DRYWALL ACOUSTICAL INSULATION PRODUCTS
Think of it as green... only browner.

**ECOSE® TECHNOLOGY**
All Knauf Insulation products are sustainable. Our fiberglass insulation with ECOSE Technology takes that standard to a whole new level. It is based on rapidly renewable, bio-based material. ECOSE Technology is a revolutionary more sustainable binder that contains no phenol, formaldehyde, acrylics or artificial colors.

Knauf Insulation’s insulation combines ECOSE Technology with sand—one of the world’s most abundant resources—and a high degree of recycled bottle glass. Our acoustical drywall insulation products deliver the same exceptional quality, handling and durability that you have come to expect from Knauf Insulation, with an even higher level of sustainability.
LAB-TESTED, MOTHER NATURE APPROVED
Our drywall acoustical insulation products are interior friendly. They are certified to the toughest indoor air quality certification in the industry, GREENGUARD Gold, and are certified to meet CHPS Low-Emitting Materials criteria section 01350. They also meet or exceed all applicable industry performance specifications and standards.

All Knauf Insulation products are inherently sustainable because of high recycled content. They save hundreds of times more energy in use than is required to manufacture them. ECOSE Technology helps make our insulation even more sustainable because it helps reduce our carbon footprint further by eliminating the traditional non-renewable petroleum-based binder chemistry.

Our insulation is naturally brown—ensures no phenol, formaldehyde, acrylics or artificial colors are used in the manufacturing process.

Our insulation ensures the professional touch—consistent quality, low dust and easy to cut—handling characteristics that you’ve come to expect from Knauf Insulation.

Knauf Insulation manufactures an assortment of insulation—a variety of widths, R-values, densities and facings.
PRODUCT OFFERINGS
- EcoBatt® Batts and Blankets
  - Unfaced
  - Kraft faced
  - Foil faced
  - FSK foil faced
- Insulation Board
  - Plain
  - FSK faced
  - PSK faced
  - ASJ faced
- Wall and Ceiling Liner
- Black Acoustical Board

APPLICATION
Knauf Insulation EcoBatt batts and blankets are cost-effective thermal and acoustical barriers for energy-efficient construction. Their consistent quality, low dust, and easy-cutting resilient fibers make fabrication simple and installation fast. The products can be used in new and retrofit wood and metal frame applications in residential and commercial structures, as well as in manufactured housing applications. These applications include thermal and acoustical treatments to walls, ceilings and floors.

In addition, High Density (HD) EcoBatt batts are available where optimal thermal performance is required and space for insulation is limited. High Density EcoBatt batts for cathedral ceiling applications, for example, deliver greater R-value in less space, so builders can increase R-values and still maintain adequate space for ventilation.

Knauf Insulation Staple-Free EcoBatt insulation is flangeless kraft-faced batts which friction fit between wood studs, eliminating the need to staple in place. These batts are designed for use in wood framed construction where the stud spacing is no more than 16" on center.

Light Commercial Applications
This full line of standard and high-density EcoBatt batts and blankets for wood and metal frame construction is available unfaced or with kraft, foil or flame-rated (FSK) foils facings. Knauf Insulation’s commercial building insulation can be used for exterior and partition walls, floors, crawlspace and a variety of ceiling applications.

INDOOR AIR QUALITY
- UL Environment
- GREENGUARD certified
- GREENGUARD Gold certified
- Validated to be formaldehyde-free
- Environmental Product Declaration
- Tested and certified to meet all the requirements of EUCEB

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

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.

Glass mineral wool insulation with ECOSE Technology contains three key ingredients:
- Recycled glass content, verified annually 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

PRODUCT FEATURES
Proven Performance
- Preferred by professional installers concerned with quality, appearance and productivity
- Excellent acoustical properties reduce sound transmission in the home when properly installed in partition walls and ceiling and floor systems

Superior Handling
- All Knauf Insulation faced products feature a wide stapling flange for faster and easier installation.
- Highly resilient insulation recovers quickly to full thickness for a snug fit and superior finished aesthetics.
- Consistent quality materials made of resilient fibers cut easily, install fast with low dust.
- Durable facing resists tears

Superior Service and Support
- Prompt, on-time delivery helps control inventory costs and meet customer expectations.
- Our committed network of distributors assures fast order fulfillment and faster inventory turns.
- 24/7 access to product submittals ensures product acceptance and helps meet quotation deadlines.

Convenient Packaging, Easier Handling
- Knauf Insulation EcoBatt insulation is packaged in a strong, poly bag that offers excellent protection from abuse, dust and moisture.
- Our packages feature complete installation instructions and a highly visible R-value label which follows industry standards and makes Knauf Insulation product sizes and specifications easy to read.
- Knauf Insulation’s unitized packaging saves time at the jobsite and space in the warehouse.
**Technical Data**

<table>
<thead>
<tr>
<th>Property (Unit)</th>
<th>Test</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosion</td>
<td>ASTM C1617</td>
<td>Pass</td>
</tr>
<tr>
<td>Thermal Value</td>
<td>ASTM C518</td>
<td>See chart on next page</td>
</tr>
</tbody>
</table>
| 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. |

**STC Ratings**

<table>
<thead>
<tr>
<th></th>
<th>With insulation</th>
<th>No insulation</th>
<th>With insulation</th>
<th>No insulation</th>
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<tbody>
<tr>
<td><strong>Wood Frame, 2 x 4 (3½”– 4” Batt)</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Single studs/Single layer gypsum</td>
<td>38</td>
<td>35</td>
<td>38</td>
<td>34</td>
</tr>
<tr>
<td>Single studs/Resilient channel</td>
<td>47</td>
<td>39</td>
<td>52</td>
<td>40</td>
</tr>
<tr>
<td>Staggered studs/Single layer gypsum</td>
<td>49</td>
<td>39</td>
<td>51</td>
<td>43</td>
</tr>
<tr>
<td>Double stud walls/Single layer gypsum</td>
<td>57</td>
<td>46</td>
<td>56</td>
<td>45</td>
</tr>
<tr>
<td><strong>Steel Frame (2½” studs) (2½”– 2¾” Batter)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single layer gypsum</td>
<td>45</td>
<td>36</td>
<td>47</td>
<td>39</td>
</tr>
<tr>
<td>Double layer gypsum one side/Single layer gypsum other side</td>
<td>50</td>
<td>39</td>
<td>52</td>
<td>44</td>
</tr>
<tr>
<td>Double layer both sides</td>
<td>56</td>
<td>45</td>
<td>57</td>
<td>48</td>
</tr>
<tr>
<td><strong>Steel Frame (3½” studs) (3½”– 4” Batt)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single layer gypsum</td>
<td>47</td>
<td>39</td>
<td>50</td>
<td>39</td>
</tr>
<tr>
<td>Double layer gypsum one side/Single layer gypsum other side</td>
<td>52</td>
<td>42</td>
<td>55</td>
<td>47</td>
</tr>
<tr>
<td>Double layer both sides</td>
<td>56</td>
<td>50</td>
<td>58</td>
<td>52</td>
</tr>
</tbody>
</table>
### Wall and Ceiling Liner M with ECOSE® Technology

**DESCRIPTION**
Wall and Ceiling Liner M with ECOSE Technology is a brown flexible fiberglass blanket with a black mat facing adhered to one surface. It provides thermal and acoustical insulation while a smooth, tough surface resists damage during installation.

**APPLICATIONS**
Wall and Ceiling Liner M with ECOSE Technology is designed for use as an acoustical and visual barrier for walls and ceilings where a black surface is required. It 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 can be covered with fabric or draping, or suspended above linear metal and metal pan ceiling systems to serve as both a visual and acoustical treatment.

**INDOOR AIR QUALITY**
- UL Environment
- GREENGUARD certified
- GREENGUARD Gold certified

**TECHNICAL DATA**
- Surface Burning Characteristics (ASTM E84, UL 723)
  - 25 Flame Spread, 50 Smoke Developed, UL Classified

### Black Acoustical Board with ECOSE® Technology

**DESCRIPTION**
Black Acoustical Board with ECOSE Technology is a heavy density fiberglass board insulation made with ECOSE Technology. The base board is brown with a black mat applied to provide a smooth tough finish.

**APPLICATIONS**
Black Acoustical Board with ECOSE Technology is designed for use as acoustical insulation and/or visual barrier on walls and ceilings, where system design requires a rigid product and where additional strength and abuse resistance are required. The black surface provides a visual barrier with an aesthetic appearance, in both wall and ceiling applications. The product is typically used where framing members are not present.

**INDOOR AIR QUALITY**
- UL Environment
- GREENGUARD certified
- GREENGUARD Gold certified

**TECHNICAL DATA**
- Surface Burning Characteristics (ASTM E84, UL 723)
  - 25 Flame Spread, 50 Smoke Developed, UL Classified
- Corrosiveness (ASTM C665)
  - Does not accelerate corrosion on steel
  - Corrosion (ASTM C1617)
  - Pass

### Insulation Board with ECOSE® Technology

**DESCRIPTION**
Insulation Board with ECOSE Technology is a thermal and acoustical insulation product made from inorganic glass fibers preformed into boards. The board is available plain, with a factory applied foil-scrim-kraft (FSK) facing, with a factory-applied all service jacket (ASJ) or with a factory applied metalized polypropylene-scrim-kraft jacket (PSK).

**APPLICATIONS**
Insulation Board with ECOSE Technology is a versatile product for use on metal and masonry walls, wall and roof panel systems, curtain wall assemblies and cavity walls.

**INDOOR AIR QUALITY**
- UL Environment
- GREENGUARD certified
- GREENGUARD Gold certified

**TECHNICAL DATA**
- Surface Burning Characteristics (ASTM E84, UL 723, NFPA 90A and 90B, CAN/ULC S102)
  - 25 Flame Spread, 50 Smoke Developed, UL Classified
- Corrosiveness (ASTM C665)
  - Does not accelerate corrosion on steel
- Corrosion (ASTM C1617)
  - Pass
### Insulation Board Sound Absorption Coefficients | ASTM C423, E795, Type A Mounting

<table>
<thead>
<tr>
<th>Type</th>
<th>Facing</th>
<th>Thickness</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>NRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.25 PCF</td>
<td>FSK</td>
<td>1&quot; (25 mm)</td>
<td>0.05</td>
<td>0.24</td>
<td>0.59</td>
<td>0.86</td>
<td>0.97</td>
<td>1.00</td>
<td>0.65</td>
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<tr>
<td></td>
<td></td>
<td>1½&quot; (38 mm)</td>
<td>0.17</td>
<td>0.49</td>
<td>0.93</td>
<td>1.03</td>
<td>1.03</td>
<td>0.99</td>
<td>0.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2&quot; (51 mm)</td>
<td>0.26</td>
<td>0.62</td>
<td>1.05</td>
<td>1.07</td>
<td>1.04</td>
<td>1.05</td>
<td>0.95</td>
</tr>
<tr>
<td>3.0 PCF</td>
<td>Plain</td>
<td>1&quot; (25 mm)</td>
<td>0.08</td>
<td>0.23</td>
<td>0.62</td>
<td>0.88</td>
<td>0.96</td>
<td>0.99</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1½&quot; (38 mm)</td>
<td>0.09</td>
<td>0.39</td>
<td>0.89</td>
<td>1.03</td>
<td>1.06</td>
<td>1.01</td>
<td>0.85</td>
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<tr>
<td></td>
<td></td>
<td>2&quot; (51 mm)</td>
<td>0.29</td>
<td>0.65</td>
<td>1.11</td>
<td>1.13</td>
<td>1.06</td>
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<td>1.00</td>
</tr>
<tr>
<td></td>
<td>FSK</td>
<td>3&quot; (76 mm)</td>
<td>0.54</td>
<td>1.01</td>
<td>1.18</td>
<td>1.07</td>
<td>1.07</td>
<td>1.04</td>
<td>1.10</td>
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<tr>
<td></td>
<td></td>
<td>4&quot; (102 mm)</td>
<td>0.95</td>
<td>1.11</td>
<td>1.17</td>
<td>1.07</td>
<td>1.07</td>
<td>1.06</td>
<td>1.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1&quot; (25 mm)</td>
<td>0.21</td>
<td>0.63</td>
<td>0.84</td>
<td>0.93</td>
<td>0.51</td>
<td>0.22</td>
<td>0.75</td>
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<tr>
<td></td>
<td></td>
<td>1½&quot; (38 mm)</td>
<td>0.45</td>
<td>0.60</td>
<td>0.99</td>
<td>0.73</td>
<td>0.53</td>
<td>0.27</td>
<td>0.70</td>
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<tr>
<td></td>
<td></td>
<td>2&quot; (51 mm)</td>
<td>0.67</td>
<td>0.77</td>
<td>0.93</td>
<td>0.74</td>
<td>0.47</td>
<td>0.28</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Available in widths of 24" (610 mm) and 48" (1,219 mm) and lengths of 36" (915 mm) to 120" (3,048 mm).

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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.

LEED v2009
MR Credit 4.1 - 4.2 Recycled Content
MR Credit 5.1 - 5.2 Regional Materials

LEED v4
Knauf Insulation offers several products for both envelope and mechanical systems that have ingredient disclosure and transparency. Please contact transparency@knaufinsulation.com for products that currently contribute to MR credits.

This product has been tested and is certified to meet the EUCEB requirements.