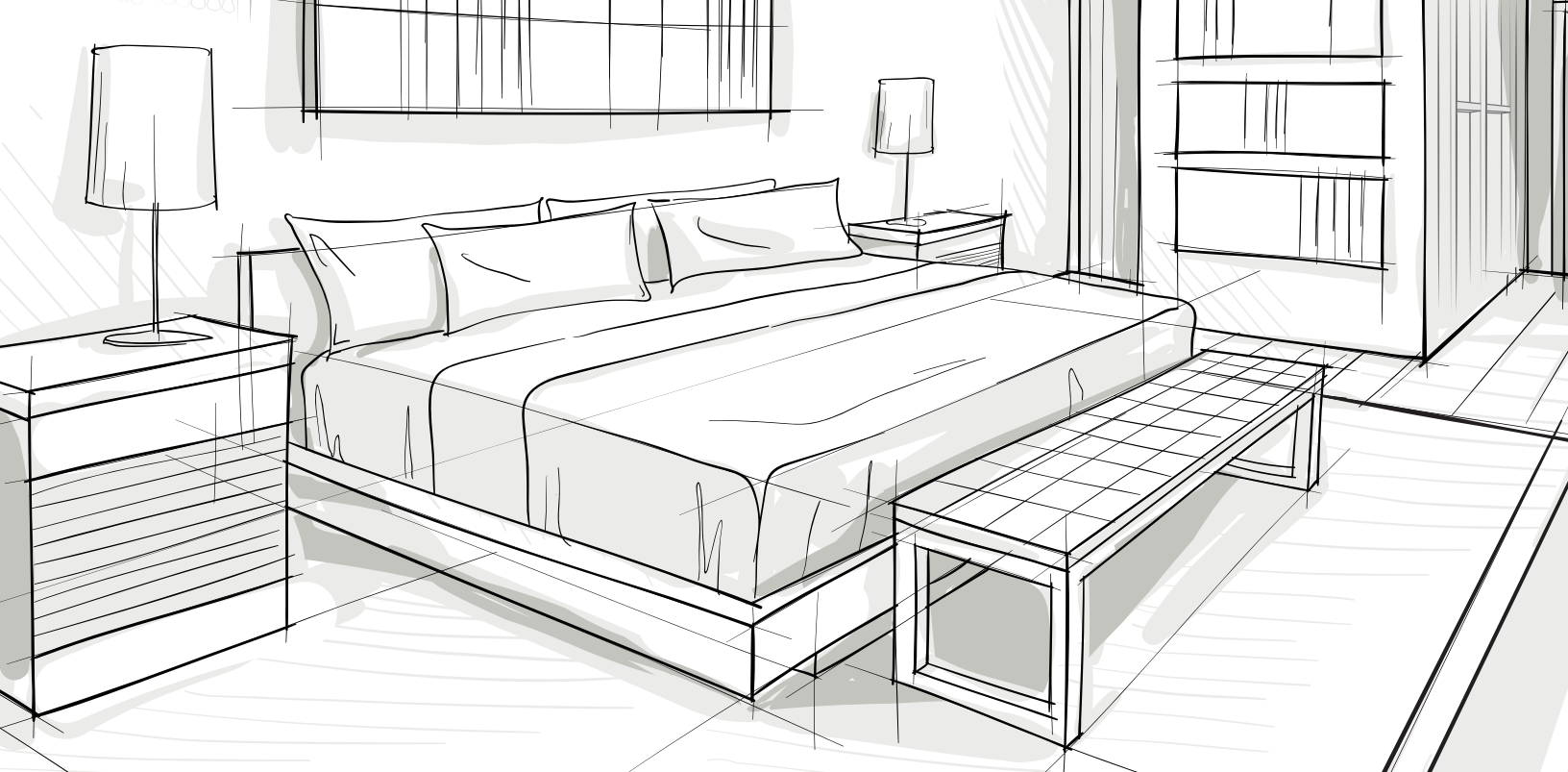


Integrated
Solutions
for Every
Insulation
Need

Complete
Comfort

CertainTeed
SAINT-GOBAIN



Create a More Comfortable Home

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 your insulation system successfully controls all of the following aspects, you can achieve a higher level of Complete Comfort in your home.

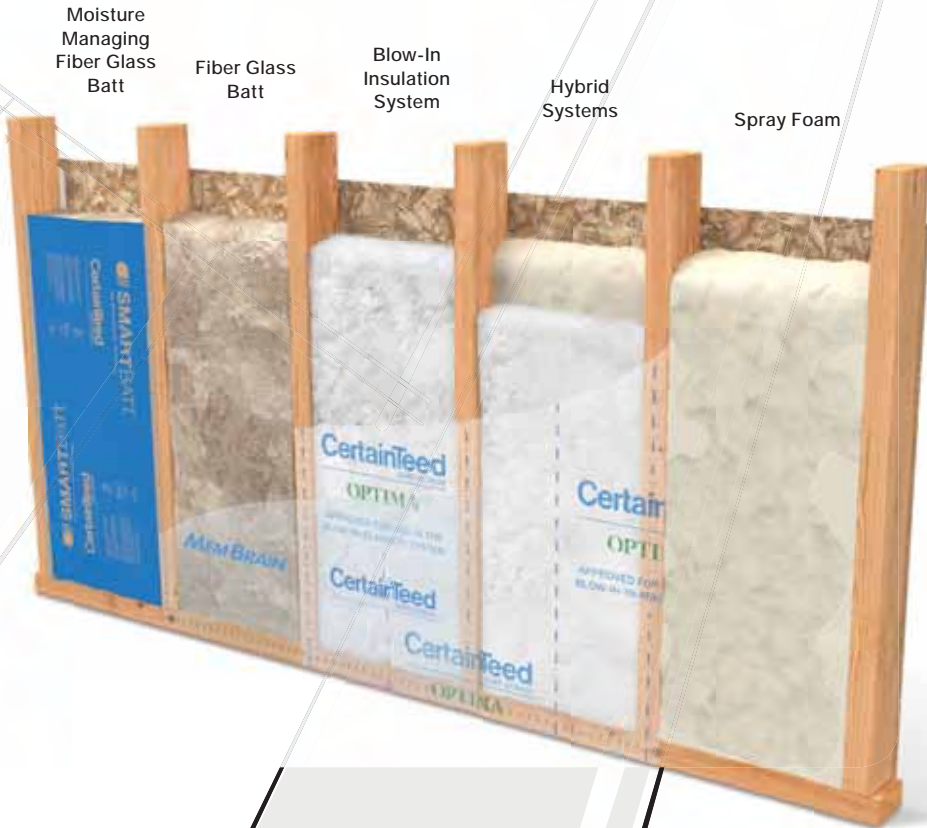
Thermal Performance + Air Tightness + Moisture Management + Acoustics = Complete Comfort


The CertainTeed Difference

When you choose CertainTeed Insulation, part of the largest insulation manufacturer in the world, you're installing much more than trusted high-performance insulation products. You're installing confidence.

With more than 100 years of experience, we're the only insulation manufacturer with a truly comprehensive offering to help you achieve optimal comfort, with fiber glass Sustainable Insulation®, blowing wool, spray polyurethane foam, smart vapor retarder and air barriers and mold protection. You can **Be Certain** our variety of products, multi-product solutions and Building Science expertise will help you create better living spaces.


No one matches CertainTeed's breadth of insulation options






Thermal Performance

Highly efficient fiber glass and spray foam insulation help save on energy bills* and create a more comfortable living space.




Air Tightness

Sealing air leaks stops unpleasant drafts and noise, while helping ensure thermal performance. It creates a tighter building envelope that influences every other aspect of a comfortable home.




Moisture Management

An effective vapor retarder can reduce the risk of mold and mildew, improving indoor air quality, providing a healthier indoor environment and helping avoid potentially costly damage from rot.



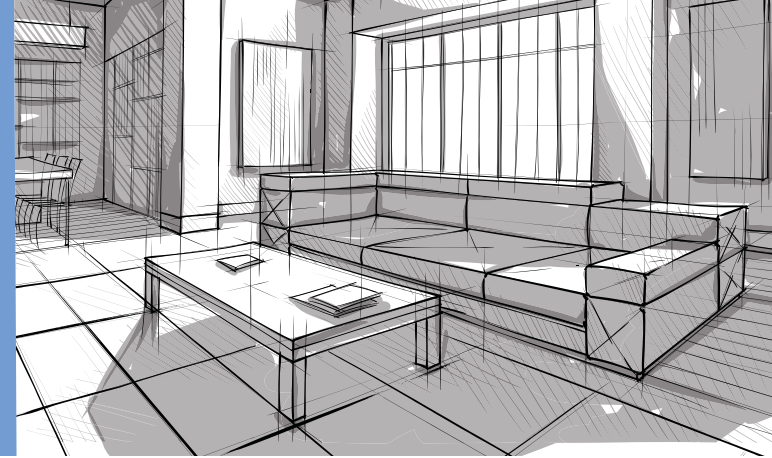
Acoustics

Acoustics play an important role in a home's overall comfort. Insulation helps block disturbing outside noise and, when added to interior walls, limits room-to-room noise.



* For more information go to www.energystar.gov

Understanding Building Science



THE HOME FUNCTIONS AS A SYSTEM.

So it's critical to take the entire structure into account through Building Science to achieve Complete Comfort. Our comprehensive selection of fiber glass and spray foam insulation products ensure you can tailor the ideal solution for any need.



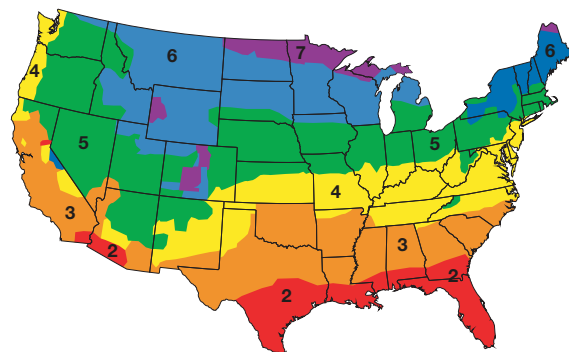
Thermal Performance

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.***



Visit the CertainTeed iTools website at www.certainteed.com/iTools to find the required R-Values in your area.

KNOW YOUR CLIMATE ZONE



It's critical to determine the recommended R-Value according to your region.

However, code is a recommended minimum. Upgrading beyond these minimums creates a more comfortable home for a lifetime.

MIXED-CLIMATE REGIONS,

which experience both significant hot and cold seasons, have unique insulating and moisture management needs. Since heat and moisture will pass through the cavities in both directions throughout the year, homes in these regions can benefit from CertainTeed's patented smart vapor technologies, including SMARTBATT™ with MoistureSense™ Technology insulation and MemBrain™ smart vapor retarder and air barrier film.

LEAVE NO GAP

Tests show even a small gap in insulation causes substantial increases in heating and cooling costs, along with unpleasant hot and cold spots. **OPTIMA® Blow-In Insulation** (right) and **CertaSpray® Closed Cell Spray Foam** insulation fills crevices to eliminate gaps and voids.



* For more information go to www.energystar.gov



Air Tightness

Air tightness affects the entire building envelope and plays a major role in successfully managing heat, moisture and sound.

CREATE A TIGHTER ENVELOPE

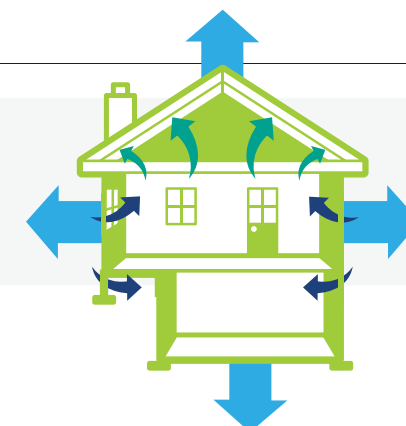


CertaSpray® Closed Cell Spray Foam is a more robust layer of air impermeability than traditional caulk and seal alone. It expands into openings, creating a virtually seamless air and thermal barrier – insulating and air sealing in one step.

CertainTeed's patented **MemBrain™ smart vapor retarder and air barrier film** leverages the industry's most advanced technology so you don't have to choose between superior air tightness and permeability. It revolutionizes air and moisture management and meets the most forward-looking IECC codes for air barrier protection.

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. MemBrain provides continuous air barrier protection.



25%
of energy is lost through
the roof

35%
of energy is lost through
exterior walls

15%
of energy is lost through
the ground floor
or basement

* Source: *The Case for Energy Efficiency in Buildings* (Saint-Gobain, 2010), pg. 7.

FLOORS, WALLS AND CEILINGS

are actually the largest source of a home's air leakage, accounting for more than twice as much leakage as windows and doors combined.

800-233-8990 • CertainTeed.com/Insulation

Understanding Building Science

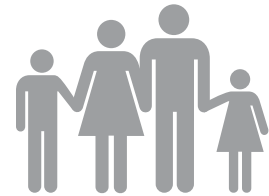


MOISTURE AND ACOUSTICS
DRAMATICALLY AFFECT COMFORT
It's critical for the right insulation system to control both, as they can greatly influence homeowners' health, peace of mind and overall quality of life.



Moisture Management

Moisture intrusion is unavoidable in any home, making moisture in the wall cavity almost inevitable — and dangerous if not addressed. Not only does moisture reduce the thermal efficiency of your insulation, it can also lead to mold, mildew and rot. It's especially important to manage moisture with brick, stone, block and stucco exteriors as they tend to retain moisture.



An average family of four can create **two to three gallons of water vapor per day**

HELP WALLS DRY WITH PATENTED SMART VAPOR RETARDERS*

Moisture vapor, which travels in the air, can enter the home through external air leakage and everyday indoor activities. In fact, an average family of four can create **two to three gallons of water vapor per day** from cooking, bathing, washing dishes and laundry. When moisture vapor penetrates the wall cavity, it can condense on cold surfaces and accumulate in the building envelope.



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



Increases permeability in summer to let moisture escape when needed.

CertainTeed's innovative smart vapor retarders **SMARTBATT™** and **MemBrain™** prevent moisture build-up and are engineered to help wall cavities dry out.* Unlike traditional polyethylene vapor retarders, they block moisture in the winter when humidity in the cavity is low and increase permeability during the summer when humidity is high to let moisture escape while still maintaining air tightness.

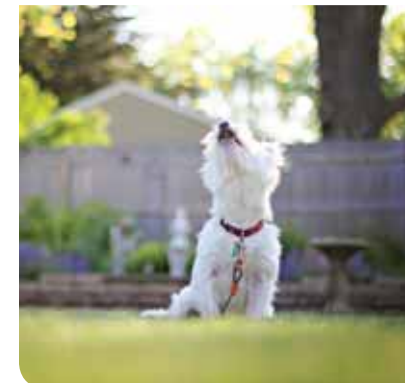
*Not all climate zones require vapor retarders. To determine whether they're recommended for your region, use our online insulation calculator at www.certainteed.com/Tools



Acoustics

We all want 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.

HELP SILENCE THESE COMMON ACOUSTICAL OFFENDERS



Exterior Noise

- Road and air traffic
- Lawn mowers
- Barking dogs



Interior Noise

- Appliances (washing machines, dryers, dishwashers)
- Home theaters and video games
- Plumbing pipes
- Footsteps on hard flooring



Fiber glass insulation in interior walls and floors/ceilings can improve sound reduction between spaces by **5 to 15 decibels**¹

¹ "Sound Control For Commercial And Residential Buildings," North American Insulation Manufacturers Association, 1997.



OPTIMA® Blow-In Insulation (left) delivers outstanding acoustic control, as it seals gaps that sound could travel through.

NoiseReducer™ batts are specially manufactured for noise control in interior wall applications, providing superior sound absorption between rooms.

The Right Solution For Every Home



OUR BREADTH OF INSULATING
solutions ensures you can meet every building need, achieving optimal comfort and efficiency. We've compiled a series of systems to help you explore how you can achieve the greatest comfort in every situation.

SMARTBATT™ with MoistureSense™ Technology + Caulk & Seal



- Advanced, first of its kind technology physically adapts based on humidity inside the wall cavity to let water vapor escape
- Installs like traditional kraft-faced batts but has greater performance and permeance rating
- Part of the Sustainable Insulation® family
- Achieves air sealing and thermal efficiency as a complete system with standard caulk and seal



2x4 Wall
R-13 to R-15

2x6 Wall
R-19 to R-21

IDEAL APPLICATIONS

Affordably achieving great performance in exterior walls and high moisture areas like bathrooms, laundry rooms and basements.

EXCEPTIONAL PROPERTIES



Moisture Management

Sustainable Insulation Unfaced Batt + MemBrain™



- Traditional fiber glass batts provide thermal comfort and are easy to install
- Batts are also good for interior wall applications to achieve sound control
- MemBrain smart vapor retarder and air barrier film adds continuous air tightness and a layer of adaptable moisture protection



2x4 Wall
R-13 to R-15

2x6 Wall
R-19 to R-21

IDEAL APPLICATIONS

Adding a superior level of thermal performance, adaptable moisture protection and air tightness to exterior walls, garages and basements.

EXCEPTIONAL PROPERTIES



Air Tightness

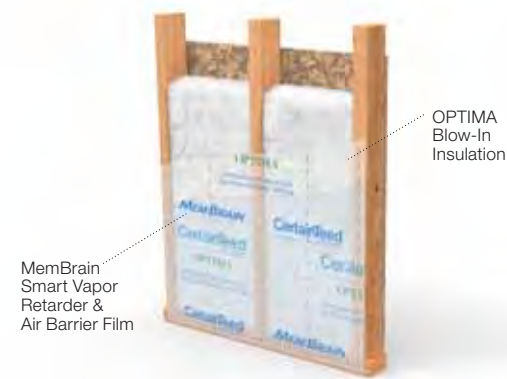


Moisture Management

OPTIMA® Blow-In Insulation + MemBrain™



- Blown into wall cavity — filling voids
- Thermally efficient — leaving no gaps in the cavity
- Provides excellent sound control
- Higher R-Value per inch than fiber glass batts
- MemBrain smart vapor retarder and air barrier film adds air tightness and adaptable moisture protection



2x4 Wall
R-15

2x6 Wall
R-23

IDEAL APPLICATIONS

Achieving among the highest R-Values and acoustical insulation in any region — especially in difficult-to-fill spaces.

EXCEPTIONAL PROPERTIES



Thermal Performance



Air Tightness



Moisture Management



Acoustics

CertaSpray® Closed Cell Spray Foam — Full Cavity



- Highest insulation R-Value per inch
- Achieves exceptional air and vapor protection by minimizing air infiltration
- Seals voids and cracks by expanding 35 to 50 times its original volume
- Adds structural integrity to wall cavities by forming a strong, rigid layer
- Minimizes hot and cold spots to maximize comfort
- Insulates and blocks air and moisture in one step



2x4 Wall
R-22.4

2x6 Wall
R-35.2

IDEAL APPLICATIONS

Achieving the highest R-Value per inch, and increasing a home's overall air tightness and structural integrity. Great for difficult to insulate locations such as rim joists and crawl spaces.

EXCEPTIONAL PROPERTIES



Thermal Performance



Air Tightness

NOTE: All CertainTeed Insulation enhances the thermal and acoustical performance of a home.

800-233-8990 • [CertainTeed.com/Insulation](https://www.certainteed.com/Insulation)

Our Most Advanced Insulation Systems

Hybrid Systems



CertainTeed's groundbreaking Hybrid Insulation Systems combine the most advanced products for a thermally superior, airtight seal with excellent acoustics. That's something only we can deliver, with the industry's most comprehensive and innovative insulation offering.

- Air Sealing Layer:** Protects the wall system's R-Value and blocks drafts with a flash coat¹ of CertaSpray® Closed Cell Spray Foam insulation
- Thermal Insulation:** Achieve optimal thermal comfort with either Sustainable Insulation® fiber glass batts or OPTIMA® Blow-In Insulation

OPTION 1 CertaSpray + Sustainable Insulation Unfaced Batt



2x4 Wall
R-18*

IDEAL APPLICATIONS
Achieving a near maximum degree of Complete Comfort with a cost-effective product combination in exterior walls.

EXCEPTIONAL PROPERTIES



OPTION 2 CertaSpray + OPTIMA Blow-In Insulation



2x4 Wall
R-18***

IDEAL APPLICATIONS
Achieving a true no-compromise level of Complete Comfort in exterior walls.

EXCEPTIONAL PROPERTIES



¹Flash coats achieve a thickness of approximately 1.5 to 2 inches.
*with R-13 batt **with R-15 batt ***2" OPTIMA R-8.58 ****4" OPTIMA R-17.16

Meeting Every Insulation Need

Our mission is to help you select the best insulation system, through the largest product selection and in-depth Building Science expertise and education. Consult with your CertainTeed representative or contact us and we can guide you through tailoring the optimal solution for your needs.

RESIDENTIAL WALLS (WOOD STUD)

		Standard		Enhanced			Optimal			
		Sustainable Insulation® Kraft Faced Batt + Caulk & Seal	Sustainable Insulation High Density Kraft Faced Batt + Caulk & Seal	SMARTBATT™ with Moisture Sense™ Technology + Caulk & Seal	CertaSpray® Open Cell Spray Foam†	Sustainable Insulation Unfaced Batt + MemBrain	OPTIMA® + MemBrain	HYBRID OPTION 1 — CertaSpray + Sustainable Insulation Unfaced Batt†	HYBRID OPTION 2 — CertaSpray + OPTIMA†	CertaSpray Closed Cell Spray Foam — Full Cavity†
R	R-Value (2x4)	R-13	R-15	R-13 to R-15	R-13.1	R-13 to R-15	R-15	R-18*	R-18***	R-22.4
R	R-Value (2x6)	R-19	R-21	R-19 to R-21	R-20.6	R-19 to R-21	R-23	R-25**	R-28****	R-35.2
☀	Exceptional Thermal Performance						✓	✓	✓	✓
🌊	Exceptional Air Tightness				✓	✓	✓	✓	✓	✓
💧	Exceptional Moisture Management			✓		✓	✓			
🔊	Exceptional Acoustic Performance						✓		✓	

Hybrid Systems include 1.5" CCSPF
*with R-13 batt **with R-15 batt ***2" OPTIMA R-8.58 ****4" OPTIMA R-17.16
† Blocks moisture and air, closed cell 2" or greater and open cell 3.5" or greater.
NOTE: Adding MemBrain™ smart vapor retarder and air barrier film to most systems can greatly increase moisture management and air tightness performance.

RESIDENTIAL ATTICS

		Standard		Enhanced		Optimal
		Sustainable Insulation Batts + Caulk & Seal	InsulSafe® SP Premium Loose Fill + Caulk & Seal	Sustainable Insulation Batts + MemBrain	InsulSafe SP Premium Loose Fill + MemBrain	CertaSpray Closed Cell Spray Foam + InsulSafe SP Premium Loose Fill Insulation
☀	Exceptional Thermal Performance	All options capable of achieving R1-R60				
🌊	Exceptional Air Tightness			✓	✓	✓
💧	Exceptional Moisture Management			✓	✓	✓



InsulSafe SP blow-in attic insulation provides excellent thermal efficiency that will not settle, ensuring R-Value integrity

For every insulation challenge, there's a CertainTeed solution.



Residential Sustainable Insulation®



CertaPro™ Commercial Insulation



Machine Works



Mold Prevention



Spray Foam Insulation



HVAC / Mechanical



Premium Blow-in Insulation



[**Be Certain**]™

You can **Be Certain** no other manufacturer offers the depth and breadth of interior and exterior building solutions, knowledge, innovation and sustainability that CertainTeed does. Our advanced, multi-product solutions optimize building efficiency, while creating beautiful, comfortable environments where people can thrive. We continue to shape the future of the building materials industry with a new generation of integrated building solutions.

That's confidence worth building on.™

ASK ABOUT ALL OF OUR OTHER CERTAINTEED® PRODUCTS AND SYSTEMS:

ROOFING • SIDING • TRIM • DECKING • RAILING • FENCE
GYPSUM • CEILINGS • INSULATION

www.certainteed.com/insulation <http://blog.certainteed.com>

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