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DESCRIPTION

Knauf Insulation EcoBatt fiberglass insulation made with ECOSE Technology contains a high concentration of one of the world’s most abundant resources—sand—and a high degree of recycled bottle glass bonded with ECOSE Technology. The products are available unfaced or with kraft, foil or flame-rated FSK-25 (Foil-Scrim-Kraft) foil facings.

ECOSE TECHNOLOGY

ECOSE technology is a revolutionary binder chemistry that enhances the sustainability of our products. The “binder” is the bond that holds our fiberglass product together and gives the product its shape and brown color. ECOSE Technology is a plant-based, sustainable chemistry that replaces the phenol/formaldehyde (PF) binder traditionally used in fiberglass products. Products using ECOSE technology are formaldehyde-free and have reduced global warming potential when compared to our products of the past.

SUSTAINABILITY

Knauf Insulation’s products used for thermal insulating purposes recover the energy that it took to make them

in just hours or days, depending on the application. Once installed, the product continues to save energy and reduce carbon generation as long as it is in place.

Fiberglass insulation with ECOSE Technology contains three key ingredients:

- Recycled glass content, verified every six months by UL Environment
- Sand, one of the world’s most abundant resources
- Our green chemistry initiative ECOSE Technology, which is validated to be formaldehyde-free

THERMAL PERFORMANCE

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.

ACOUSTICAL PERFORMANCE

Knauf Insulation’s EcoBatt insulation provides excellent acoustical properties and will reduce sound transmission when properly installed in partition walls and acoustical ceiling and floor systems. Knauf Insulation 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 STC Ratings table, right, illustrates the improved STC Ratings in a commercial application using Knauf Insulation acoustical/thermal insulation compared to no insulation.

SURFACE BURNING CHARACTERISTICS

Knauf Insulation 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 E84.

FIRE SAFETY

Knauf Insulation Unfaced Batts are considered noncombustible according to ASTM E136. 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.

STC Ratings*				
	With insulation	No insulation	With insulation	No insulation
Wood Frame, 2x4 (3½"-4" Batt)	(with ½" gypsum wallboard both sides)		(with ⅝" 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"-2⅝" Batt)	(with ½" gypsum wallboard both sides)		(with ⅝" 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 (3⅝" Studs) (3½"-4" Batt)	(with ½" gypsum wallboard both sides)		(with ⅝" 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

Technical Data		
Property (Unit)	Test	Performance
Corrosion	ASTM C1617	Pass
Thermal Value	ASTM C518	See chart on next page
Water Vapor Permeance	ASTM E96	Kraft faced: 1.0 perms or less FSK foil faced: 0.04 perms Foil faced: 0.05 perms
Water Vapor Sorption (by weight)	ASTM C1104	Less than 5%
Combustibility	ASTM E136	Non-combustible (unfaced only)
Mold Growth	ASTM C1338	Pass
Surface Burning Characteristics (flame spread/smoke developed)	ASTM E84	Unfaced and flamed-rated FSK facings: 25/50 Kraft facing will burn and should not be left exposed.

PRODUCT OFFERING

Unfaced Batts and Blankets

Fiberglass insulation is designed to friction fit between framing members. Specifier permitted choice of warm side vapor retarders, including foil backed gypsum board or polyethylene film. Unfaced fiberglass insulation is also an excellent sound control insulation, designed for installation in floor systems and in partition walls between rooms or dwellings.

High density fiberglass insulation is specifically designed for sidewall, cathedral ceiling and floor applications where optimal thermal performance is required, and space for insulation is limited. Knauf Insulation High Density (HD) Ecobatt products offer a superior thermal value per inch as compared to standard building insulation products. R-15-3½" High Density EcoBatt batts are designed for use in 2 x 4 framed wall sections. R-21-5½" and R-23-5½" High Density batts are designed for use in 2 x 6 framed sidewalls and floor assemblies, where air spaces are neither required nor desired. R-30-8¼" High Density Cathedral Ceiling batts are designed for use in 2 x 10 framed cathedral ceiling or floor assemblies where a 1" air space is required. R-38-10¼" High Density Cathedral Ceiling batts are designed for use in 2 x 12 framed cathedral ceiling or floor assemblies where a 1" air space is required.

When tested in accordance with ASTM E84, material has a Fire Hazard Classification of 25/50 or less.

Specification Compliance

- ASTM C665, Type I, Class A
- HH-521F, Type I, Class A
- ASTM E36

Kraft Faced Batts and Blankets

Fiberglass insulation with asphalted kraft paper with or without stapling flanges. Kraft vapor retarder has vapor transmission (permeance) rating of 1.0 or less. Kraft Faced fiberglass insulation has excellent sound control properties, designed for installation in floor systems and in partition walls between rooms or dwellings. Kraft facing will burn and should not be left exposed. Install kraft facing in contact with approved finish material.

Specification Compliance

- ASTM C665, Type II, Class C
- HH-521F, Type II, Class C

Foil Faced Batts

Fiberglass foil insulation with asphalted-coated kraft/foil facing with flanges. Foil vapor retarder has vapor transmission (permeance) rating of 0.05 or less. Insulation should not be left exposed. Cover with fire rated finishing surface.

Specification Compliance

- ASTM C665, Type III, Class B
- HH-521F, Type III, Class B

FSK-25 Foil Faced Batts

Fiberglass foil insulation with flanged reinforced foil/scrim/kraft facing with an average vapor transmission (permeance) rating of 0.04. When tested in accordance with ASTM E84, material has a Fire Hazard Classification of 25/50 or less.

Specification Compliance

- ASTM C665, Type III, Class A
- HH-521F, Type III, Class A

CERTIFICATIONS

- UL Environment
 - GREENGUARD
 - GREENGUARD Gold
 - Formaldehyde-free
- USGBC LEED
- EUCEB

FIBERGLASS AND MOLD

Fiberglass 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

The chemical and physical properties of Knauf Insulation EcoBatt insulation represent average values determined in accordance with accepted test methods. The data is supplied as 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 Territory Manager to ensure information is current.

This product is covered by one or more U.S. and/or other patents. See patent www.knaufinsulation.us/patents.

EcoBatt® Insulation with ECOSE® Technology			
Product Description	R-Value (RSI)	Thickness	Location
Unfaced Thermal and Acoustical			
<p>Fiberglass 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 fiberglass 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 E84, material has Fire Hazard Classification of 25/50 or less.</p> <p>Specification Compliance</p> <ul style="list-style-type: none"> • ASTM C665; Type I, Class A • HH-I-521F; Type I, Class A • ASTM E136 • UL Classified FHC 25/50 (BKNV.R8582) 	R-8 (1.4)	2½" (64 mm)	
	R-11 (1.9)	3½" (89 mm)	
	R-13 (2.3)	3½" (89 mm)	
	R-15 HD (2.6)	3½" (89 mm)	
	R-19 (3.3)	6¼" (159 mm)	
	R-20 (3.5)	5½" (140 mm)	
	R-21 HD (3.7)	5½" (140 mm)	
	R-22 (3.8)	6½" (165 mm)	
	R-23 HD (4.0)	5½" (140 mm)	
	R-25 (4.4)	8" (203 mm)	
	R-30 (5.3)	9½" (241 mm)	
	R-30 (5.3)	10" (254 mm)	
	R-30 HD (5.3)	8¼" (210 mm)	
	R-38 (6.7)	12" (311 mm)	
	R-38 HD (6.7)	10¼" (260 mm)	
R-49 (8.6)	13¾" (349 mm)		
Kraft Faced Thermal and Acoustical			
<p>Fiberglass insulation with kraft paper with or without flanges. Kraft vapor retarder has vapor transmission (permeance) rating of 1.0 or less. Kraft faced fiberglass 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.</p> <p>Specification Compliance</p> <ul style="list-style-type: none"> • ASTM C665; Type II, Class C • HH-I-521F; Type II, Class C 	R-11 (1.9)	3½" (89 mm)	
	R-13 (2.3)	3½" (89 mm)	
	R-15 HD (2.6)	3½" (89 mm)	
	R-19 (3.3)	6¼" (159 mm)	
	R-20 (3.5)	5½" (140 mm)	
	R-21 HD (3.7)	5½" (140 mm)	
	R-22 (3.8)	6½" (165 mm)	
	R-23 HD (4.0)	5½" (140 mm)	
	R-25 (4.4)	8" (203 mm)	
	R-30 (5.3)	9½" (241 mm)	
	R-30 (5.3)	10" (254 mm)	
	R-30 HD (5.3)	8¼" (210 mm)	
	R-38 (6.7)	12" (311 mm)	
	R-38 HD (6.7)	10¼" (260 mm)	
	R-49 (8.6)	13¾" (349 mm)	
FSK-25 Foil Faced			
<p>Fiberglass insulation with a flanged reinforced foil/ scrim/kraft facing with an average vapor transmission (permeance) rating of 0.04. When tested in accordance with ASTM E84, material has Fire Hazard Classification of 25/50 or less.</p> <p>Specification Compliance</p> <ul style="list-style-type: none"> • ASTM C665; Type III, Class A • HH-I-521F; Type III, Class A 	R-11 (1.9)	3½" (89 mm)	
	R-13 (2.3)	3½" (89 mm)	
	R-19 (3.3)	6¼" (159 mm)	
	R-21 HD (3.7)	5½" (140 mm)	
	R-30 (5.3)	10" (254 mm)	
	R-38 (6.7)	12" (311 mm)	
Foil Faced			
<p>Fiberglass foil insulation with asphalt-coated kraft/ foil facing with flanges. Foil vapor retarder has vapor transmission (permeance) rating of 0.05 or less. Insulation should not be left exposed. Install foil facing in contact with approved finish material.</p> <p>Specification Compliance</p> <ul style="list-style-type: none"> • ASTM C665; Type III, Class B • HH-I-521F; Type III, Class B 	R-11 (1.9)	3½" (89 mm)	
	R-13 (2.3)	3½" (89 mm)	
	R-19 (3.3)	6¼" (159 mm)	
	R-21 HD (3.7)	5½" (140 mm)	
	R-30 (5.3)	10" (254 mm)	
	R-38 (6.7)	12" (311 mm)	