



Building Insulation Residential and Light Commercial Products



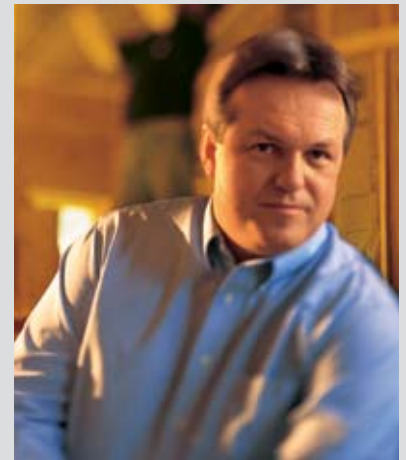
A Full Line of Residential and Commercial Building Insulation Products

Superior Products for Thermal and Acoustical Efficiency and Installer Productivity

Fiber glass insulation has proven to be one of the most thermally-efficient and cost-effective ways to save energy when it comes to insulating residential homes and light commercial buildings. Maintaining desired room temperatures for comfortable living and working environments, fiber glass insulation is an excellent performer.

Installer productivity is also a primary consideration. Knauf's reputation for delivering high quality batts that installers prefer is well deserved. Features that increase productivity are:

- Knauf batts recover quickly out of the package for immediate installation.
- Consistent fiber density for a smooth clean cut with low dust every time.
- Firm batts provide an ease of handling and installation.
- Full and thick batts provide a snug fit in the wall cavity and do not slump.



Knauf Residential and Commercial Insulation

- Batts and Blankets
- Jet Stream® Blowing Insulation
- Perimeter Plus™ Blow-In-Blanket® System
- Basement Wall Insulation
- Sill Sealer
- Insulation Board
- Black Acoustical Insulation

Additionally, fiber glass insulation limits sound transmission from the outside and from one room to another. Fiber glass insulation works well to reduce unwanted noise. Fiber glass insulation therefore helps to create living and working spaces people can be productive in and enjoy.

Made of inorganic fibrous glass it is non-combustible, and non-corrosive. It will continually perform throughout the life of the home due to the fact that it will not rot, mildew or deteriorate.

Beyond batts, other Knauf Insulation products are also known for their consistent densities and ease of fabrication. From loose-fill blowing wool designed for attics and sidewall cavities in homes to Knauf Insulation Board and Acoustical Insulation for light commercial buildings, Knauf products have garnered a reputation of high quality, efficient installation and higher productivity.

Blow-In-Blanket® System is a registered trademark of Blow In Blanket, LLC.



Knauf high density batts provide the highest resistance to heat flow in cathedral ceilings where space for insulation is limited and ventilation must be maintained.



Resilient fibers and firm batts that emit less dust keeps installers comfortable and productive.



Knauf Staple-Free Batts available for effortless installation.



Knauf Residential Insulation

Excellent Value with Proven Performance

For cavity walls, floors, ceilings, attics, basements and crawl spaces in residential structures, Knauf Insulation delivers a full line of products to insulate the home. Energy-saving high density and standard batts cover the full range of R-values to serve the most severe temperature fluctuations across all seasons. Unfaced or with kraft and foil facings, Knauf batts are prepared for any situation while meeting specifications throughout all parts of the country.

More Productive Installers

Knauf batts and blowing wools all come with superior handling characteristics that make it easier to do a better job in less time. Product characteristics of Knauf batts make installation easier and more comfortable. Knauf batts recover quickly out of the package for immediate installation. Extra-wide stapling flanges and durable facing marked in one-foot increments on our standard batts lead to a faster and easier installation. The consistent quality fibers make for smooth, clean cuts with less dust. All of these product attributes create confidence in the professional installer and lead to higher productivity.



High Density Batts

Knauf High Density products are available where optimal thermal performance is required and space for insulation is limited. R-values can be increased while adequate space for ventilation is still maintained.

Knauf Staple-Free Insulation

The flangeless kraft faced batt of insulation is designed for use in wood framed cavities for quick, hassle free installation in exterior wall assemblies, where the framing members are 16" o.c.

Basement Wall Insulation

With a white vinyl or foil faced scrim-kraft reinforced vapor barrier this insulation is suitable for the interior side of basement masonry walls without framing and provides cost-effective thermal insulation for low-traffic areas of the home.

Sill Sealer

Knauf Sill Sealer is a flexible unfaced insulation designed for use between the sill plate and the foundation wall to provide an excellent air infiltration barrier.



Installer preferred: Widely acknowledged by professional installers as a consistently high quality product.



Knauf High Density Insulation

- Achieves a higher R-value in less space.



GREENGUARD for Children and Schools™ certified

- Repeated third-party testing ensures that these products continually meet the highest indoor air quality standards in the industry.



Knauf Basement Wall Insulation

- Reinforced facings provide protection from abuse during installation.

Knauf Sill Sealer Insulation

- Specifically sized for easy installation with the same low-itch fibers.



Efficient Product Handling Leads to More Profitable Installations

- Speed up inventory counts and simplify inventory control—count one unit rather than 42 Jet Stream or Perimeter Plus bags.
- Large quantities of material are moved fast and easy with lift trucks onto box trucks utilizing either hydraulic clamps or forks.

Knauf Master Bags

- Easy-to-handle unitized packaging saves time on the jobsite.
- Knauf Master Bags maintains the unit's shape and configuration so they are easier to move by hand.
- The durable poly woven bag protects batts from impact and damage.
- Product identification and information are easy to read through the translucent poly woven bag.

Knauf Jet Packs

- The clear poly wrap and the cardboard slip sheet at the bottom of the Jet Pack provide product protection.

Knauf Plus Packs

- Cut loading/unloading time and man hours in half.

Individual Bags

- Jet Stream and Perimeter Plus products may still be shipped as individual bags for small orders.







Knauf Jet Stream Blowing Insulation can process at better than one bag per minute, (dependent on machine capabilities) which will get your crews in and out of each job quickly.



Jet Stream's higher thermal performance per inch also delivers more R-value at the eaves or in low pitch attics.



Knauf Perimeter Plus Blowing Insulation blows consistently and fills evenly to easily take on tight corners and hard to reach areas in sidewalls and ceilings.



Knauf Jet Stream® Fiber Glass Blowing Insulation

Jet Stream's excellent thermal efficiency allows for more square footage on a per pound basis than all other fiber glass blowing insulations. It delivers the highest thermal performance per inch which is important at the eaves and in low pitch attics. Knauf Jet Stream blows fast into new and existing attics leaving behind a clean, white professional-looking appearance. It may also be used in retrofit closed-cavity applications such as floored attics.



Settle for Nothing Less

A third-party 2-year settling study predicted settlement of Jet Stream Blowing Insulation over a 20-year period would be one percent or less. Therefore, you can be assured that Jet Stream's stated R-value will be maintained over the life of the home.

Greater Coverage with Fewer Bags

Knauf Jet Stream Blowing Insulation delivers the highest performance available. This allows crews to blow fewer bags per attic with less time spent in each attic and even more attics blown per day:

- R-30 at 10¼": 69.7 SF/bag
- R-38 at 13": 52.7 SF/bag



Knauf Jet Stream® Blowing Insulation

- More coverage per pound.
- Delivers the highest thermal performance per inch.
- Attic applications.
- R-30 at 10¼": 69.7 SF/bag
- R-38 at 13": 52.7 SF/bag

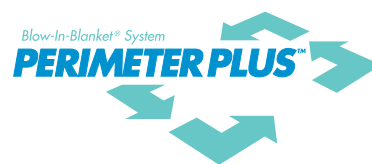


Knauf Perimeter Plus™ Blow-In-Blanket® System

- Only high density fiber glass batts can match or provide a higher resistance to heat flow.
- Sidewall/ceiling applications.
- R-15 in 2x4 construction
- R-23 in 2x6 construction

Knauf Perimeter Plus™ Fiber Glass Blowing Insulation

Designed and manufactured for use in the patented Blow-In-Blanket® System (BIBS) system, Knauf Perimeter Plus™ will maintain the installed R-value over the life of the home. It blows consistently and fills evenly in tight spaces and hard to reach areas around pipes, electrical wires and fixtures. The unique light green product color provides easy identification so you can assure your customers they're getting the performance they require.



Perimeter Plus Fiber Glass Blowing Insulation is BIBS approved and can only be installed by BIBS certified installers to assure the highest quality installed performance.



Excellent Thermal Properties

Filling all gaps and voids provides better temperature control in homes. Only high density fiber glass batts can match or provide a higher resistance to heat flow. Perimeter Plus will provide R-values of:

- R-15 in 2 x 4 construction.
- R-23 in 2 x 6 construction.

Knauf Batts and Blankets Technical Information

Wood Frame Construction

Batts and Blankets



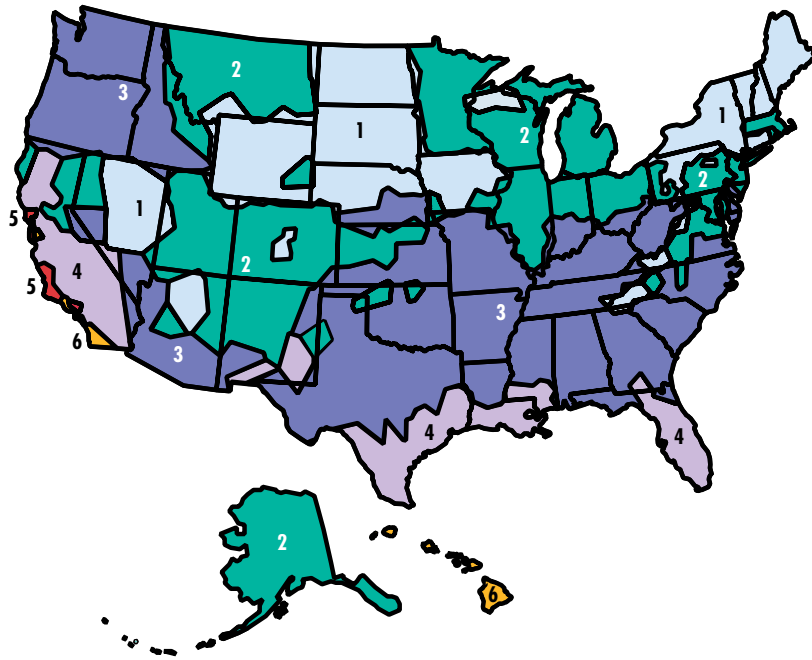
	R-Value	Thickness	Width	Facings			
				Unfaced	Kraft	Foil	FSK-Foil
R-11	3.5" (89 mm)		11", 15", 15.25", 16", 19", 23", 23.25", 24" (279, 381, 406, 483, 584, 610 mm)	•	•	•	•
R-13				•	•	•	•
R-15HD	3.5" (89 mm)		11", 15", 15.25", 16", 19", 23" (279, 381, 406, 483, 584, 610 mm)	•	•		
R-19	6.25" (159 mm)		11", 15", 15.25", 16", 19", 23", 23.25", 24", (279, 381, 387, 406, 483, 584, 590, 610 mm)	•	•	•	•
R-21HD	5.5" (140 mm)		15", 15.25", 23" (381, 406, 584 mm)	•	•		
R-22	6.5" (165 mm)		15", 16", 19", 23" (381, 406, 483, 584 mm)	•	•		
R-25	8.25" (210 mm)		15", 19.25", 23" (381, 489, 584 mm)	•			
R-26	9" (229 mm)		16", 24" (406, 610 mm)	•	•		
R-30HD	8.25" (210 mm)		15", 23" (381, 584 mm)	•	•		
R-30	10" (254 mm)		11", 12", 16", 19", 19.25", 24", (279, 406, 483, 489, 610 mm)	•	•	•	•
R-38HD	10.25" (260 mm)		15", 23" (381, 584 mm)	•	•		
R-38	12" (305 mm)		16", 24" (406, 610 mm)	•	•		•

HD = High Density Batt

Specification Compliance	Surface Burning Characteristics	Facing Permeance	Water Vapor Sorption (ASTM C 1104)	Corrosion (ASTM C 665)	Microbial Growth (ASTM C 1338)	Non-Combustibility (ASTM E 136)	Packaging
<p>U.S.— ASTM C 665, Type I, Class A (unfaced); ASTM C 665, Type II, Class C (kraft faced); ASTM C 665, Type III, Class A (FSK-25 foil faced); ASTM C 665, Type III, Class B (foil faced); GREENGUARD Certification; GREENGUARD For Children and Schools™ Certification; California Energy Commission; Dade County, Florida; MEA #498-90-M; State of Minnesota.</p>	<p>Unfaced & FSK-25: Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84.</p>	<p>Kraft faced products have a moisture permeance of 1.0 or less.</p> <p>FSK foil faced products have ratings of .04</p> <p>Foil faced products have ratings of .05</p>	<p>5% maximum by weight.</p>	<p>No greater than sterile cotton.</p>	<p>Does not support microbial growth</p>	<p>Noncombustible (Unfaced)</p>	<p>Feature complete installation instructions and a highly visible color coding system which follows industry standards, making Knauf products easy to select.</p> <p>Knauf packages are lightweight, stack without slipping and are sized to fit easily under floors and through scuttle holes.</p> <p>Most batt products are packaged in Knauf Master Bag 4-packs. However, several 15"/16" products are available in 5-packs.</p>

Knauf Batts and Blankets Technical Information (continued)

CABO Model Energy Code Guidelines*



Facings

R-Value	Thickness	Width	Length	Facings					Specification Compliance
				Unfaced	Kraft	Foil	FSK-Foil	VSK-White Vinyl	
R-11	3.5" (89 mm)	48", 72" (1219, 1829 mm)	40' (12.19 m)				•	•	U.S.— ASTM C 665, Type III, Class A (FSK foil faced); ASTM C 665, Type II, Class A (VSK white vinyl faced).
	1.125" (29 mm)	4", 6" (102, 153 mm)		•					U.S.— ASTM C 665, Type I; HH-521F**, Type I.

Basement Wall Insulation



Sill Sealer Forms
Double Layer



** Federal Specification HH-521F has been canceled and replaced by ASTM C 665.

Zone	Gas	Heat pump	Fuel oil	Electric furnace	Ceiling			Floor	Crawl space (B)	Slab edge	Basement	
					Attic	Cathedral	Wall (A)				Interior	Exterior
1	√	√	√		R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
1				√	R-49	R-60	R-28	R-25	R-19	R-8	R-19	R-15
2	√	√	√		R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
2				√	R-49	R-38	R-22	R-25	R-19	R-8	R-19	R-15
3	√	√	√	√	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
4	√	√	√		R-38	R-38	R-13	R-13	R-19	R-4	R-11	R-4
4				√	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
5	√				R-38	R-30	R-13	R-11	R-13	R-4	R-11	R-4
5		√	√		R-38	R-38	R-13	R-13	R-19	R-4	R-11	R-4
5				√	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10
6	√				R-22	R-22	R-11	R-11	R-11	(C)	R-11	R-4
6		√	√		R-38	R-30	R-13	R-11	R-13	R-4	R-11	R-4
6				√	R-49	R-38	R-18	R-25	R-19	R-8	R-11	R-10

- (A) R-18, R-22, and R-28 exterior wall systems can be achieved by either cavity insulation or cavity insulation with insulating sheathing. For 2" x 4" walls, use either 3½" thick R-15 or 3½" thick R-13 fiber glass with insulating sheathing. For 2" x 6" walls, use either 5½" thick R-21 or 6¼" thick R-19 fiber glass insulation.
- (B) Insulate crawl space walls only if the crawl space is dry all year, the floor above is not insulated, and all ventilation to the crawl space is blocked. A vapor retarder (e.g., 4- or 6-mil polyethylene film) should be installed on the ground to reduce moisture migration into the crawl space.
- (C) No slab edge insulation is recommended.

NOTE: For more information, see: Department of Energy Insulation Fact Sheet (D.O.E./CE-0180). Energy Efficiency and Renewable Energy Clearinghouse, P.O. Box 3048, Merrifield, VA 22116; phone (800) 363-3732; www.ornl.gov/roofs-walls/insulation/ins_11.html.

* These recommendations are cost-effective levels of insulation based on the best available information on local fuel and materials costs and weather conditions. Consequently, the levels may differ from current local building codes. In addition, the apparent fragmentation of the recommendations is an artifact of these data and should not be considered absolute minimum requirements.

Surface Burning Characteristics	Thermal Resistance (ASTM C 1104)	Service Temperature (ASTM C 411)	Facing Permeance	Water Vapor Sorption (ASTM C 1104)	Corrosion (ASTM C 665)	Microbial Growth (ASTM C 1338)	Non-Combustibility (ASTM E 136)	Packaging
Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84.	R-11 at 3.5" (89 mm)	Maximum 250°F (121°C)	White vinyl (VSK) and FSK foil facings have a vapor transmission of 0.1 perms.	Less than 5% by weight.	No greater than sterile cotton.	Does not support microbial growth.	Noncombustible (Unfaced)	Strong, poly sleeves that offer excellent protection from abuse, dust and moisture.
Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84.				Will not absorb moisture.	No greater than sterile cotton.	Does not support microbial growth.	Noncombustible (Unfaced)	Strong, poly sleeves that offer excellent protection from abuse, dust and moisture.

Knauf Blowing Insulation Technical Information

	R-Value*	Bags/1,000 SF	Maximum Coverage	Minimum Weight	Initial Installed Thickness	Minimum Settled Thickness**
Open Attic Application	To obtain an insulation resistance (R-value) of:	The number of bags/1,000 SF of net area should not be less than:	Contents of this bags should not cover more than:	The weight/SF of installed insulation should not be less than:	Installed insulation should not be less than:	Installed insulation should not be less than:
Jet Stream	R-60	31.7	31.5 SF	.952 lbs	19.75"	19.75"
	R-49	25.3	39.5 SF	.760 lbs	16.50"	16.50"
	R-44	22.1	45.3 SF	.663 lbs	14.75"	14.75"
	R-38	19.0	52.7 SF	.569 lbs	13.00"	13.00"
	R-30	14.4	69.7 SF	.431 lbs	10.25"	10.25"
	R-26	12.4	80.9 SF	.371 lbs	9.00"	9.00"
	R-22	10.4	95.8 SF	.313 lbs	7.75"	7.75"
	R-19	8.9	111.8 SF	.268 lbs	6.75"	6.75"
	R-13	6.1	164.3 SF	.183 lbs	4.75"	4.75"
	R-11	5.1	197.6 SF	.152 lbs	4.00"	4.00"

Bag Net Weight — Nominal 30 lbs., Minimum 29 lbs.
 Coverage and installation data were determined using a Volu-Matic® II blowing machine in 3rd gear with 13" gate opening, 2.0 psi air pressure, 150' of 3" diameter internally-corrugated hose.
 * "R" means resistance to heat flow. The higher the R-value, the greater the insulating power. To get the marked R-value, it is essential that this insulation be installed properly. If you do it yourself, get instructions and follow them carefully. Instructions do not come with this package.

Cavity Wall Applications Bag Net Weight — Nominal 32 lbs., Minimum 31 lbs.

	Framing	Cavity Depth	R-Value* To obtain an insulation resistance of:	Density	Bags per 1000 SF The number of bags per 1,000 square feet of net area should not be less than:	Maximum Coverage per Bag Contents of this bag should not cover more than:	Net Minimum Weight per SF The weight per square feet of installed insulation should not be less than:
Wood Frame Construction	2"x4"	3.50"	R-15	1.8 lbs./cu. ft.	16.4 bags	61.0 sq. ft.	0.525 lbs.
	2"x6"	5.50"	R-23	1.8 lbs./cu. ft.	25.8 bags	38.8 sq. ft.	0.825 lbs.
	2"x8"	7.25"	R-31	1.8 lbs./cu. ft.	34.0 bags	29.4 sq. ft.	1.088 lbs.
	2"x10"	9.25"	R-39	1.8 lbs./cu. ft.	43.4 bags	23.1 sq. ft.	1.388 lbs.

* "R" means resistance to heat flow. The higher the R-value, the greater the insulating power. To get the marked R-value, it is essential that this insulation be installed properly.



Specification Compliance	Surface Burning Characteristics	Critical Radiant Flux (ASTM E 970)	Water Vapor Sorption (ASTM C 1104)	Corrosion (ASTM C 764)	Microbial Growth (ASTM C 1338)	Non-Combustibility (ASTM E 136)	Packaging
U.S. — ASTM C 764, Type I; HH-1-1030B, Class B; Greenguard™ Certification; Greenguard For Children and Schools™ Certification.	Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN/ULC S102-M88.	Greater than 0.12 W/cm ² .	5% maximum by weight.	No greater than sterile cotton.	Does not support microbial growth.	No temperature rise above 54°F (30°C).	Jet Stream Blowing Insulation is packaged in a strong, white poly bag that offers excellent protection from abuse, dust and moisture. Knauf packages are lightweight, stack without slipping and are easy to handle and store. Knauf Jet Packs stack 14 bags high in a three bag footprint for improved inventory control, while minimizing damage during quick and easy loading and unloading with forklifts.

**Based on a third party 2-year settling study, the predicted settlement over a 20-year period would be 1 percent or less.
This amount of settling is thermally insignificant. Therefore, the installed and settled thicknesses are effectively the same.
Volu-Matic® II is a registered trademark of Unisul.

Specification Compliance	Surface Burning Characteristics	Critical Radiant Flux (ASTM E 970)	Moisture Vapor Sorption (ASTM C 1104)	Corrosion (ASTM C 764)	Microbial Growth (ASTM C 1338)	Non-Combustibility (ASTM E 136)	Packaging
U.S. — ASTM C 764, Type I; HH-1-1030B, Class B; Greenguard™ Certification; Greenguard For Children and Schools™ Certification.	Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84 and CAN/ULC S102-M88.	Greater than 0.12 W/cm ² .	5% maximum by weight.	No greater than sterile cotton.	Does not support microbial growth.	No temperature rise above 54°F (30°C).	Perimeter Plus Blowing Insulation is packaged in a strong, poly bag that offers excellent protection from abuse, dust and moisture. Knauf packages are lightweight, stack without slipping and are easy to handle and store. Knauf 42-bag Plus Packs simplify loading/unloading and inventory control.

Equipment Required

To achieve labeled R-value, this product must be applied behind Perimeter Plus netting (or equivalent) in closed cavity applications with a pneumatic blowing machine and a corrugated hose with a minimum ¼" internal corrugation, a minimum length of 150' and a diameter of at least 3" be used. Coils in the hose should not be less than 36" in diameter.



The low dust and easy smooth cutting of Knauf batts keeps installers efficient and comfortable.



Firm batts that recover quickly out of the package lead to quick installations.



Knauf Commercial Insulation

Tough Industry Demands, Easy-Going Product

We help you meet the tough construction industry demands on time and money with products that enhance installer productivity and create long term value for the building owner. All while fulfilling your business needs with a full line of quality products that will help to ensure your finished work looks and performs to everyone's expectations. And Knauf products are backed by the most responsive service in the industry because helping you succeed in your business is how we succeed in ours. Knauf's Batts and Blankets are thermal and acoustical fiber glass products available in:

- unfaced
- kraft faced
- foil faced
- flame-rated FSK-25 (Foil-Scrim-Kraft) foil faced.



Knauf Batts and Blankets are cost-effective thermal and acoustical barriers for energy-efficient design. Their consistent quality, low dust and clean-cutting resilient fibers make fabrication easy and installation fast. The products can be used in wood and metal frame applications in commercial structures. These applications include thermal and acoustical treatments to walls, ceilings and floors.

Knauf QuietTherm® Insulation's excellent acoustical properties reduce sound transmission and assist in reducing unwanted noise. Knauf QuietTherm® Insulation can improve STC ratings in wood stud construction by 3 to 5 points and metal stud construction by 8 to 10 points, depending on the complexity of the wall configuration and layers of insulation. Knauf Commercial Batts can be used for exterior and partition walls, floors, crawlspaces and a variety of ceiling applications.



Low dust batts: Good morale and higher productivity are the outcomes of using Knauf batts and blankets. Professional installers prefer Knauf's consistent density, low dust and clean-cutting batts.



GREENGUARD For Children and Schools™ Certified

- Strict indoor air quality requirements for applications such as classroom and daycare facilities are met or exceeded with Knauf batts.
- Quarterly testing by an independent third-party ensures ongoing compliance.



Knauf QuietTherm® Insulation

- Acoustical insulation can assist with improving the STC ratings by 8 to 10 points in metal stud construction.



Knauf Insulation Board cuts smooth and easy for a quick and trouble-free installation.



Knauf Wall and Ceiling Liner M is commonly used to provide an acoustical treatment in theaters and concourses. It is also used as a ceiling cover in small restaurants for visual aesthetics.



Knauf Black Acoustical Insulation resists damage during installation and has a consistent black surface for visual aesthetics.



Knauf Insulation Board is a thermal and acoustical insulation product made from inorganic glass fibers preformed into boards bonded by a thermosetting resin. Available in:

- unfaced
- foil-scrim-kraft (FSK) facing factory-applied
- polypropylene-scrim-kraft (PSK) facing factory-applied
- all-service jacket (ASJ) factory-applied.

Knauf Insulation Board is a versatile product for thermal and acoustical applications such as metal and masonry walls, wall and roof panel systems, curtain wall assemblies and cavity walls.

Lower Installation and Operating Costs

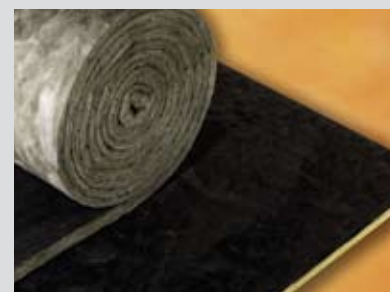
The lightweight, stiff board is easy to handle and fabricate making for a fast installation, lowering labor costs. And the excellent thermal efficiency conserves energy and lowers operating costs.

Improved Interior Surroundings

Excellent acoustical properties effectively reduce noise and an enhanced appearance is created with FSK, PSK and ASJ vapor-retardant facings.



Knauf Insulation Board fulfills many thermal and acoustical applications in light commercial construction. From metal and masonry walls, curtain wall assemblies and wall cavities to wall and roof panel systems.



Knauf's line of Black Acoustical Insulation is specifically designed to reduce airborne sound transmission and combines the performance, appearance and abuse resistance the job may require.

Knauf Black Acoustical Insulation reduces sound transmission and can significantly improve STC ratings of wall configurations. These products are designed for use as acoustical insulation or as an enhancement of the visual surface on walls and ceilings.

Knauf Wall and Ceiling

Liner M is a black flexible fiber glass blanket with a black mat facing adhered to one surface. Its smooth, tough surface resists damage during installation.

Knauf Wall and Ceiling Liner M is primarily used in theaters, sound studios, public concourses and other areas where acoustical treatment is needed. It is intended to be mechanically fastened to walls and covered with fabric or draping, or suspended above linear metal and metal pan ceiling systems to serve as both a visual and acoustical treatment.

Knauf Black Acoustical

Board is an amber based heavy density fiber glass board with a black polymer top layer of fiber glass with a black overspray applied to provide a smooth, tough finish.

Knauf Black Acoustical Board is designed for use as acoustical insulation and/or a visual aesthetic on walls and ceilings, where a rigid product and additional strength and abuse resistance are required. The product is typically used where framing members are not present.

Knauf Batts and Blankets Technical Information

Metal Frame Construction

Batts and Blankets



	R-Value	Thickness	Width	Facings			
				Unfaced	Kraft	Foil*	FSK-Foil
R-8 QT		2.5" (64 mm)	16", 24" (406, 610 mm)	•			
R-11		3.5" (89 mm)	16", 24" (406, 610 mm)			•	•
R-11 QT		3.5" (89 mm)	16", 24" (406, 610 mm)	•	•		
R-13		3.5" (89 mm)	16" (406 mm)			•	•
R-13 QT		3.5" (89 mm)	16", 24" (406, 610 mm)	•	•		
R-19		6.25" (159 mm)	16", 24" (406, 610 mm)			•	•
R-19 EF		6.25" (159 mm)	23" (584 mm)				•
R-19 QT		6.25" (159 mm)	16", 24" (406, 610 mm)	•	•		
R-30		10" (254 mm)	16", 24" (406, 610 mm)			•	•
R-30 EF		10" (254 mm)	24" (610 mm)				•
R-38		12" (305 mm)	24" (610 mm)			•	


* Not rated for flame propagation.

QT = QuietTherm insulation specifically designed for acoustical applications.

EF = Extended Flange, FSK Foil Facing

Specification Compliance	Surface Burning Characteristics	Facing Permeance	Water Vapor Sorption (ASTM C 1104)	Corrosion (ASTM C 665)	Microbial Growth (ASTM C 1338)	Non-Combustibility (ASTM E 136)	Packaging
<p>U.S.— ASTM C 665, Type I, Class A (unfaced); ASTM C 665, Type II, Class C (kraft faced); ASTM C 665, Type III, Class A (FSK-25 foil faced); ASTM C 665, Type III, Class B (foil faced); GREENGUARD Certification; GREENGUARD For Children and Schools™ Certification; California Energy Commission; Dade County, Florida; MEA #498-90-M; State of Minnesota.</p>	<p>Unfaced & FSK-25: Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84.</p>	<p>Kraft faced products have a moisture permeance of 1.0 or less.</p> <p>FSK foil faced products have ratings of .04.</p> <p>Foil faced products have ratings of .05.</p>	<p>5% maximum by weight.</p>	<p>No greater than sterile cotton.</p>	<p>Does not support microbial growth.</p>	<p>Noncombustible (unfaced)</p>	<p>Feature complete installation instructions and a highly visible color coding system which follows industry standards, making Knaf products easy to select.</p> <p>Knaf packages are lightweight, stack without slipping and are sized to fit easily under floors and through scuttle holes.</p> <p>Most batt products are packaged in Knaf Master Bag 4-packs. However, several 15"/16" products are available in 5-packs.</p>

Knauf Insulation Board Technical Information

		Thickness	Width	Length	Packaging	Thermal Conductivity k-Value (S.I.) (ASTM C 518)*	Thermal Resistance R-Value (S.I.) (ASTM C 177)*	Specification Compliance		
Insulation Board 	1.6 PCF (26 kg/m ³)	1½" (38 mm)	24" (610 mm) and 48" (1219 mm)	36" (915 mm) to 120" (3048 mm)	Plain: Cartons, Sleeves Faced: Cartons Only	.24 (.035)	6.3 (1.1)	U.S.— ASTM C 612, Type IA, IB; ASTM D 795; ASTM C 1136 (facings), Type I, II, III, IV (ASJ), Type II, IV (FSK, PSK) California Title 24; HH-B-100B, Type I (ASJ facing), Type II (FSK, PSK facings); HH-1558C, Form A, Class 1, Class 2; MIL-I-24244C; NFPA 90A and 90B; NRC Reg. Guide 1.36. Canada — CAN/ULC S102-M88, CGSB 51-GP-10M; NRC Reg. Guide 1.36		
		2" (51 mm)					8.3 (1.5)			
		2½" (64 mm)					10.4 (1.8)			
		3" (76 mm)					12.5 (2.2)			
		3½" (89 mm)					14.6 (2.6)			
		4" (102 mm)					16.7 (2.9)			
	2.25 PCF (36 kg/m ³)	1" (25 mm)	24" (610 mm) and 48" (1219 mm)	36" (915 mm) to 120" (3048 mm)			.23 (.033)		4.3 (0.8)	
		1½" (38 mm)							6.5 (1.1)	
		2" (51 mm)							8.7 (1.5)	
		2½" (64 mm)							10.9 (1.9)	
		3" (76 mm)							13.0 (2.3)	
		3½" (89 mm)							15.2 (2.7)	
	3.0 PCF (48 kg/m ³)	1" (25 mm)	24" (610 mm) and 48" (1219 mm)	36" (915 mm) to 120" (3048 mm)			.23 (.033)		4.3 (0.8)	
		1½" (38 mm)							6.5 (1.1)	
		2" (51 mm)							8.7 (1.5)	
		2½" (64 mm)							10.9 (1.9)	
		3" (76 mm)							13.0 (2.3)	
		3½" (89 mm)							15.2 (2.7)	
	4.25 PCF (68 kg/m ³)	1" (25 mm)	24" (610 mm) and 48" (1219 mm)	36" (915 mm) to 120" (3048 mm)			.23 (.033)		4.3 (0.8)	
		1½" (38 mm)							6.5 (1.1)	
		2" (51 mm)							8.7 (1.5)	
		2½" (64 mm)							10.9 (1.9)	
	6.0 PCF (96 kg/m ³)	1" (25 mm)	24" (610 mm) and 48" (1219 mm)	36" (915 mm) to 120" (3048 mm)					.22 (.032)	4.4 (0.8)
		1½" (38 mm)								6.7 (1.2)
		2" (51 mm)			8.9 (1.6)					

*Mean Temperature 75°F (24°C)

Acoustical Performance
Sound Absorption Coefficients
 (ASTM C 423, Type A Mounting)

Surface Burning Characteristics

Temperature Range
 (ASTM C 411)


Puncture Resistance
 (TAPPI Test T803, Beach Units)


Water Vapor Permeance
 (ASTM E 96, Procedure A)

Water Vapor Sorption
 (ASTM C 1104)

¹ / ₃ Octave Band Center Frequency (Cycles/Sec.)				UL Classified; Unfaced or composite (insulation, facing and adhesive) does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN/ULC S102-M88, NFPA 90A and 90B, NFPA 255 and UL 723 (except PSK: ASTM E 84 and UL 723 only).	Up to 450°F (232°C)	FSK, PSK Facings: 25 ASJ Facing: 50	FSK, PSK and ASJ vapor retarders have a maximum vapor transmission rate of .02 perms.	Less than 5% by weight.
Density	Thickness	Facing	NRC					
1.6 PCF (26 kg/m ³)	1½" (38 mm)	Plain	.80					
	2" (51 mm)		.90					
	2½" (64 mm)		1.00					
	3" (76 mm)		1.05					
2.25 PCF (36 kg/m ³)	1" (25 mm)	Plain	.65					
	1½" (38 mm)		.85					
	2" (51 mm)		.95					
	1" (25 mm)	FSK	.75					
	2" (51 mm)		.75					
3.0 PCF (45 kg/m ³)	1" (25 mm)	Plain	.65					
	1½" (38 mm)		.85					
	2" (51 mm)		1.00					
	3" (76 mm)		1.10					
	4" (102 mm)		1.10					
	1" (25 mm)	FSK	.75					
	1½" (38 mm)		.70					
	2" (51 mm)		.75					
	1" (25 mm)	ASJ	.65					
	1½" (38 mm)		.65					
	2" (51 mm)		.65					
	4.25 PCF (68 kg/m ³)	1" (25 mm)	Plain	.75				
2½" (64 mm)		ASJ	.55					
6.0 PCF (96 kg/m ³)	1" (25 mm)	Plain	.80					
	1½" (38 mm)		.90					
	2" (51 mm)		1.00					
	1" (25 mm)	FSK	.50					
	1½" (38 mm)		.60					
	2" (51 mm)		.60					
	1½" (38 mm)	ASJ	.50					
	2" (51 mm)		.50					

Knauf Black Acoustical Insulation Technical Information

		Thickness	Width	Length	Packaging	Thermal Resistance R-Value ASTM C 518* (S.I.)	Specification Compliance
Black Acoustical Board 	2.25 PCF (36 kg/m ³)	2" (51 mm)	24" (610 mm)	48" (1219 mm)	Unitized Cartons	8.7 (1.53)	U.S. — ASTM C 1338, G 21, 22; NFPA 255; UL 723. Canada — CAN/ULC S102-M88.
	3.0 PCF (48 kg/m ³)	1" (25 mm)	24" (610 mm)	48" (1219 mm)	Unitized Cartons	4.3 (.76)	
		1.5" (38 mm)				6.5 (1.15)	
		2" (51 mm)				8.7 (1.53)	
		* Mean Temperature 75°F (24°C)					

		Thickness	Width	Length	R-Value	Specification Compliance		
Wall and Ceiling Liner M 	1.0 PCF (16 kg/m ³)	1" (25 mm)	48" (1219 mm)	100' (30.48 m)	3.6	U.S. — ASTM C 1071, Type I; ASTM D 5116; ASTM G 21, 22; California Title 24 (1.5 PCF, 1" and above); NFPA 90A and 90B; State of Alaska IAQ Specifications; State of Washington IAQ Specifications; SMACNA Application Standard for Duct Liners; NAIMA Fibrous Duct Liner Installation Standards. Canada — CAN/ULC S102-M88; CAN/CGSB 51.11-92.		
		1½" (38 mm)		50' (15.24 m)	5.4			
		2" (51 mm)		50' (15.24 m)	7.1			
	1.5 PCF (24 kg/m ³)	½" (13 mm)	48" (1219 mm)	100' (30.48 m)	2.0			
		1" (25 mm)		100' (30.48 m)	4.2			
		1 ½" (38 mm)		50' (15.24 m)	6.0			
		2" (51 mm)		50' (15.24 m)	8.0			
		2.0 PCF (32 kg/m ³)		½" (13 mm)	48" (1219 mm)		100' (30.48 m)	2.1
				1" (25 mm)			50' (15.24 m)	4.2

Surface Burning Characteristics	Service Temperature (ASTM C 411)	Air Velocity (UL 1071)	Water Vapor Sorption (ASTM C 1104)	Sound Absorption Coefficients (ASTM C 423, Type A Mounting)						
				1/3 Octave Band Center Frequency (cycles/sec)						
				125	250	500	1000	2000	4000	NRC
UL/ULC Classified; Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN/ULC S102-M88, NFPA 255 and UL 723.	Maximum 250°F (121°C)	Maximum 4000 fpm (1219 mpm)	Less than 3% by weight.	.26	.62	1.05	1.07	1.04	1.05	.95
				.13	.24	.56	.83	.92	.98	.65
				.19	.41	.89	1.02	1.03	1.04	.85
				.33	.67	1.07	1.07	1.03	1.06	.95

Surface Burning Characteristics	Service Temperature (ASTM C 411)	Air Velocity (UL 1071)	Water Vapor Sorption (ASTM C 1104)	Sound Absorption Coefficients (ASTM C 423, Type A Mounting)						
				1/3 Octave Band Center Frequency (cycles/sec)						
				125	250	500	1000	2000	4000	NRC
UL/ULC Classified; Does not exceed 25 Flame Spread, 50 Smoke Developed when tested in accordance with ASTM E 84, CAN/ULC S102-M88, NFPA 255 and UL 723.	Up to 250°F (121°C)	Maximum 6000 fpm (1829 mpm)	Less than 3% by weight.	—	—	—	—	—	—	.60
				—	—	—	—	—	—	.80
				—	—	—	—	—	—	.85
				—	—	—	—	—	—	.50
				.18	.36	.59	.86	.95	.90	.70
				.35	.51	.83	.93	.97	.96	.80
				.34	.64	.96	1.03	1.00	1.03	.90
				.09	.14	.40	.60	.73	.82	.45
				.25	.35	.69	.89	.96	1.01	.70

KNAUF INSULATION

Knauf Insulation is registered to ISO 9001:2000 in the prevention, detection and correction of problems in production and service areas.

The descriptions of chemical and physical properties of Knauf products listed in this catalog represent typical average values determined in accordance with accepted test methods. The data is subject to normal manufacturing and testing variations, and is subject to change without notice.

References to numerical flame spread ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

Check with your Knauf sales representative to ensure that the information in this catalog is the most current available.



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Visit our Web site to learn more about Knauf Insulation, to obtain product information and for industry news. More information about Greenguard certification and indoor air quality is also available. In addition, documents are available as PDFs including some necessary for some job situations. Literature available includes:

- MSDS
- Submittal Sheets
- Data Sheets
- Fact Sheets

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At Knauf, we manufacture a wide variety of products that serve a common goal, helping to make the most of our planet's energy resources. A family-owned global company, we understand and are committed to high standards in quality, performance and environmental responsibility. Every step we take today toward energy conservation helps ensure better lives for generations to come.



LEED Eligible Product

Use of this product may help building projects meet green building standards as set by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. Credit 4.1 - 4.2 Recycled Content Credit 5.1 - 5.2 Regional Materials