Commercial Building Insulation

with ECOSE® Technology

Submittal Date _____

Submitted to: _____

Job Name: _____

Job Reference: _____

Submitted by: _____

Address _____ **State:** _____ **Zip:** _____

E-Mail Address _____

Phone: _____ **Fax #:** _____

Date: _____

Commercial Building Insulation

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KNAUF INSULATION
it's time to save energy

Knauf EcoBatt® Commercial Batt Insulation with ECOSE® Technology

☐ Unfaced Thermal and Acoustical

Glasswool insulation designed to be friction fit between metal framing members. Specifier permitted choice of warm side vapor retarders, including foil backed gypsum board or polyethylene film.

Unfaced glasswool insulation is also an excellent sound control insulation, designed for installation in partition walls and as a lay-in over acoustical ceiling panels.

When tested in accordance with ASTM E 84, material has Fire Hazard Classification of 25/50 or less.

Specification Compliance
- ASTM C 665; Type I, Class A
- HH-I-521F; Type I, Class A
- ASTM E 136

Product and Description	R-Value/RSI	Thickness	Location
	☐ R-8 RSI-1.4	2½" 64 mm	
	☐ R-11 RSI-1.9	3½" 89 mm	
	☐ R-13 RSI-2.3	3½" 89 mm	
	☐ R-19 RSI-3.3	6¼" 159 mm	
	☐ R-25 RSI-4.4	8" 203 mm	
	☐ R-26 RSI-4.6	9" 229 mm	
	☐ R-30 RSI-5.3	10" 254 mm	
	☐ R-38 RSI-6.7	12" 311 mm	

☐ Kraft Faced Thermal and Acoustical

Glasswool insulation with kraft paper with flanges. Kraft vapor retarder has vapor transmission (permeance) rating of 1.0 or less.

Kraft faced glasswool insulation is also an excellent sound control insulation, designed for installation in partition walls and as a lay-in over acoustical ceiling panels.

Kraft facing will burn and should not be left exposed. Install kraft facing in contact with approved finish material.

Specification Compliance
- ASTM C 665; Type II, Class C
- HH-I-521F; Type II, Class C

	☐ R-11 RSI-1.9	3½" 89 mm	
	☐ R-13 RSI-2.3	3½" 89 mm	
	☐ R-19 RSI-3.3	6¼" 159 mm	
	☐ R-25 RSI-4.4	8" 203 mm	
	☐ R-26 RSI-4.6	9" 229 mm	
	☐ R-30 RSI-5.3	10" 254 mm	
	☐ R-38 RSI-6.7	12" 311 mm	

☐ FSK-25 Foil Faced

Glasswool insulation with a flanged reinforced foil/scrim/kraft facing with an average vapor transmission (permeance) rating of .04.

When tested in accordance with ASTM E 84, material has Fire Hazard Classification of 25/50 or less.

Specification Compliance
- ASTM C 665; Type III, Class A
- HH-I-521F; Type III, Class A

	☐ R-11 RSI-1.9	3½" 89 mm	
	☐ R-13 RSI-2.3	3½" 89 mm	
	☐ R-19 RSI-3.3	6¼" 159 mm	
	☐ R-30 RSI-5.3	10" 254 mm	
	☐ R-38 RSI-6.7	12" 311 mm	

☐ Foil Faced

Glasswool foil insulation with asphalt-coated kraft/foil facing with flanges. Foil vapor retarder has vapor transmission (permeance) rating of .05 or less.

Insulation should not be left exposed. Install foil facing in contact with approved finish material.

Specification Compliance
- ASTM C 665; Type III, Class B
- HH-I-521F; Type III, Class B

	☐ R-11 RSI-1.9	3½" 89 mm	
	☐ R-13 RSI-2.3	3½" 89 mm	
	☐ R-19 RSI-3.3	6¼" 159 mm	
	☐ R-30 RSI-5.3	10" 254 mm	
	☐ R-38 RSI-6.7	12" 311 mm	

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Knauf Black Acoustical Insulation with ECOSE® Technology

Product and Description	Density	Thickness	Location
☐ **Wall and Ceiling Liner M**			
Black insulation blanket with a black mat facing adhered to one surface. The product is designed for use as an acoustical and visual barrier for walls and ceilings. When tested in accordance with ASTM E 84, material has Fire Hazard Classification of 25/50 or less. **Specification Compliance** • ASTM C 553; Types I, II, III• ASTM C 1071; Type I	☐ 1.0 pcf 16 kg/m³	1" 25 mm	
	☐ 1.0 pcf 16 kg/m³	1½" 38 mm	
	☐ 1.0 pcf 16 kg/m³	2" 51 mm	
	☐ 1.5 pcf 24 kg/m³	½" 13 mm	
	☐ 1.5 pcf 24 kg/m³	1" 25 mm	
	☐ 1.5 pcf 24 kg/m³	1½" 38 mm	
	☐ 1.5 pcf 24 kg/m³	2" 51 mm	
	☐ 2.0 pcf 32 kg/m³	½" 13 mm	
	☐ 2.0 pcf 32 kg/m³	1" 25 mm	
☐ **Black Acoustical Board**			
Black Acoustical Board with a black mat facing adhered to one surface. The product is designed for use as an acoustical and visual barrier for walls and ceilings, where system design requires a rigid product and where additional strength and abuse resistance are required. When tested in accordance with ASTM E84, materail has Fire Hazard Classification of 25/50 or less. **Specification Compliance** • ASTM C 1071; Type II	☐ 2.25 pcf 36 kg/m³	2" 51mm	
	☐ 3.0 pcf 48 kg/m³	1½" 38 mm	
	☐ 3.0 pcf 48 kg/m³	2" 51mm	

Knauf Insulation Board with ECOSE® Technology

Product and Description	Density	Thickness	R-Value/RSI	Location
☐ **Insulation Board**				
Fiber glass insulation designed to be used on metal and masonry walls, walls and roof panel systems, curtain wall assemblies, cavity walls and for all applications where insulating and acoustical efficiency is required. It is available plain, with a factory applied foil/scrim/kraft facing or with a factory applied all service jacket. When tested in accordance with ASTM E 84, material has Fire Hazard Classification of 25/50 or less. **Specification Compliance** • HH-I-558B – Form A, Class 1 (1.6pcf, 2.25pcf, 3.0 pcf, 4.25pcf, 6.0pcf) – Form A, Class 2 (3.0pcf, 4.25pcf, 6.0pcf) • HH-B-100B – Type I (ASJ) – Type II (FSK) • ASTM C 1136 – Type I, II, III, IV (ASJ) – Type II, IV (FSK) • ASTM C 612 – Type IA (1.6pcf, 2.25pcf, 3.0pcf, 4.25pcf, 6.0pcf) – Type IB (3.0pcf, 4.25pcf, 6.0pcf)	1.6 pcf 26 kg/m³	☐ 1½" 38 mm	R-6.3 RSI-1.1	
		☐ 2" 51 mm	R-8.3 RSI-1.5	
		☐ 2½" 64 mm	R-10.4 RSI-1.8	
		☐ 3" 76 mm	R-12.5 RSI-2.2	
		☐ 3½" 89 mm	R-14.6 RSI-2.6	
		☐ 4" 102 mm	R-16.7 RSI-2.9	
	2.25 pcf 36 kg/m³	☐ 1" 25 mm	R-4.3 RSI-0.8	
		☐ 1½" 38 mm	R-6.5 RSI-1.1	
		☐ 2" 51 mm	R-8.7 RSI-1.5	
		☐ 2½" 64 mm	R-10.9 RSI-1.9	
		☐ 3" 76 mm	R-13.0 RSI-2.3	
		☐ 3½" 89 mm	R-15.2 RSI-2.7	
		☐ 4" 102 mm	R-17.4 RSI-3.1	
	3.0 pcf 48 kg/m³	☐ 1" 25 mm	R-4.3 RSI-0.8	
		☐ 1½" 38 mm	R-6.5 RSI-1.1	
		☐ 2" 51 mm	R-8.7 RSI-1.5	
		☐ 2½" 64 mm	R-10.9 RSI-1.9	
		☐ 3" 76 mm	R-13.0 RSI-2.3	
		☐ 3½" 89 mm	R-15.2 RSI-2.7	
		☐ 4" 102 mm	R-17.4 RSI-3.1	
	4.25 pcf 68 kg/m³	☐ 1" 25 mm	R-4.3 RSI-0.8	
		☐ 1½" 38 mm	R-6.5 RSI-1.1	
		☐ 2" 51 mm	R-8.7 RSI-1.5	
		☐ 2½" 64 mm	R-10.9 RSI-1.9	
	6.0 pcf 96 kg/m³	☐ 1" 25 mm	R-4.4 RSI-0.8	
		☐ 1½" 38 mm	R-6.7 RSI-1.2	
		☐ 2" 51 mm	R-8.9 RSI-1.6	

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Acoustical Performance

Knauf EcoBatt® Commercial Building Insulation with ECOSE® Technology provides excellent acoustical properties and will reduce sound transmission when properly installed in partition walls and acoustical ceiling and floor systems. Knauf EcoBatt QuietTherm® Acoustical/Thermal Insulation can improve STC ratings in wood stud construction by 3 to 5 points and metal stud construction by 8 to 10 points depending upon the complexity of the wall configurations, R-values and layers of insulation.

The following table illustrates the improved STC Ratings using Knauf EcoBatt QuietTherm® acoustical/thermal insulation compared to no insulation.

STC Ratings*

	QuietTherm	No insulation	QuietTherm	No insulation
Wood Frame (3½" - 4" Batt)	**(with ½" gypsum wallboard both sides)**		**(with 5/8" gypsum wallboard both sides)**	
Single studs/Single layer gypsum	38	35	38	34
Single studs/Resilient channel	47	39	52	40
Staggered studs/Single layer gypsum	49	39	51**	43
Double stud walls/Single layer gypsum	57	46	56	45
Steel Frame (2½" Studs) (2½" - 2¾" Batt)	**(with ½" gypsum wallboard both sides)**		**(with 5/8" gypsum wallboard both sides)**	
Single layer gypsum	45	36	47	39
Double layer gypsum one side/ Single layer gypsum other side	50	39	52	44
Double layer both sides	54	45	57	48
Steel Frame (3 " Studs) (3½" - 4" Batt)	**(with ½" gypsum wallboard both sides)**		**(with 5/8" gypsum wallboard both sides)**	
Single layer gypsum	47	39	50	39
Double layer gypsum one side/ Single layer gypsum other side	52	42	55	47
Double layer both sides	56	50	58	52

* See NAIMA publication BI405 for additional information.

** Uses 2" - 2½" Batts

Thermal Resistance

Thermal resistance (R-value) of the blanket insulation only is certified to be as represented above when measured at a mean temperature of 75°F (24°C) and subject to manufacturing and testing tolerances.

Surface Burning Characteristics

Knauf Unfaced Batts and Blankets, FSK-25 Batts, Insulation Board, Wall and Ceiling Liner M and Black Acoustical Board do not exceed 25 Flame Spread and 50 Smoke Developed when tested in accordance with ASTM E-84.

Fire Safety

Knauf Unfaced Batts are considered noncombustible according to ASTM E-136. Facings and coated products do affect fire safety and burning characteristics. Please consult your Knauf Insulation sales representative or technical support for additional information and appropriate applications.

Additional Information

MSDS sheets are available on our Web site or by contacting technical support.

All Knauf Insulation products have a one-year limited warranty.

Ask your Knauf Insulation sales representative for the following:

Limited One-Year Warranty Card K-W-3

QuietTherm Insulation Data Sheet BI-DS-3

Insulation Board Data Sheet PE-DS-2

Theater Insulation* Products Data Sheet BI-DS-4

*Wall and Ceiling Liner M, Black Acoustical Board, Insulation Board

ECOSE® Technology

ECOSE Technology is a revolutionary new binder chemistry that makes Knauf Insulation products even more sustainable than ever. It is based on rapidly renewable bio-based materials rather than non-renewable petroleum-based chemicals traditionally used in fiberglass insulation products. ECOSE Technology reduces binder embodied energy and does not contain phenol, formaldehyde, acrylics or artificial colors.

Fiber Glass and Mold

Fiber glass (glasswool) insulation will not sustain mold growth. However, mold can grow on almost any material when it becomes wet and contaminated. Carefully inspect any insulation that has been exposed to water. If it shows any sign of mold it must be discarded. If the material is wet but shows no evidence of mold, it should be dried rapidly and thoroughly. If it shows signs of facing degradation from wetting, it should be replaced.

Notes

Knauf Insulation is registered to ISO 9001:2000 in the prevention, detection and correction of problems in production and service areas. The chemical and physical properties of Knauf products with ECOSE Technology—Unfaced Batts and Blankets, FSK-25 Batts, Insulation Board, Wall and Ceiling Liner M and Black Acoustical Board—represent typical average values determined in accordance with accepted test methods. The data is subject to normal manufacturing variations. The data is supplied as a technical service 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 Insulation sales representative to assure information is current.

Children & Schools GREENGUARD® Indoor Air Quality Certified

Formaldehyde FREE

Knauf Insulation EcoBatts® and Knauf Insulation Insulation Board are certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute to both the GREENGUARD Indoor Air Quality Certification Program℠ and the more stringent GREENGUARD Children & Schools standard and is verified to be formaldehyde free. www.greenguard.org

ENERGY STAR PARTNER

with ECOSE® TECHNOLOGY

Children & Schools GREENGUARD® Indoor Air Quality Certified

Knauf Insulation Black Acoustical Board and Wall and Ceiling Liner M with ECOSE Technology are certified for indoor air quality as a low emitting product by The GREENGUARD Environmental Institute™ to both the GREENGUARD Certification Program℠ and the more stringent GREENGUARD For Children and Schools™ standard. www.greenguard.org