ARCHITECTURAL AND STRUCTURAL NOISE CONTROL SOLUTIONS

Select the Floor, Wall, or Ceiling to meet Design and Acoustical Criteria

Sound Control Building Systems for Floors, Walls, Ceilings, and Structures

- Airborne Sound Isolation
- Impact Sound Isolation
- Seismic Restraint Systems
- Ceiling Isolation
- High STC Wall Systems
- Building Isolation
- Duct and Pipe Lagging
- Sound Control Floor Systems

www.kineticsnoise.com/arch
Kinetics® Noise Control
Providing solutions to common noise and vibration problems since 1958.

Kinetics® composite construction reduces sound transmission

The Problem
Noise and vibration are major sources of occupant complaint in modern buildings. Floors, walls, and ceilings reduce noise according to the Mass Law, which states that doubling of building weight will reduce the transmission of sound by up to 6 decibels (dB). Example: a 4" concrete floor has a sound transmission loss (TL) of 42 dB at 250 Hz. Doubling of the floor to 8" only increases the TL to 48 dB. A 6 dB reduction is about 25% quieter.

The Solution
By introducing Kinetics® composite construction systems, one can achieve substantially higher sound transmission loss. Kinetics® Floating Floors, Isolated Ceilings, Isolated Partitions, and Composite Barrier Materials all far exceed the Mass Law capability and provide greater airborne and structureborne noise control. (See diagram comparisons.)

Certification
Kinetics Noise Control provides certified engineering drawings upon request for its products to assure compliance with job specifications. Copies of independent test reports on specific systems are available to architects, engineers, and acoustical consultants upon request.

Concrete or Wood Floating Floors

<table>
<thead>
<tr>
<th>Description</th>
<th>Acoustical Properties</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; Concrete Structural Floor (50 psf)</td>
<td>IIC 25</td>
<td></td>
</tr>
<tr>
<td>6&quot; Concrete Structural Floor (75 psf)</td>
<td>STC 49</td>
<td></td>
</tr>
<tr>
<td>Concrete &quot;T&quot; sections with 2&quot; of concrete topping (75 psf)</td>
<td>IIC 24</td>
<td></td>
</tr>
<tr>
<td>4&quot; Concrete Floating Floor 1/2&quot; Plywood Pouring Form Kinetics® RIM L-2-12 (using 2&quot; thick KIP pads) Concrete &quot;T&quot; sections with 2&quot; of concrete topping (75 psf)</td>
<td>IIC 70</td>
<td></td>
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<tr>
<td>1&quot; Oak Hardwood Floor 3&quot; Tongue and Groove wood sub-floor</td>
<td>FIIC-15</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; Red Oak Flooring 3/4&quot; Sleepers 1-1/2&quot; Gypcrete 2 Layers 1/2&quot; OSB Kinetics® RIM-L-1-16 (using 1&quot; thick KIP pads) 1&quot; Oak Hardwood Floor 3&quot; Tongue and Groove wood sub-floor</td>
<td>FIIC-45 FSTC-50</td>
<td></td>
</tr>
<tr>
<td>3/8&quot; Wood Sheathing 2 Layers 3/4&quot; Plywood* Kinetics® RIM-L-1-16 (using 2&quot; thick KIP pads) 6&quot; Concrete Slab</td>
<td>FIIC-63 FSTC-66</td>
<td></td>
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</tbody>
</table>
*Add 2 layers 5/8" Gypsum Board between Plywood

Sound Rated Floors Model SR and Soundmatt

<table>
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<tr>
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<tbody>
<tr>
<td>Ceramic Tile 7/16&quot; Glass Mesh Mortar Unit 5/8&quot; Kinetics® SR Floorboard Concrete subfloor (56 psf)</td>
<td>STC 59</td>
<td></td>
</tr>
<tr>
<td>Vinyl composition tile 1&quot; Gypsum-concrete 3/4&quot; Oriented Strand Board 18&quot; Deep floor trusses 3&quot; Insulation 5/8&quot; Gypsum Board on resilient channel</td>
<td>FIIC-33</td>
<td></td>
</tr>
<tr>
<td>Vinyl composition tile 1&quot; Gypsum-concrete 5/16&quot; Kinetics® Soundmatt 3/4&quot; Oriented Strand Board 18&quot; Deep wood floor trusses 3&quot; Insulation 5/8&quot; Gypsum Board on resilient channel</td>
<td>FIIC-51</td>
<td></td>
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</tbody>
</table>
Kinetics® Sound Isolation Products for Floor and Ceiling Composite Construction Systems

Ceiling Isolation

<table>
<thead>
<tr>
<th>Description</th>
<th>Acoustical Properties</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parquet Floor 1-1/2” Concrete 5/8” Plywood 3-1/2” Insulation 2” x 10” Joists 2 Layers 1/2” Gypsum Board</td>
<td>IIC: 40</td>
<td>STC: 51</td>
</tr>
<tr>
<td>Parquet Floor 1-1/2” Concrete 5/8” Plywood 3-1/2” Insulation 2” x 10” Joists Kinetics® ICW Ceiling Hanger 2 Layers 5/8” Gypsum Board</td>
<td>IIC: 62</td>
<td>STC: 76</td>
</tr>
<tr>
<td>6” Concrete Slab Super-Compact Model KSCH Spring/Neoprene Hanger 1-1/2” Insulation 2 Layers 5/8” Gypsum Board</td>
<td>IIC: 51</td>
<td>STC: 72</td>
</tr>
<tr>
<td>6” Concrete Slab Model ICC Spring/Neoprene Hanger 3-1/2” Insulation 2 Layers 5/8” Gypsum Board</td>
<td>IIC: 70</td>
<td>STC: 84</td>
</tr>
</tbody>
</table>

Sound Design and Construction Practice

The following items should be considered in order to achieve full benefit from Kinetics products.

1) **An acoustical consultant should be retained whenever possible.** Their knowledge of a systems overall expected acoustical performance and the critical details that make a building design work will better assure success.

2) Holes or any openings through partitions, ceilings, or floors should be caulked or sealed. Sound leaks of any kind will significantly reduce the effectiveness of the noise isolation barrier.

3) Doors and windows in the partitions should exhibit high STC ratings to maintain high performance.

4) Electric outlets thru-the-wall cabinets, etc., should not be placed back-to-back in order to prevent potential excessive transmission of noise.

5) Masonry walls should be plastered or sealed with a hard coating.

6) Acoustical treatment and absorptive finishes may be used in noisy rooms to reduce the reverberation and overall noise level within these rooms.

7) All floating floors, partitions, and ceilings should be constructed with care. Construction errors such as rigid ties, fastener short-circuiting, improper floor reinforcing, etc., can create a sound flanking conduit and should be avoided. Supervision by a representative of the isolation material manufacturer can minimize field errors.
Kinetics® Floating Concrete Floor
Model RIM Roll-out Isolation Material for Concrete Floated Floors

STC 73 and IIC 70 ratings - Premier floating floor system selected by acoustical consultants and architects for sound isolated floor construction in hospitals, performing arts centers, schools, recording studios, office buildings, and any other building where noise control is an issue.

For more information call 1.800.959.1164 or fax 614.889.0540

Physical properties/benefits
- For loads from 2.5 to 500 PSI.
- Natural frequencies of 8 to 15 Hz.
- Stable, inert material maintains a constant resilience and natural frequency over its life.
- Custom Pad sizes and load capacities as required by designer.

The three key components for reducing sound transmission through any composite floor system you design. KIP Isolation Pads are used in our popular RIM system. Turn the page for more information.
Kinetics® Floating Wood Floor
Model RIM Roll-out Isolation Material for Built-up Floated Floors

STC 66 and IIC 63 ratings - Excellent for creating a resilient sound control composite wood floor construction for aerobics, dance, exercise, stage, and loft style floors. Composite wood floor build-ups are often used where concrete is not practical.

Kinetics® Liftslab Floating Floor
Model LSM Spring Liftslab and Model FLM Pad Liftslab

LSM spring liftslab perimeter detail after raising floor. For addressing the most critical structureborne and impact isolation criteria

FLM Liftslab detail after raising floor. Model FLM incorporates Kinetics Model KIP or Neoprene Isolation pads.
Kinetics® Sound Rated Floors

Model SR Floorboard
Superior Sound Rated Floor Underlayment

Kinetics Type SR Floorboard is the premier underlayment for control of impact noise in condominiums, apartments, multifamily dwellings, commercial buildings, and other areas where footfall and impact noise can be the cause of complaints.

Type SR Floorboard is a unique 5/8" thick underlayment material which substantially reduces sound transmission through hard surface floor systems. Ratings of IIC (Impact Insulation Class) 50 to 65 have been achieved in typical applications, compared with IIC-25 to 34 with conventional construction. Where a preference for hard surface floors such as ceramic tile, marble, hardwood flooring or vinyl tile make impact noise an issue, SR Floorboard is recommended. Call for details.

Model Soundmatt
Low profile underlayment for Sound Control

Kinetics Soundmatt is a floor underlayment used to control sound transmission of both impact and airborne noise in floor systems. Soundmatt is a 5/16” (8 mm) thick underlayment used to substantially improve IIC (impact) and STC noise ratings while minimizing the elevation change.

Impact noise can be intrusive to occupants in spaces below. Construction that calls for hard floor surfaces such as hardwood flooring, ceramic tile, quarry tile, marble, wood parquet and vinyl tile are all areas where impact noise is of concern. Without a floor underlayment, intrusive impact noise can be objectionable. Please contact Kinetics for specifications.

Certified:
Soundmatt and SR Floorboard have been tested with the Tile Council of America, Inc., using method ASTM-C627. Both systems achieved a Residential rating or greater for durability under load.
New Products for Wall and Ceiling Sound Control

Model IsoMax Resilient Sound Isolation Wall and Ceiling Clip

- IsoMax cost effectively sound isolates gypsum board and furring channel from the steel and wood framing or concrete/masonry structure.
- Superior to conventional resilient channel in performance. Lower installed cost than double stud wall assemblies with similar performance.

Wood stud partition, 2 x 4, 16” O.C. with 5/8” gypsum board, one layer one side, two layers on opposite side. R19 fiberglass in cavity. IsoMax clips and 7/8” furring channel.

Model KSCH Super Compact Ceiling Sound Isolation Hanger

Maximize Sound Control and Ceiling Height with a spring and neoprene isolation hanger which carries standard 1-1/2” cold rolled steel channel through its center cradle.

Model KSCH Patent Pending
Kinetics Duct and Pipe Lagging Barrier - Type KNM-100ALQ

Kinetics Model KNM-100ALQ noise barrier is a composite material designed to reduce the sound transmission of ductwork, piping and equipment housings by combining a fire rated limp mass with a decoupling quilted fiber glass lining. (KNM-100AL is available without the quilted fiber glass lining).

- Meets Class 1 fire rating requirements
- STC 28*
- 1" or 2" fiber glass decoupler included

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<thead>
<tr>
<th>Product</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>STC</th>
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</thead>
<tbody>
<tr>
<td>KNM 100ALQ-1</td>
<td>13</td>
<td>16</td>
<td>24</td>
<td>33</td>
<td>43</td>
<td>49</td>
<td>28*</td>
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<tr>
<td>KNM 100ALQ-2</td>
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<td>16</td>
<td>26</td>
<td>35</td>
<td>44</td>
<td>49</td>
<td>28*</td>
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* Rating is for material tested as a free hanging barrier. Performance will be lower when wrapping duct, pipe or equipment. Contact the factory for sound reduction estimates.