

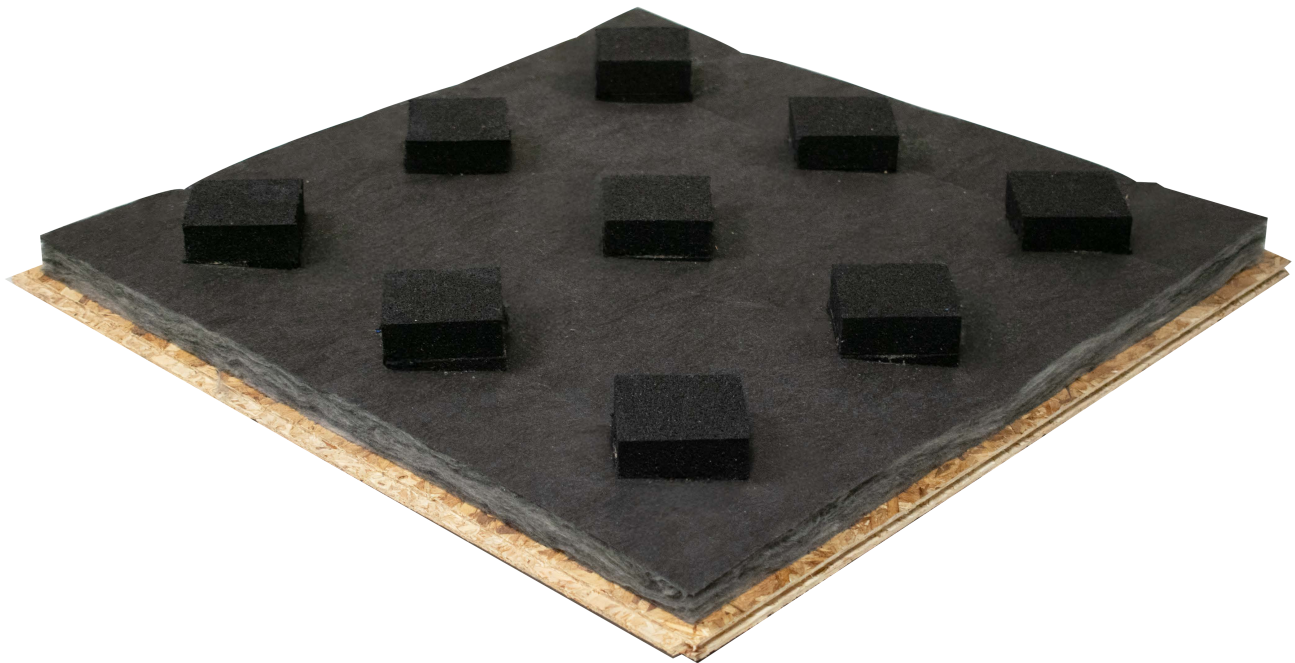


It's not magic, it's engineering.®

Impact Sound Control

GENIEMAT® FF

Modular Panels for Airborne & Impact
Sound and Vibration Isolation



GENIEMAT[®] FF70

Modular Panelized Floating Floor Systems

OVERVIEW

Situations which involve:

- Multiple sources of noise and vibration
- Dynamic loads, and;
- Large ranges of dead and live loads

Require a system that is easily customized, easily installed on-site, but not to the detriment of airborne, impact, and vibration isolation.

GenieMat FF70 modular panelized floating floor systems provide a prefabricated and modular panel for ease of install and guaranteed placement of the isolators.



FEATURES AND BENEFITS

- Achieves low natural frequency with systems available as low as 6 Hz
- Customizable isolators
- Adaptable height to reduce air stiffness
- Can be used directly under gypsum, lightweight, or normal weight concrete
- Can be used directly under plywood, OSB, or cement board
- Comes in easy to handle panels -nominal 2' x 2' (610 x 610mm)
- Shiplap edge design lets you quickly and easily fit panels into place
- Sturdy 5/8" engineered wood formwork
- Installed over wood or concrete subfloors
- No specialized installers required

GENIEMAT® FF70-9R

- Panels are made with 2" thick isolation pads embedded in a layer of acoustical insulation
- Natural frequency down to 10 Hz
- Subfloor contact area with the floor is reduced by 96%
- Δ IIC 35 (ASTM E2179)



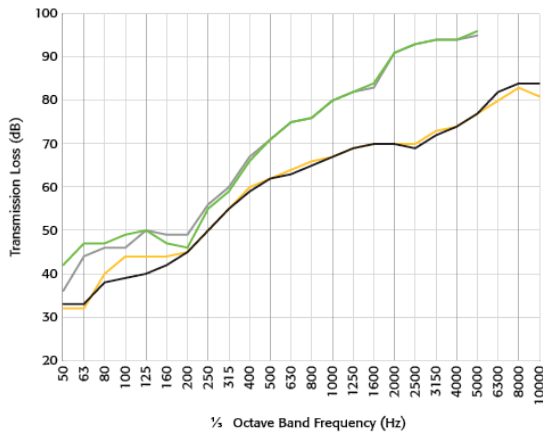
GENIEMAT FF70LDM

- Panels are made with 2" thick Low Dynamic Modulous proprietary Pliteq elastomer embedded in a layer of acoustical insulation
- Natural frequency down to 6 Hz
- Subfloor contact area with the floor is reduced by 96%
- Δ IIC 44 (ASTM E2179)



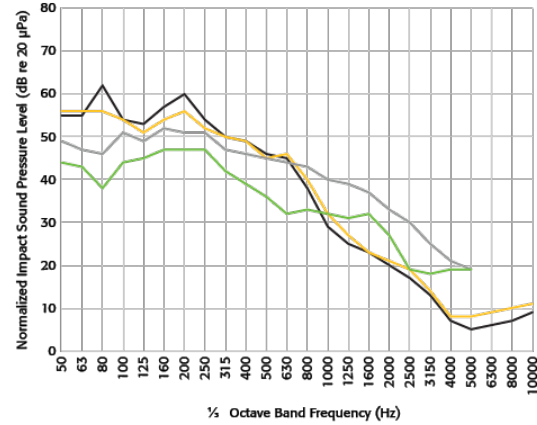
DESIGN PARAMETERS OF GENIEMAT FF70 SYSTEMS

Airborne Sound Transmission Lightweight vs Heavyweight Topping



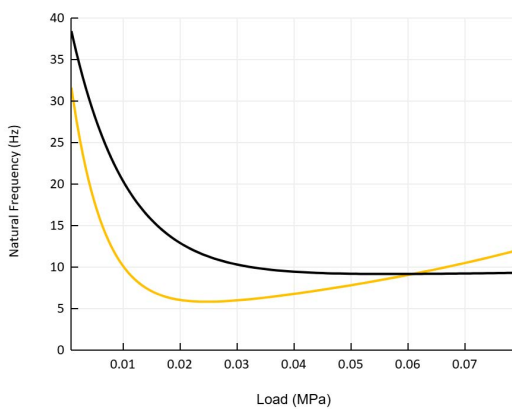
- **Plywood - 3/4", GenieMat FF70 - 2 3/4", Concrete Slab - 6", STC 62**
- **Plywood - 3/4", GenieMat FF70LDM - 2 3/4", Concrete Slab - 6", STC 63**
- **Concrete Topping - 100mm, GenieMat FF70 - 2 3/4", Concrete Slab - 5.9", STC 67**
- **Concrete Topping - 100mm, GenieMat FF70LDM - 2 3/4", Concrete Slab - 5.9", STC 64**

Impact Sound Transmission Lightweight vs Heavyweight Topping



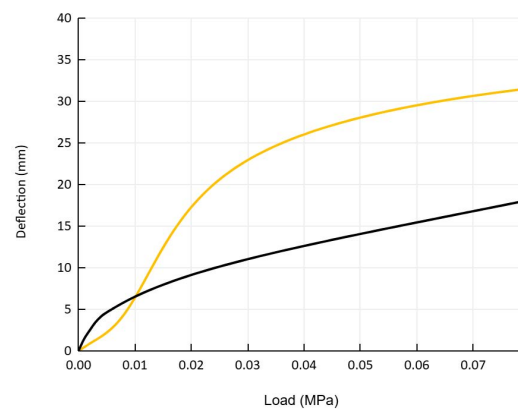
- **Plywood - 3/4", GenieMat FF70 - 2 3/4", Concrete Slab - 6", IIC 60, LIIC 63, HIIC 70**
- **Plywood - 3/4", GenieMat FF70LDM - 2 3/4", Concrete Slab - 6", IIC 64, LIIC 68, HIIC 69**
- **Concrete Topping - 100mm, GenieMat FF70 - 2 3/4", Concrete Slab - 5.9", IIC 65, LIIC 85, HIIC 67**
- **Concrete Topping - 100mm, GenieMat FF70LDM - 2 3/4", Concrete Slab - 5.9", IIC 71, LIIC 96, HIIC 75**

System Natural Frequency vs. Load



- **GenieMat FF70-9R - Point Isolator**
- **GenieMat FF70LDM - Point Isolator**

Deflection vs. Load



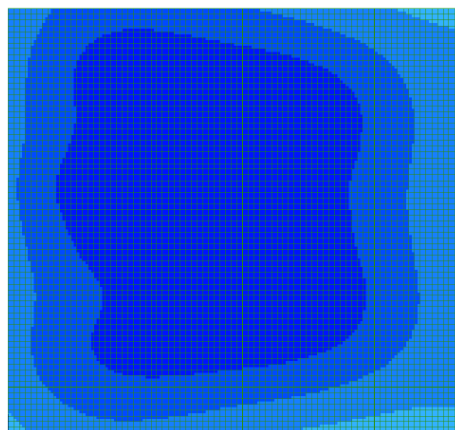
- **GenieMat FF70-9R - Point Isolator**
- **GenieMat FF70LDM - Point Isolator**

GENIEMat® FF70 PANELIZED SYSTEMS FOR BASKETBALL COURT ISOLATION

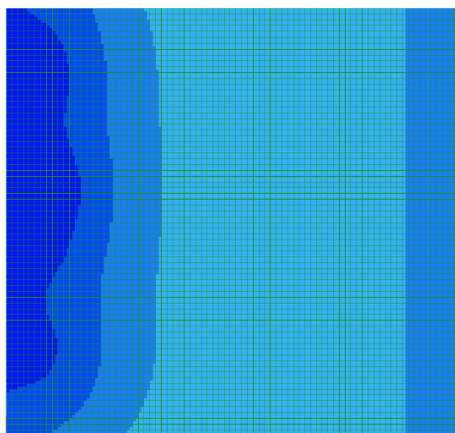
HOW TO MANAGE ACOUSTIC AND ATHLETIC PERFORMANCE

Basketball courts generate multiple sources of noise and vibration (e.g. ball impacts and running/jumping) and can have varying loads from retractable raked seating. The floors also demand stringent ball bounce-back performance (ASTM F2117).

Using a heavy/soft impact ball for laboratory testing and analysis using finite element analysis (FEA), **GenieMat FF70** and **GenieMat FF70LDM** have been proven to effectively mitigate noise and vibration in numerous college, university, and professional sports applications.



Bleacher Open



Bleacher Closed



FINITE ELEMENT ANALYSIS (FEA)

WHAT IS FEA?

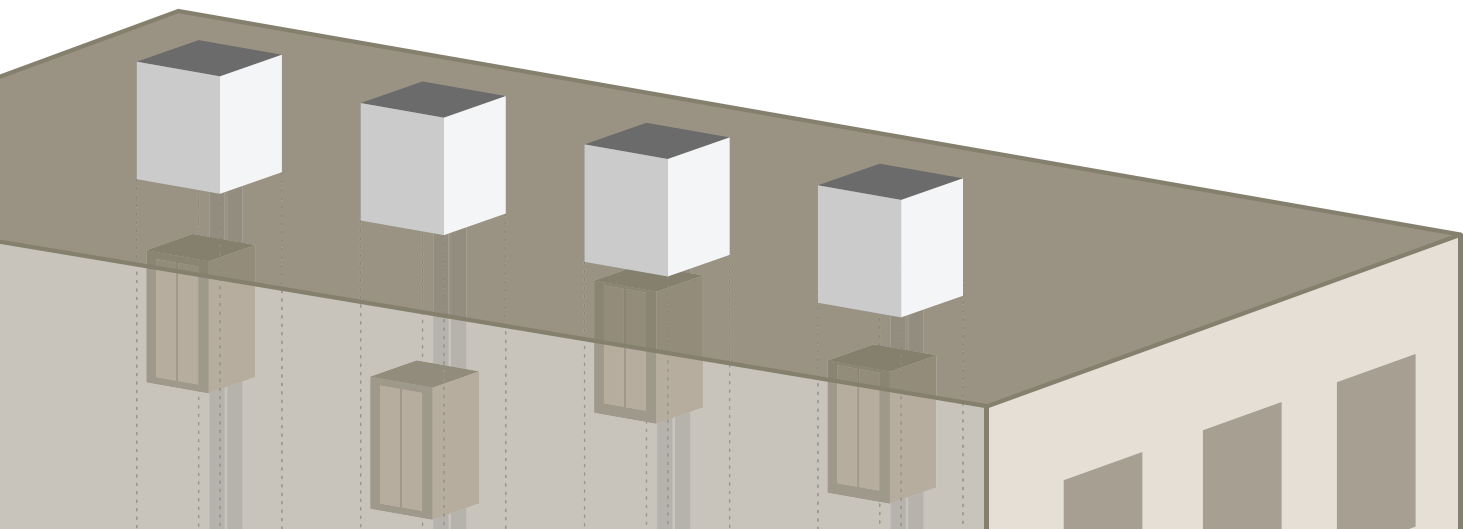
Finite Element Analysis (FEA) is a system to break complex structures into very small parts (finite elements) that can then be more easily modeled and assessed. FEA is done in such a way as to tie all these elements together so the larger motion of the complete structure can be seen and assessed.

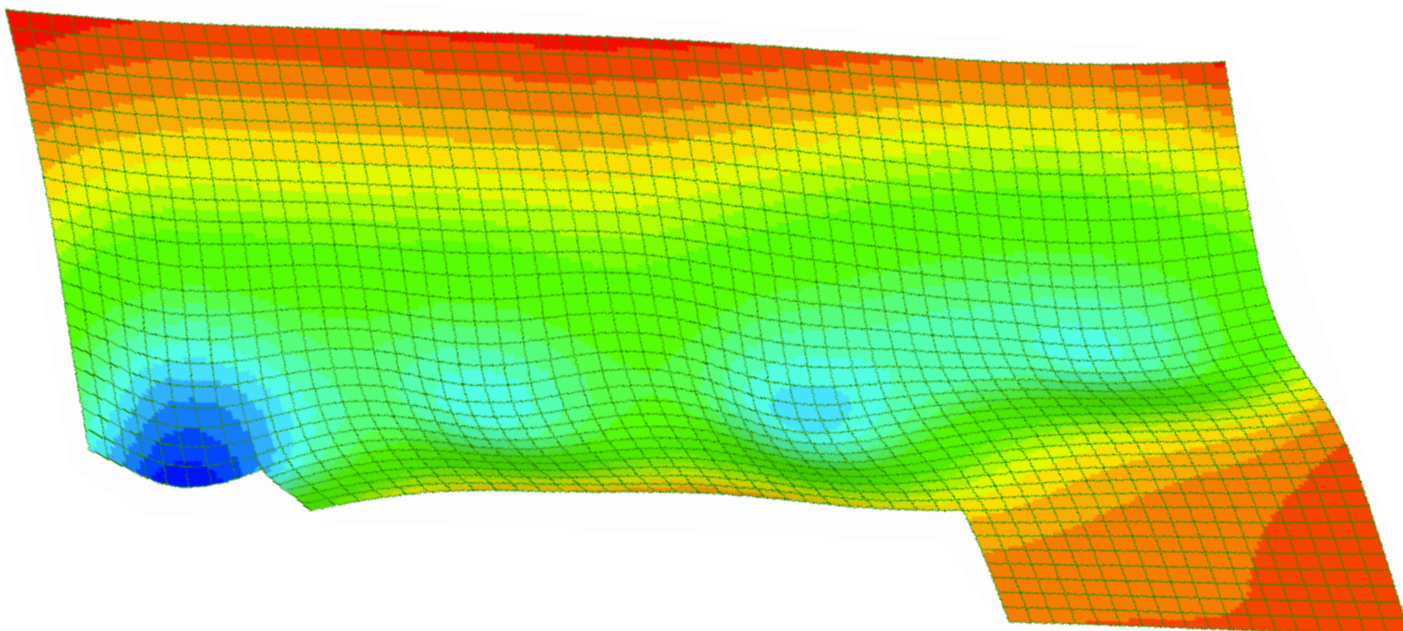
WHY IS FEA USEFUL WHEN DESIGNING YOUR FLOATING FLOOR?

While you may not realize it, the concrete in your floating floor can bend and crack. This can happen when there are very high point loads (large HVAC equipment) or if the floor is only loaded on one side (like a basketball court with a full crowd in the bleachers). Running a FEA can ensure that your floor will not crack. It can also be used to ensure the correct material is used under high load areas and how much the floor will deflect.

SITUATIONS IN WHICH FEA IS USEFUL:

- Non-uniform loading
- Predicting deflections to ensure smooth transitions
- Very high load equipment





This image shows FEA conducted on an elevator machine room floating floor. The various colors show the varying loads and how much they will make the floor deflect.

Analysis requires only the structural drawings and a list of the dead and live loads.

This analysis allows for value engineering solutions to be assessed to find the most cost-effective solution

PRODUCT SPECIFICATIONS

PLAN VIEW	PRODUCT	THICKNESS	DIMENSION	WEIGHT	AREA
	GenieMat FF70	2 3/4" (nom. 70 mm)	Panel: 23 1/4" wide, 23 1/4" long (nom. 0.6 m wide, 0.6 m long)	12.8 lb (5.8 kg)	3.8 ft² (0.4 m²)
	GenieMat FF70LDM	2 3/4" (nom. 70 mm)	Panel: 23 1/4" wide, 23 1/4" long (nom. 0.6 m wide, 0.6 m long)	11.8 lb (5.4 kg)	3.8 ft² (0.4 m²)

TEST RESULTS

TEST REPORT	PRODUCT	FLOOR TOPPING	STRUCTURE	STC RATING (ASTM E90)	IIC RATING (ASTM E492)
A1-008867.5	GenieMat FF70LDM	4" Concrete Slab	6" Concrete Slab	64	71
A1-008867.4	GenieMat FF70	4" Concrete Slab	6" Concrete Slab	67	65
E5600.08-113-11-R0	GenieMat FF70LDM	3/4" Plywood	6" Concrete Slab	63	64
E5600.01-113-11-R0	GenieMat FF70	3/4" Plywood	6" Concrete Slab	62	60

CONTACT Us

For Your Project Specific Questions
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