

## DATA SHEET

# EcoBatt® Insulation

with ECOSE® Technology



### DESCRIPTION

EcoBatt batt insulation is a cost-effective thermal and acoustical barrier for energy-efficient construction. Ecobatt insulation products can be used in new and retrofit wood and metal frame applications in residential, commercial and manufactured housing structures. High Density (HD) batts are available where optimal thermal performance is required and space is limited. Staple-Free batt insulation is flangeless kraft-faced batts that friction fit between 16" on center wood studs, eliminating the need to staple.

### APPLICATIONS

- Cavity walls, exterior and partition walls, floors, ceilings, attics, basements and crawlspaces

### SPECIFICATION COMPLIANCE

- ASTM C665 (facing);
  - Type I, Class A, (Unfaced)
  - Type II, Class C, Category 1 (Kraft)
  - Type III, Class A, Category 1 (FSK-25 foil)
  - Type III, Class B, Category 1 (Foil)
- California Energy Commission
- MEA #498-90-M
- State of Minnesota

### INDOOR AIR QUALITY

- UL Environment
  - GREENGUARD Certified
  - GREENGUARD Gold Certified
  - Validated to be Formaldehyde-Free
- EUCB Certified

CONTRACTOR: \_\_\_\_\_

JOB: \_\_\_\_\_

DATE: \_\_\_\_\_

### DOING MORE FOR THE WORLD WE LIVE IN.

Knauf Insulation products with ECOSE® Technology are made using our patented, bio-based binder - a smarter alternative to the phenol/formaldehyde (PF) binder traditionally used in fiberglass products. The bio-based binder holds our product together, gives the product its unique appearance and makes it formaldehyde-free.

All of our products are made from sustainable resources, such as recycled glass and sand. And we're proud to be putting glass bottles back to work rather than into landfills. Our products are made with a minimum of 50% recycled glass—totaling an average of 26 million bottles each month.



### TECHNICAL DATA

Property (Unit)	Test	Performance
Corrosion	ASTM C1617	Pass
Thermal Value	ASTM C518	See Forms Available chart
Water Vapor Permeance	ASTM E96	Kraft Faced: 1.0 perms or less; FSK-25 and 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.

**FORMS AVAILABLE**
**Wood Frame Construction**

R-Value	Thickness	Unfaced	Kraft	FSK-25	Standard Foil	Staple-Free
R-11	3½"	11"*, 15¼", 19", 23¼"	15"*, 23"	–	–	–
R-13	3½"	11"*, 15", 23"	11"*, 15"*, 23"	–	–	15¼"
R-15 HD	3½"	15"*, 23"*	15"*, 23"*	–	–	15¼"
R-19	6¼"	12"*, 15", 15¼", 19"*, 23¼"*	11"*, 15"*, 19"*, 23"	–	–	15¼"
R-20	5½"	15"*	15"*	–	–	–
R-21 HD	5½"	15", 23"	15", 23"	–	–	15¼"
R-22	6½"	23"*	15"*	–	–	–
R-23 HD	5½"	15"*	–	–	–	–
R-25	8"	16", 24"	15", 23"*	–	–	–
R-30	10"	16", 19¼", 24"	12"*, 16", 19"*, 24"	–	–	–
R-30 HD	8¼"	15"*, 23"	15"*, 23"*	–	–	–
R-38	12"	16", 19"*, 24"	16", 19"*, 24"	–	–	–
R-38 HD	10¼"	15", 23"	15"*, 23"	–	–	–
R-49	13¾"	16"*, 24"	16"*, 19"*, 24"*	–	–	–

**Metal Frame Construction**

R-8	2½"	16", 24"	–	–	–	–
R-11	3½"	16", 24"	16"*, 24"*	16"*	16"*	–
R-13	3½"	16", 24"	16"*, 24"*	16"*	16"*	–
R-15 HD	3½"	16"*	16", 24"*	–	–	–
R-19	6¼"	16", 24"	16", 24"*	16"*, 24"*	16", 24"*	–
R-21 HD	5½"	16", 24"	16"*	16"*	–	–
R-22	6½"	16"*	–	–	–	–
R-30	10"	–	–	24", 24" E.F.**	24"*	–
R-38	12"	–	–	16"*, 24"*	–	–

**Manufactured Housing Rolls**

R-5	1½"	15"	–	–	–	–
R-7	2¼"	15", 16" 42", 48", 90", 96"	–	–	–	–
R-11	3½"	15", 48", 72", 84", 90"*, 96"*	15"	–	–	–
R-13	3½"	15"*	15"	–	–	–
R-14	3½"	72"	–	–	–	–
R-19	6¼"	15", 48", 91½"*	15", 23"*	–	–	–
R-22	7"	84"*	–	–	–	–

HD = High Density, E.F. = Extended Flange

**This table is meant as a quick reference guide as product availability varies by region.  
Please check with your Territory Manager for a full product offering in your region.**

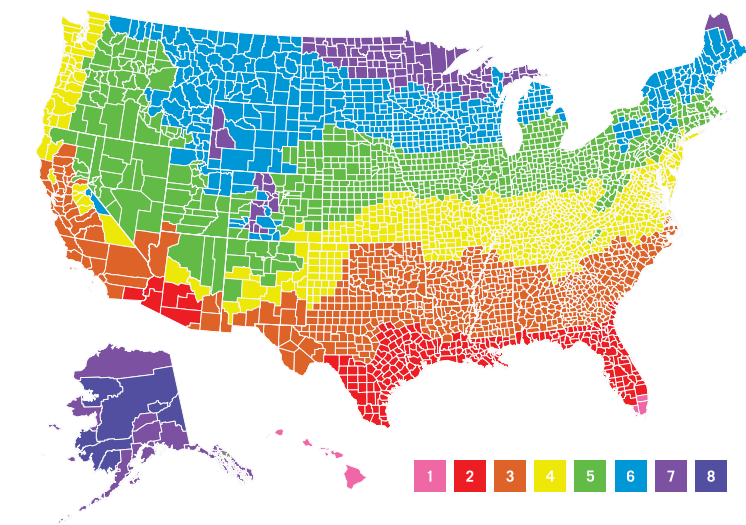
# 2012 International Energy Conservation Code Climate Zones

## WALL INSULATION

Whenever exterior siding is removed on an:

- Uninsulated wood-frame wall:
  - Drill holes in the sheathing and blow insulation into the empty wall cavity before installing the new siding
- Zones 3–4:
  - Add R-5 insulative wall sheathing beneath the new siding.
- Zones 5–8:
  - Add R-5 to R-6 insulative wall sheathing beneath the new siding.
- Insulated wood frame wall, for Zones 4–8:
  - Add R-5 insulative sheathing before installing the new siding.

Reference: DOE/CE-0180 2008. Insulation Fact Sheet



NEW WOOD-FRAMED HOUSES						
Zone	Heating System	Attic	Cathedral Ceiling	Wall		Floor
				Cavity	Insulation Sheathing	
1	All	R-30 to R-49	R-22 to R-38	R-13 to R-15	None	R-13
2	Gas, oil, heat pump	R-30 to R-60	R-22 to R-38	R-13 to R-15	None	R-13, R-19, R-25
	Electric furnace					
3	Gas, oil, heat pump	R-30 to R-60	R-22 to R-38	R-13 to R-15	None	R-25
	Electric furnace				R-2.5 to R-5	
4	Gas, oil, heat pump	R-38 to R-60	R-30 to R-38	R-13 to R-15	R-2.5 to R-6	R-25 to R-30
	Electric furnace				R-5 to R-6	
5	Gas, oil, heat pump	R-38 to R-60	R-30 to R-38	R-13 to R-15	R-2.5 to R-6	R-25 to R-30
	Electric furnace		R-30 to R-60	R-13 to R-21	R-5 to R-6	
6	All	R-49 to R-60	R-30 to R-60	R-13 to R-21	R-5 to R-6	R-25 to R-30
7	All	R-49 to R-60	R-30 to R-60	R-13 to R-21	R-5 to R-6	R-25 to R-30
8	All	R-49 to R-60	R-30 to R-60	R-13 to R-21	R-5 to R-6	R-25 to R-30

EXISTING WOOD-FRAMED HOUSES			
Zone	Add Insulation to Attic		Floor
	Uninsulated Attic	Existing 3-4 Inches of Insulation	
1	R-30 to R-49	R-25 to R-30	R-13
2	R-30 to R-60	R-25 to R-38	R-13 to R-19
3	R-30 to R-60	R-25 to R-38	R-19 to R-25
4	R-30 to R-60	R-38	R-25 to R-30
5-8	R-49 to R-60	R-38 to R-49	R-25 to R-30

## ACOUSTICAL PERFORMANCE

EcoBatt insulation provides excellent acoustical properties and will reduce sound transmission when properly installed in partition walls and acoustical ceiling and floor systems. Knauf 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.

## 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.

STC RATINGS				
	With insulation	No insulation	With insulation	No insulation
<b>Wood Frame, 2 x 4 (3½" – 4" Batt), 16" O.C.</b>	<b>(with ½" gypsum wallboard both sides)</b>		<b>(with ⅝" Type X gypsum wallboard both sides)</b>	
Single studs/Single layer gypsum	38	35	38	34
Single studs/Resilient channel	47	39	50	40
Staggered studs/Single layer gypsum	49	39	51*	43
Double stud walls/Single layer gypsum	57	46	56	45
<b>Steel Frame (2½" studs) (2½" – 2⅝" Batt), 25 gauge, 24" O.C.</b>	<b>(with ½" gypsum wallboard both sides)</b>		<b>(with ⅝" Type X gypsum wallboard both sides)</b>	
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
<b>Steel Frame (3⅝" studs) (3½" – 4" Batt), 25 gauge, 24" O.C.</b>	<b>(with ½" gypsum wallboard both sides)</b>		<b>(with ⅝" Type X gypsum wallboard both sides)</b>	
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

\*STC reflects two 2 ½" thick fiberglass batts used

Additional Assemblies	STC
Wood frame, 2 x 4 (3½" – 4" Batt), 24" O.C., ½" thick gypsum board, single layer one side, double layer other side, resilient channel	55
Wood frame, 2 x 4 (3½" – 4" Batt), 24" O.C., ½" thick gypsum board, double layer both sides, resilient channel	57
Wood frame, 2 x 4 staggered studs (3½" – 4" Batt), 24" O.C., ½" thick gypsum board, single layer both sides	52
Wood frame, 2 x 4 (3½" – 4" Batt), 24" O.C., ⅝" thick Type X gypsum board, single layer both sides	40
Wood frame, 2 x 4 (3½" – 4" Batt), 24" O.C., ⅝" thick Type X gypsum board, single layer both sides, resilient channel	52

## CERTIFICATIONS



Check with your Knauf Insulation Territory Manager to ensure information is current.

The chemical and physical properties of this product represent 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.

This product is covered by one or more U.S. and/or other patents. See patent [www.knaufnorthamerica.com/patents](http://www.knaufnorthamerica.com/patents)

Visit [knaufnorthamerica.com](http://knaufnorthamerica.com) to learn more.

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