing machines and rent them to local contractors, while contractors who are serious about adding insulation retrofits to their service offering can buy their own machines.

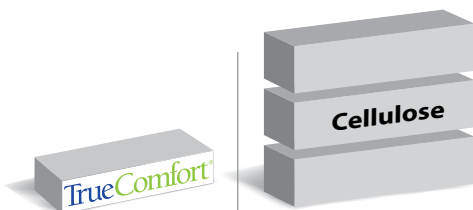
## TrueComfort®

### Blown-In Fiberglass Insulation

TrueComfort® is the perfect product for contractors and remodelers who want to add attic insulation retrofits to their list of services. It's actually a system: TrueComfort blown-in fiberglass insulation and the blowing machine used to install it. The insulation is super-expanding, so fewer bags are required to achieve the target R-Value than with cellulose insulation products. And, like other CertainTeed fiberglass blowing insulation, it's easy to install, less dusty, noncombustible and noncorrosive, and won't settle over time.

The TrueComfort machine is portable and simple to operate. It consists of two pieces, a base and a hopper, for easy transportation. Wheels on the base make it maneuverable, and it runs off of one basic 15-amp outlet.

### Open Attic Application



TrueComfort is easy to transport: 16 packages vs. 46 packages of cellulose for a 1000 sq. ft. area.

Achieve the same R-Value more easily and with less waste.

R-VALUE	BAG REQUIREMENTS	MAXIMUM COVERAGE	MINIMUM WEIGHT	MINIMUM INSTALLED THICKNESS*	MINIMUM SETTLED THICKNESS
To obtain a thermal resistance (R) of:	Number of bags per 1000 sq. ft. of net area:	Contents of bag shall not cover more than: (sq. ft.)	Weight per sq. ft. of installed insulation shall not be less than: (lbs./sq. ft.)	Should not be less than: (in.)	Should not be less than: (in.)
<b>11</b>	5.7	176.9	0.167	4.90	4.90
<b>13</b>	6.6	150.5	0.196	5.70	5.70
<b>19</b>	9.9	101.5	0.291	8.20	8.20
<b>22</b>	11.3	88.3	0.334	9.30	9.30
<b>26</b>	13.4	74.7	0.395	10.80	10.80
<b>30</b>	15.5	64.5	0.457	12.30	12.30
<b>38</b>	19.8	50.5	0.584	15.20	15.20
<b>44</b>	23.1	43.4	0.680	17.30	17.30
<b>49</b>	25.8	38.8	0.761	19.00	19.00
<b>60</b>	32.1	31.2	0.947	22.75	22.75

R-Values are determined in accordance with ASTM C687 and C518. Complies with ASTM C764 as Type 1 pneumatic application.

\*Minimum Installed Thickness: When using the TrueComfort blowing machine and 2-1/2-inch-diameter x 100-foot internally corrugated blowing hose. Based upon 29.5-lb. package net weight. This product is designed to be installed using the TrueComfort blowing machine and accessory equipment. Product performance, including coverage, may vary if installed using different equipment.

For Minnesota coverage chart, go to [www.certainteed.com/truecomfort](http://www.certainteed.com/truecomfort).



# SMARTBATT™

with MoistureSense™ Technology

SMARTBATT Product Availability	
R-Value	R-11 - R-38
Thickness	3½" - 12"
Width	15" - 24½"

## Intelligent Moisture Management

Moisture is unavoidable. It can get into wall cavities from the outside during hot humid summers and from the inside during cold dry winters. Traditional vapor retarders can trap moisture within the walls, creating a breeding ground for mold, mildew and wood rot. Insulation performance and indoor air quality can suffer and eventually, structural damage becomes a real possibility.

**SMARTBATT™ with MoistureSense™ Technology** is the first and only insulation that actively helps protect homes from the damaging effects of moisture. It's a revolutionary way to manage moisture and create a healthier indoor environment for your customers.

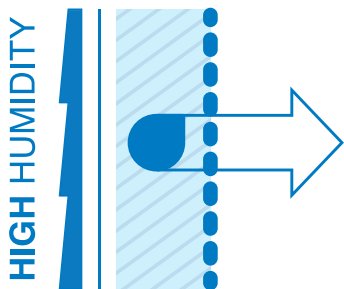
## How It Works

At the core of SMARTBATT is CertainTeed's sustainable fiberglass wool, which has been engineered for superior drying capabilities as well as thermal resistance and noise reduction. The SMARTBATT MoistureSense facing performs as a smart vapor retarder—its permeability adjusts according to the humidity inside the walls. When it's low, SMARTBATT keeps moisture from getting in. When it's high, SMARTBATT lets the moisture inside the walls escape into the conditioned interior of the home, keeping walls dry year-round.

SMARTBATT meets or exceeds even the most forward-looking building code requirements for a vapor retarder, and with 66% less asphalt, it's even easier to cut and install than traditional kraft.



**Blocks moisture** from getting in when humidity in the cavity is low

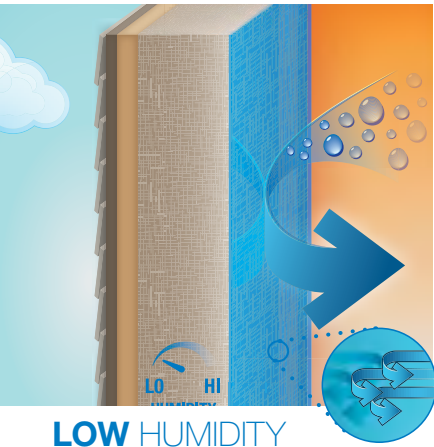


**Lets it escape** when humidity in the cavity is high

See how it works. Watch the video at [certainteed.com/howsmartbattworks](https://certainteed.com/howsmartbattworks)



# How MemBrain™ Works



## LOW HUMIDITY

Remains moisture tight in winter when humidity in the cavity is low



## HIGH HUMIDITY

Increases permeability in summer to let moisture escape when needed

Watch the video at [certainteed.com/membrain](http://certainteed.com/membrain)

MemBrain is unique among vapor retarders because of its ability to change its molecular structure. When humidity is low, it functions as a standard vapor retarder, like asphalt coated kraft paper. When humidity is high, it ranges from Class III (semi-permeable) to permeable. MemBrain is the only product on the market that straddles three vapor retarder categories.

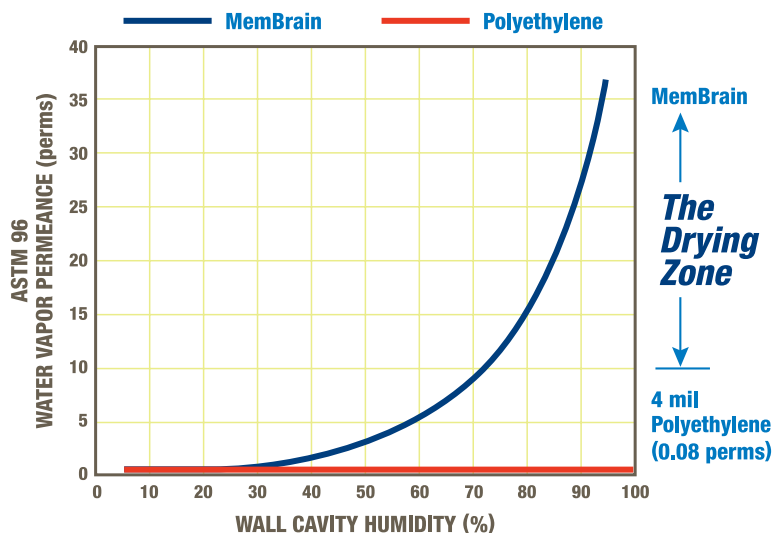


## Continuous Air Barrier & Smart Vapor Retarder

CertainTeed's exclusive MemBrain™ Continuous Air Barrier and Smart Vapor Retarder is the industry's most advanced technology to create a better performing home.

This revolutionary solution can provide a continuous air barrier along with advanced moisture management and a Class A fire rating in a single product, helping achieve Complete Comfort. It's another reason why choosing CertainTeed means you're installing much more than trusted high-performance insulation products. You're installing confidence.

## Water Vapor Permeance



## Why is MemBrain so smart?

IT COVERS MULTIPLE CLASSES FOR YOUR PROTECTION

Vapor Barrier (Class I)	Vapor Retarder (Class II)	Semi-Permeable (Class III)	Permeable
Perm 0.01 to 0.1	Perm 0.1 to 1	Perm 1 to 10	Perm 10 to 100

6 mil Polyethylene (0.05-0.06)
  MemBrain (0.8-36)
  Plain Gypsum Board (45-85)



## MemBrain Benefits

- Dynamic performance and permeance rating compared to traditional kraft insulation or polyethylene sheeting
- Senses and adapts permeance to varying humidity throughout the year to keep the cavity dry
- Prevents moisture vapor from entering the wall cavity in the winter
- Allows any moisture buildup to escape the cavity in the summer
- When installed with standard tape and sealing practices, forms a continuous air barrier system that enhances air tightness and improves overall comfort

## Air tightness is rapidly becoming central to new building codes.

Indoor air quality, energy efficiency, acoustics, comfort and moisture management within the wall cavity can all be seriously compromised if a house is not air tight.

### Tougher Codes Are Here

IECC codes are becoming more stringent with regards to air sealing requirements, making improved air sealing and moisture management practices a necessity for you. These codes restrict the number of air changes in a structure per hour and call for use of vapor retarders in mixed climates. However, as the air tightness of a home increases, there's yet another new challenge. The same continuous seal that keeps air leakage out of the home could be trapping harmful moisture in the cavity.

### Greater Air Tightness = Greater Moisture Challenges

In "mixed-climate" parts of the country, where homes heat in the winter and cool in the summer, homes using traditional polyethylene vapor retarders may actually trap moisture in the cavity during the summer—raising the risk of costly moisture and mold issues, structural damage, health consequences and liability.



MemBrain Product Availability					
NOMINAL PRODUCT SIZE		COVERAGE		BOX LENGTH	
ft.	m	sq. ft.	sq. m	in.	m
8'4"	2.54	833	77.4	28.3	718
9'4"	2.84	933	86.7	31.5	800
10'4"	3.15	1033	96.0	34.5	876
12'4"	3.76	1233	114.5	41.0	1041





**A New Generation  
of Volu-Matics for  
the Next Generation  
of Energy Efficiency**

With their compact size, lighter weight and competitive price, the performance-proven Volu-Matic series is perfect for today's changing market and the increased emphasis on energy efficiency.

*Go Retrofitting.*

**TrueComfort®  
Blowing Machine**

**This easy-to-learn system can generally insulate a 1000 square foot attic in about four hours with a two-man crew. Its compact, two-piece design transports easily in an SUV or pick-up. From set-up to tear-down, we supply complete instructions, making it easy for you to start insulation jobs right away.**

## CertainTeed Machine Works

CertainTeed Machine Works—formerly Unisul—has been a leader in the development of sophisticated machinery used to install insulation and fireproofing materials since 1936. Backed by CertainTeed's decades of experience in the insulation industry, CertainTeed Machine Works has the resources and expertise to meet the specialized needs of insulation contractors and remodeling/retrofit specialists who work with loose fill fiberglass and fireproofing materials.

### Products

- Insulation blowing machines
- Insulation vacuums
- Fireproofing machines

### Services

- Installation (PTO and engine driven blowing machines, generators and air compressors)
- Maintenance and repair (complete blowing machine overhauls, preventive maintenance)
- Extensive spare parts and accessories for speedy service and delivery

**Call Machine Works today: 800-237-7841**





# Building Science

Building Science is the key to developing products that can give your customers the Complete Comfort they want, and no one knows Building Science like CertainTeed. Here we present a few of the basics behind the acoustic, moisture management, and air tightness solutions available from CertainTeed.

## Acoustics

### Solutions for Quieter Spaces

Everyone wants a peaceful, quiet home. And insulation can help by managing noise from outside and throughout the house. CertainTeed Insulation helps reduce exterior noise and is great for interior walls—helping quiet room-to-room sounds.

### Common Acoustical Offenders

#### Exterior Noise

- Road and air traffic
- Lawn mowers
- Barking dogs

#### Interior Noise

- Appliances
- Home theaters and video games
- Plumbing pipes
- Footsteps on hard flooring



Check out all of our acoustic performance solutions at [certainteed.com/acousticperformance](http://certainteed.com/acousticperformance)



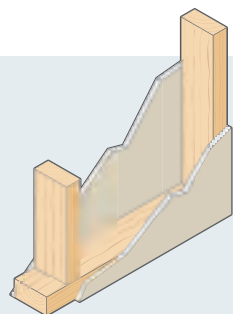
The way a home's walls and floors are constructed affects its acoustical performance, which in turn has a large impact on the well-being of its occupants. CertainTeed offers a number of insulation products that are designed to limit sound transmission through different types of wall and floor/ceiling assemblies.

### The Science of Sound

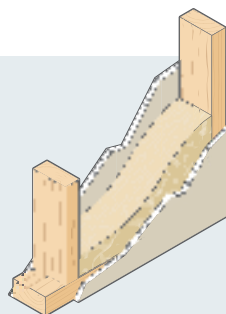
There are two types of sound paths: airborne and structureborne. Airborne sound is transmitted directly from a source into the air. The source can be noise from within the home—generated by appliances, home theaters and video games, even voices from an adjacent room—or external noise like traffic and low-flying airplanes. Structureborne sound travels through solid materials that are usually either in direct contact with the sound source or receive the impact of that source, such as vibrations from a loudspeaker sitting on the carpet or footsteps on a hardwood floor.

## Sound Transmission

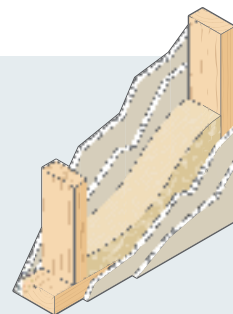
**Sound Transmission Class (STC) is a performance rating of the ability of a wall or floor section to block noise. The higher the STC rating, the less sound is transmitted. These illustrations show how insulation and robust wall construction improve STC.**



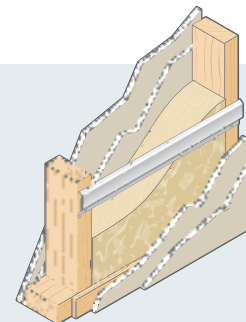
Conventional wood stud construction, single layer gypsum wallboard each side. **STC 30-35.**



Conventional wood stud construction, single layer gypsum wallboard each side, 3½" thick fiberglass insulation in wall cavity. **STC 39.**



Double layer gypsum wallboard each side increases mass. **STC 45.**



Resilient channels help minimize transmission of vibration through wall. **STC 57.**

## Moisture

There's more to improving a home's energy performance than simply adding insulation, though it's an excellent starting point! Every home is a system made up of separate components—the building envelope, mechanical systems and occupants—whose interactions affect how much moisture the home generates and how well it manages that moisture. CertainTeed offers innovative products that work with our insulation to provide improved protection against moisture's potentially damaging effects.

### It's unavoidable—but manageable

A family of four can produce two to three gallons of water vapor every day simply by bathing, laundering, cooking—even breathing. During the heating season, this vapor is drawn from the home's warm interior to the cooler exterior. If its movement into attics and exterior wall cavities is not minimized by a vapor retarder, condensation occurs when the vapor contacts a cold surface. Continued exposure to such damp conditions can compromise insulation performance, damage wood framing and cause mold and mildew to grow.

### Vapor Retarders

A vapor retarder is any material that limits or restricts the transmission of water vapor. CertainTeed fiberglass insulation is available with either kraft, smart, foil or flame resistant facings that function as vapor retarders.

Unfaced insulation requires a separate vapor retarder, typically polyethylene film. CertainTeed MemBrain™ Continuous Air Barrier & Smart Vapor Retarder is an innovative option that actually changes its permeability to water vapor depending on ambient humidity.



## Interesting Mold Facts

There are thousands of known species of mold, but they all require the same four things to live:

1. Food source—typically starch or sugar
2. Temperature—cozy 41° F to 140° F
3. Oxygen
4. Water

Once mold growth has started, each mold colony (mycelium) produces millions of microscopic spores within a few days.

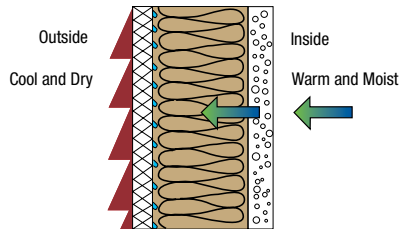
### What homeowners think of mold:\*

- Health Risk—  
65% listed as #1 concern
- Expense of Repair—  
31% listed as #2 concern
- Structural Damage—  
27% listed as #3 concern

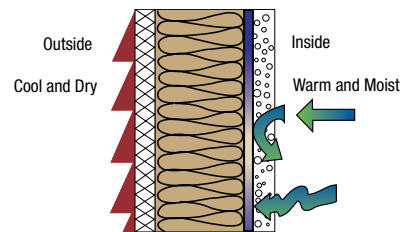
84% would not buy a home with a history of mold, and 48% said they would sue a builder, previous owner or landlord if they found mold in their walls.

Simple steps can be taken to prevent mold and subsequent effects to health and home, but once mold starts to grow, remediation is a lengthy and costly process.

\*Conducted by National Opinion Research for CertainTeed Corp.



**Without a vapor retarder, moisture can penetrate wall and condense on cold surface**



**With a vapor retarder, moisture can't reach cold surface to condense**

### Ventilation

To allow excess water vapor to escape, provisions should be made for proper ventilation when installing insulation. In attics, the most common approach is a static system with some combination of simple gable, eave or ridge vents. The basic rule of thumb is to provide one square foot of vent area for every 150 square feet of net floor area. When a vapor retarder is present, that figure doubles to 300 square feet—but note that an attic vapor retarder is not required if there is sufficient ventilation (unless the home is located in a very cold region or has higher than normal interior humidity).

### Air Tightness

Only when the building envelope is air tight can warm air be retained within the building and cold air kept outside. Preventing leaks gives greater thermal comfort, increased energy efficiency, and protection for the building materials against damage, helping the building maintain its appearance and extending its life. But the benefits are not purely financial, as high levels of air tightness also ensure healthy indoor air quality for the occupants.

CertainTeed MemBrain™ Continuous Air Barrier & Smart Vapor Retarder can be installed to perform as a building envelope air barrier to create an air-tight home.

### Compliances

For compliance information on CertainTeed insulation, see the specification sheet for each individual product. Specification sheets can be found at [www.certainteed.com/insulation](http://www.certainteed.com/insulation).

## Achieve Continuity

Air constantly moves from high to low pressure, finding every penetration into and out of a home, which is why proper air sealing is crucial to create a continuous seal at all joints and penetrations.



# Create a More Comfortable Home

**CertainTeed**  
SAINT-GOBAIN

## Insulation

At CertainTeed, we believe in a higher level of comfort. We believe in Complete Comfort, where your insulation system successfully controls thermal performance, air tightness, moisture management, and acoustics. That's why we offer a complete line of high performance insulation products that work together to ensure every building achieves Complete Comfort.



Fiberglass | Mold Prevention  
Technical | Equipment

learn more at: [certainteed.com/insulation](http://certainteed.com/insulation)



Cert. #00187  
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