



It's not magic, it's engineering.®

Impact and Airborne Sound Control

GENIEMAT® FF

Continuous Floating Floor Systems for Airborne & Impact Sound and Vibration Isolation



AUSTRALIA EDITION

Patents: US 8240430, US 8556029, CA 2500956, CA 2503420

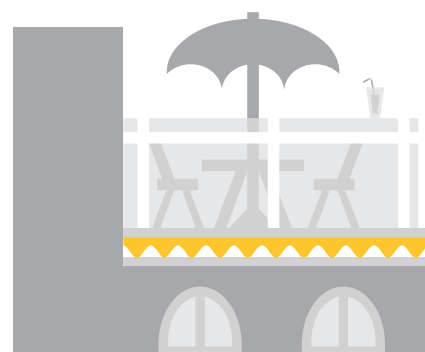
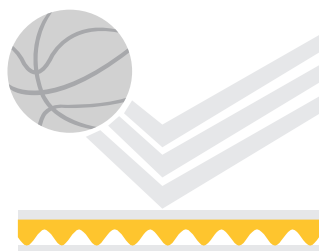
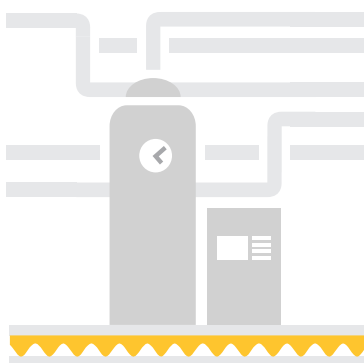
GENIEMAT[®] FF

The next generation of acoustic floating floor

PRODUCT FEATURES

- Continuous underlayment system that limits surface area contact down to 4% at 1400 kg/m²
- Achieves low natural frequency with systems available as low as 6 Hz
- Can be safely loaded over a wide range up to 100 kg/cm²
- Composed of 92% recycled rubber content
- Aids in Part 5.4 Building Code Approval
- Systems can be designed to meet Section 9 of the AAAC "Guidelines for Apartment and Townhouse Acoustic Rating"
- Integrated vapor barrier
- Mould, bacteria, fungi, and water resistant
- Penetrations for pipes, ductwork, electrical conduits, and drains are easily accommodated
- Rolls out quickly and is easy to install without the need for adhesive
- Can be used directly under screed, lightweight, or normal weight concrete with no plywood formwork required

GenieMat FF is used for multiple applications. Contact our engineers for your project specific questions.



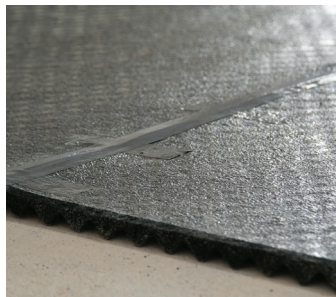
EASY INSTALLATION

ROLL IT OUT - TAPE THE SEAMS - READY TO POUR



Step 1

After installing perimeter isolation strips on the base of the walls, unroll **GenieMat® FF**.



Step 2

Duct tape all joints and seams, including between the perimeter isolation strips and the **GenieMat FF**.



Step 3

Pour screed, lightweight or normal weight concrete topping.



Step 4

Prepare concrete surface for floor finish.

SIGNIFICANTLY IMPROVES INSTALLATION EFFICIENCY

STEPS	GENIEMAT® FF ROLL OUT SYSTEM	PLYWOOD FORMWORK ISOLATOR BASED SYSTEMS	SPRING JACK-UP TYPE SYSTEM
1	Install GenieMat PMI	Design isolator layout	Coordinate load requirements with associated trades
2	Roll out GenieMat FF	Install perimeter isolation	Design isolator layout based on equipment placement
3	Tape the seams	Roll out mineral fiber matting with fiberglass isolators	Install perimeter Isolation
4	Layout reinforcement and pour concrete	Install additional isolators based on load design	Verify equipment placement, snap chalk lines and spray paint isolator locations
5		Check isolators orientation and location	Layout clear polyethylene plastic sheathing
6		Cut and install plywood formwork	Layout isolators and place rebar grid
7		Install steel connecting corner plates	Pour concrete and cure to 17.2 MN/m² minimum
8		Layout reinforcement, waterproof membrane and pour concrete	Remove all isolator cover plates
9			To raise slab 50 mm, complete 2 turns of each isolator 8-10 times
10			Replace cover plates and pour additional floor levelling compound

GENIEMAT® FF PHYSICAL PROPERTIES

SECTION VIEW	PRODUCT	THICKNESS	DIMENSION	WEIGHT	AREA
	GenieMat FF06	nom. 6 mm	Rollgood: 1.2 m wide, 9.1 m long	36 kg/roll	11.1 m ²
	GenieMat FF10	nom. 10 mm	Rollgood: 1.2 m wide, 9.1 m long	59 kg/roll	11.1 m ²
	GenieMat FF17	nom. 17 mm	Rollgood: 1.2 m wide, 4.6 m long	47 kg/roll	5.6 m ²
	GenieMat FF25	nom. 25 mm	Rollgood: 1.2 m wide, 4.6 m long	60 kg/roll	5.6 m ²
	GenieMat FF50	nom. 51 mm	Rollgood: 1.2 m wide, 4.6 m long	82 kg/roll	2.8 m ²
	GenieMat FF75	nom. 75 mm	Rollgood: 1.2 m wide, 4.6 m long	180 kg/roll	1.9 m ²

COMPRESSIBLE ELASTOMER TECHNOLOGY ALLOWS FOR LOW NATURAL FREQUENCY AT LOW LOADS

Typical vulcanized, natural, and neoprene rubber isolators are defined as incompressible. They require heavy mass loading in order to obtain adequate deflection, and consequently, vibration isolation. For applications where minimum loading criteria are not met, data shows the systems do not perform well.

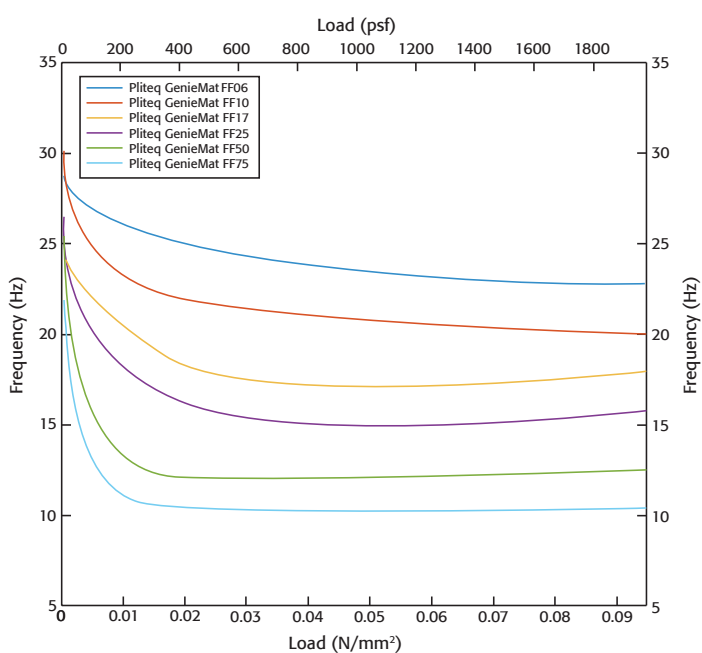
Fiberglass isolators are comprised of rigid particles that lose elasticity when compressed. Data shows a dramatic performance degradation over time.

GENIEMat® FF PROPERTIES

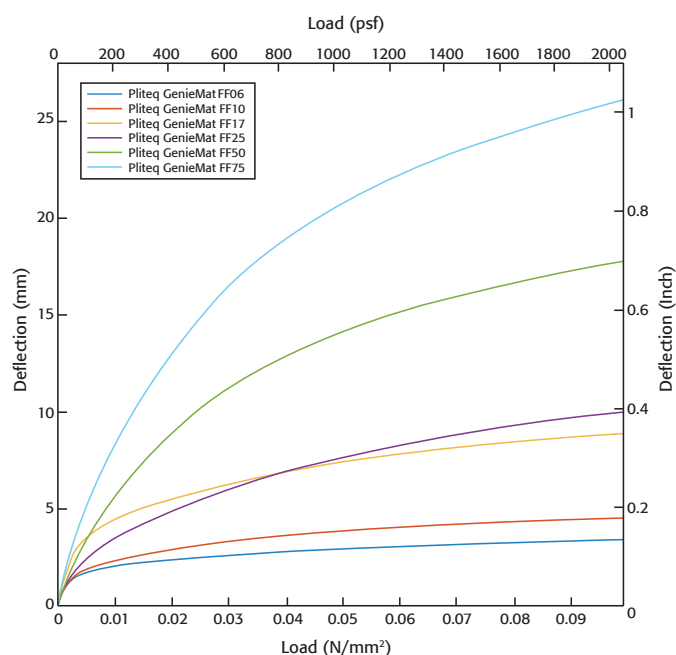
	100 mm Concrete (2.4 kN/m ² Dead Load)			Typical Loading (19.2 kN/m ² dead + live load)		
PRODUCT	NATURAL FREQUENCY (HZ)	10 HZ DYNAMIC STIFFNESS (N/MM/MM ²)	CRITICAL DAMPING RATIO	NATURAL FREQUENCY (HZ)	10 HZ DYNAMIC STIFFNESS (N/MM/MM ²)	CRITICAL DAMPING RATIO
GenieMat FF06	27	0.0068	9.5%	25	0.047	8.4%
GenieMat FF10	25	0.0059	9.7%	22	0.037	9.6%
GenieMat FF17	23	0.0053	12.5%	18	0.025	11.2%
GenieMat FF25	22	0.0045	11.5%	16	0.020	10.8%
GenieMat FF50	18	0.0030	10.2%	12	0.011	9.7%
GenieMat FF75	16	0.0022	9.6%	10	0.008	9.1%

DESIGN PARAMETERS OF GENIEMat FF SYSTEMS

System Natural Frequency vs. Load



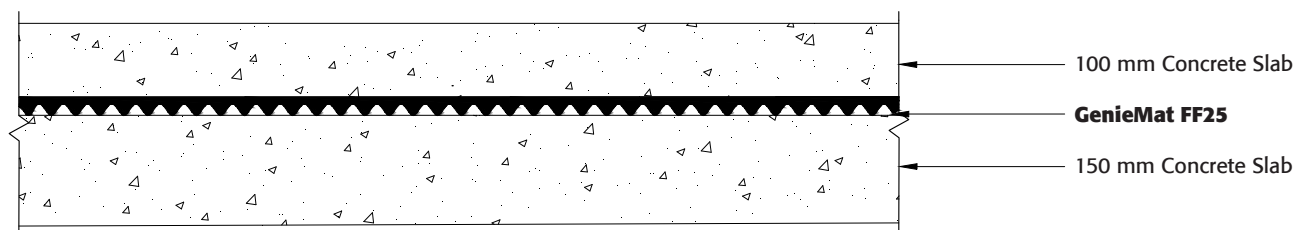
Deflection vs. Load



GENIEMat® FF ACOUSTIC TEST DATA

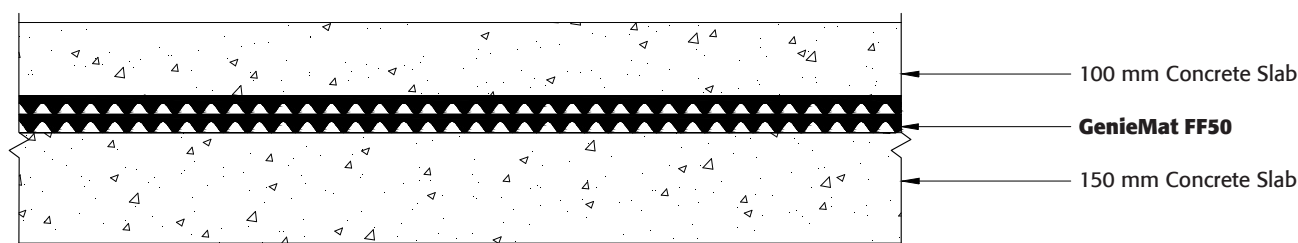
150 mm STRUCTURAL SLAB WITH FLOATING CONCRETE TOPPING

100 mm Concrete Topping on GenieMat FF25 on 150 mm Structural Slab



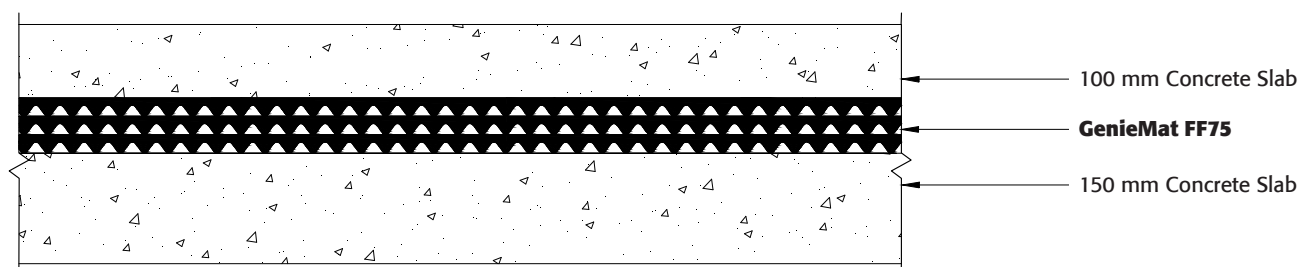
70 R_w	45 $L_{N,W}$	16 Hz
F943-41992	F536-41779	F_n

100 mm Concrete Topping on GenieMat FF50 on 150 mm Structural Slab



72 R_w	43 $L_{N,W}$	12 Hz
F920-41970	F539-41780	F_n

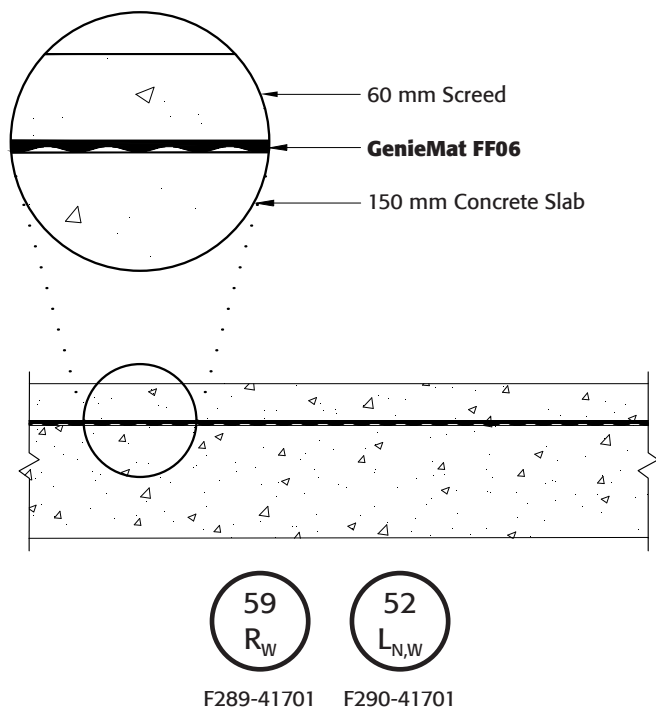
100 mm Concrete Topping on GenieMat FF75 on 150 mm Structural Slab



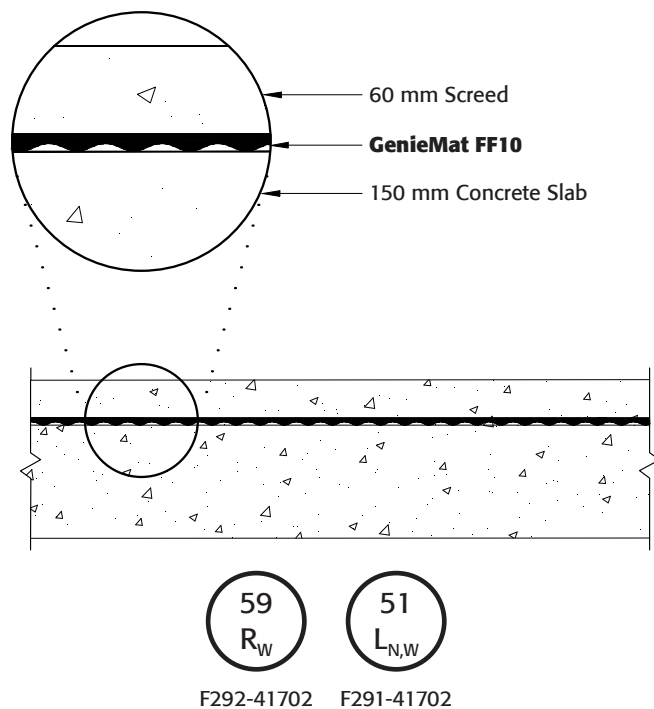
73 R_w	41 $L_{N,W}$	10 Hz
F921-41970	F540-41780	F_n

GENIEMat® FF ACOUSTIC TEST DATA

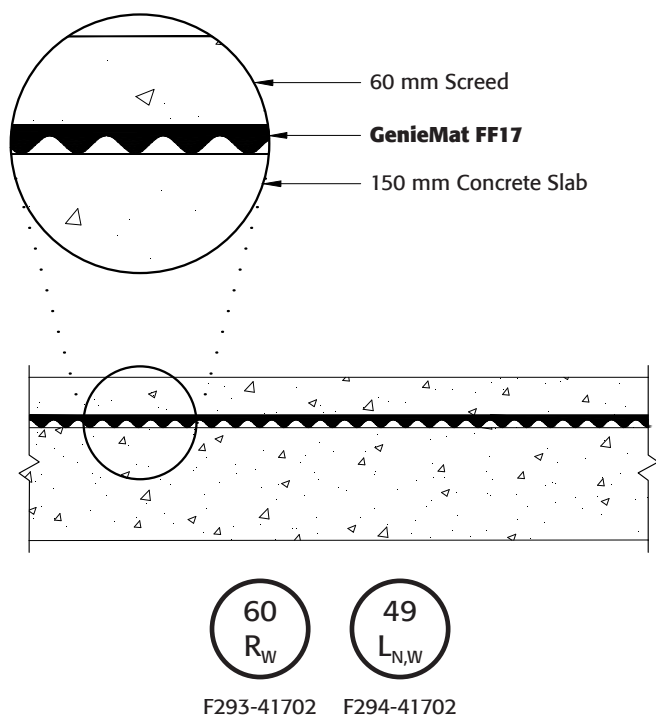
60 mm Screed on GenieMat FF06



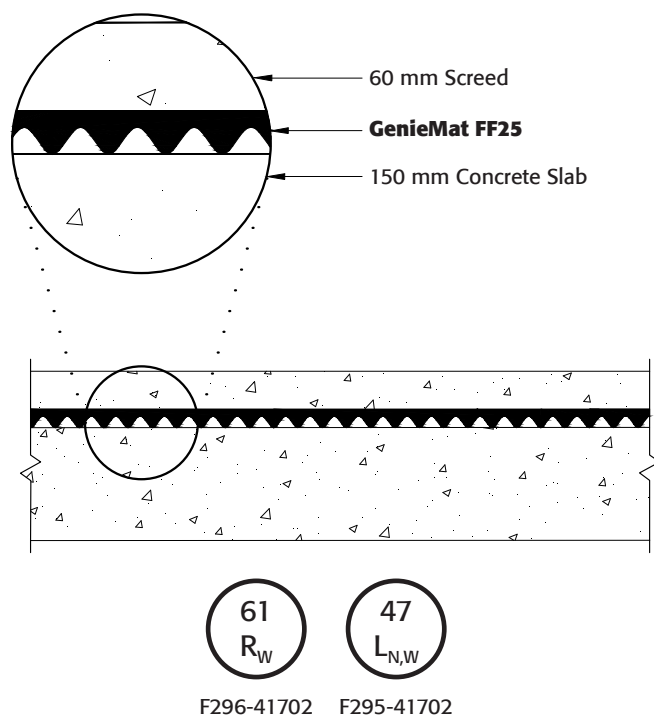
60 mm Screed on GenieMat FF10



60 mm Screed on GenieMat FF17



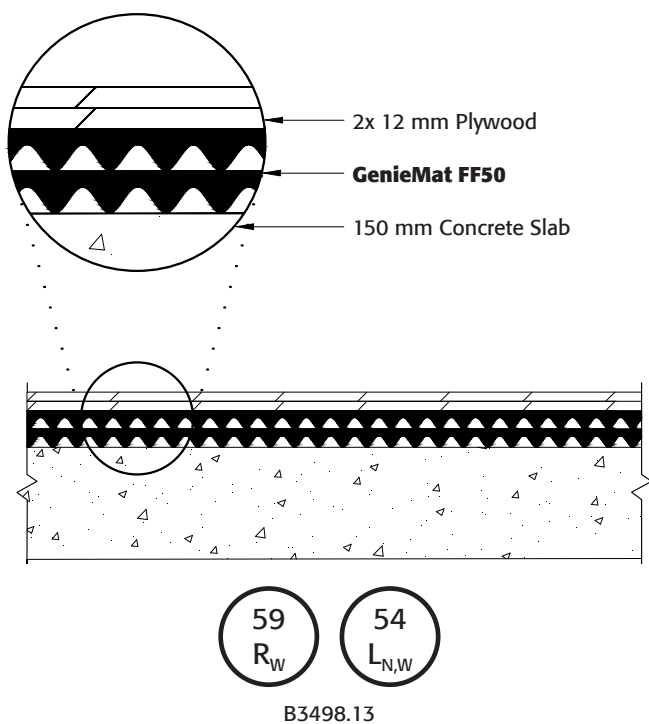
60 mm Screed on GenieMat FF25



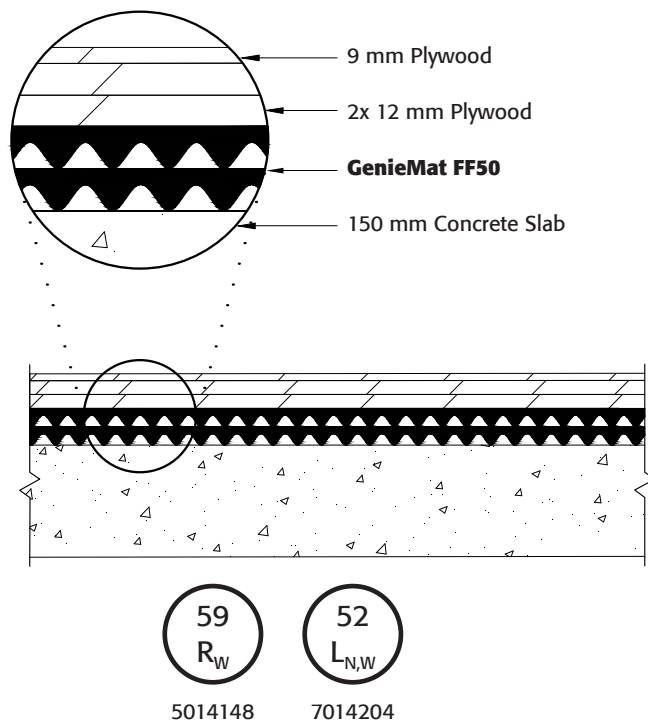
GENIEMat® FF ACOUSTIC TEST DATA

150 mm CONCRETE SLAB WITH PLYWOOD TOPPING

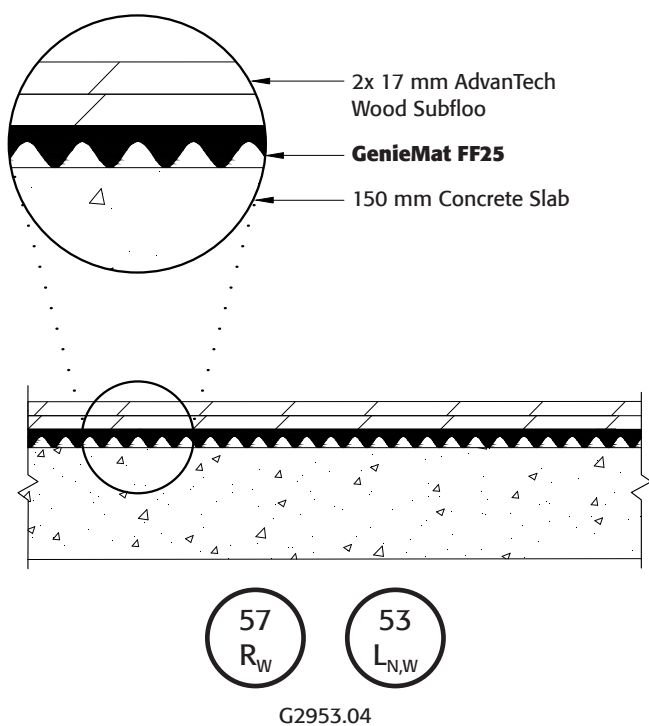
2 Layers of Plywood on GenieMat FF50



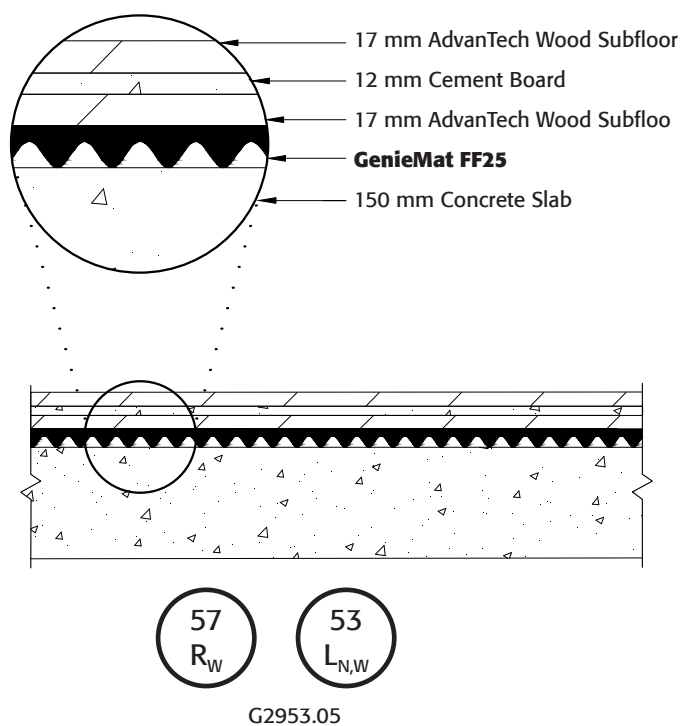
3 Layers of Plywood on GenieMat FF50



2 Layers of AdvanTech® on GenieMat FF25



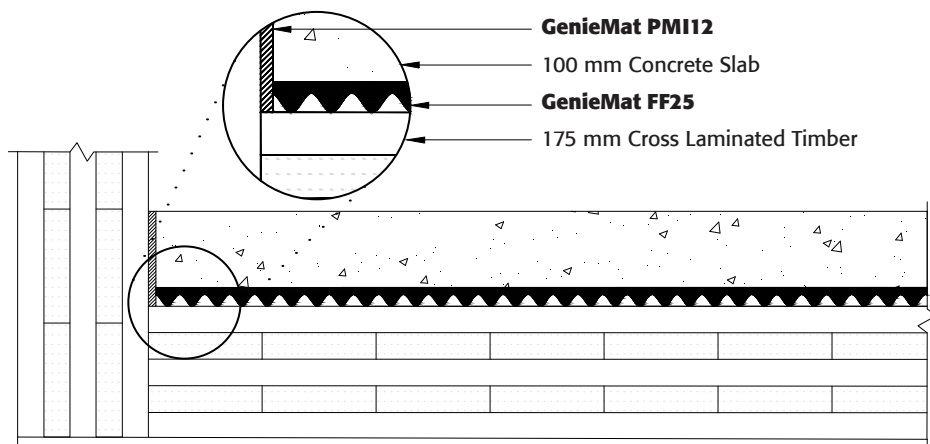
50 mm AdvanTech Cement Board Raft on GenieMat FF25



GENIEMat® FF ACOUSTIC TEST DATA

CROSS LAMINATED TIMBER ASSEMBLIES

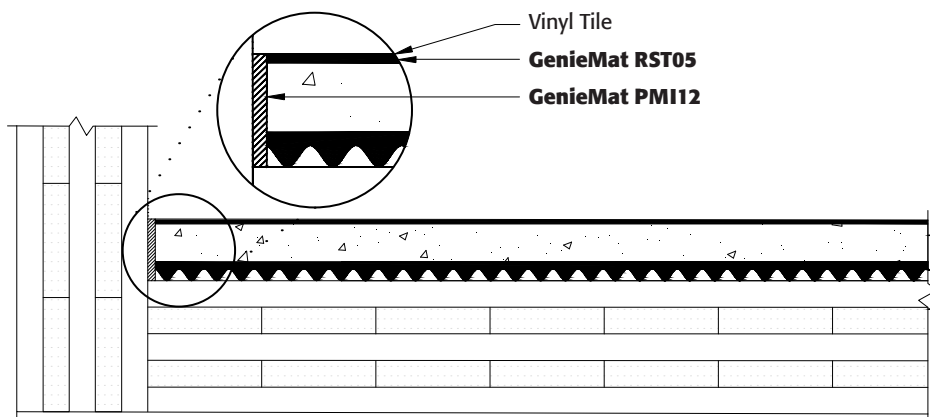
175 mm Cross Laminated Timber with 100 mm Concrete Topping on GenieMat FF25



GenieMat PMI12
100 mm Concrete Slab
GenieMat FF25
175 mm Cross Laminated Timber

57 R_w 60 $L_{N,w}$
F5500.08

175 mm Cross Laminated Timber with 50 mm Screed Topping on GenieMat FF25

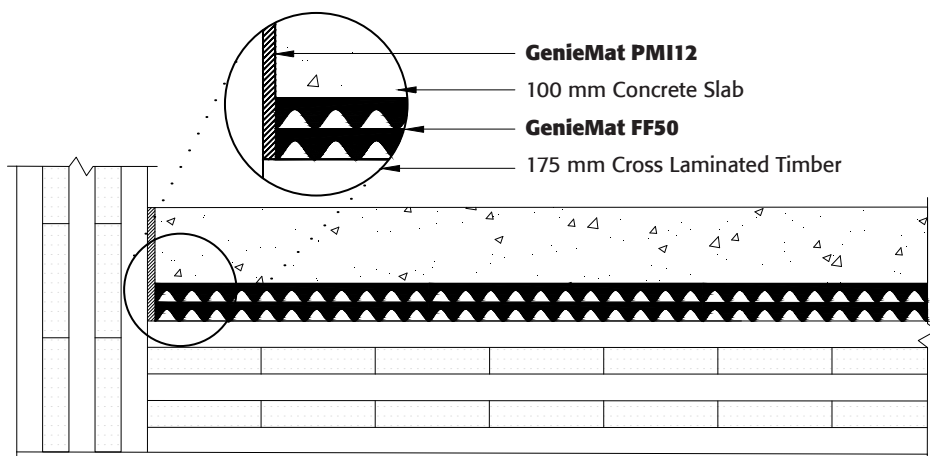


Vinyl Tile
GenieMat RST05
GenieMat PMI12

53 R_w 58 $L_{N,w}$
F6279.14

50 mm Screed
GenieMat FF25
175 mm Cross Laminated Timber

175 mm Cross Laminated Timber with 100 mm Concrete Topping on GenieMat FF50



GenieMat PMI12
100 mm Concrete Slab
GenieMat FF50
175 mm Cross Laminated Timber

59 R_w 56 $L_{N,w}$
F5500.10

FINITE ELEMENT ANALYSIS (FEA)

WHAT IS FEA?

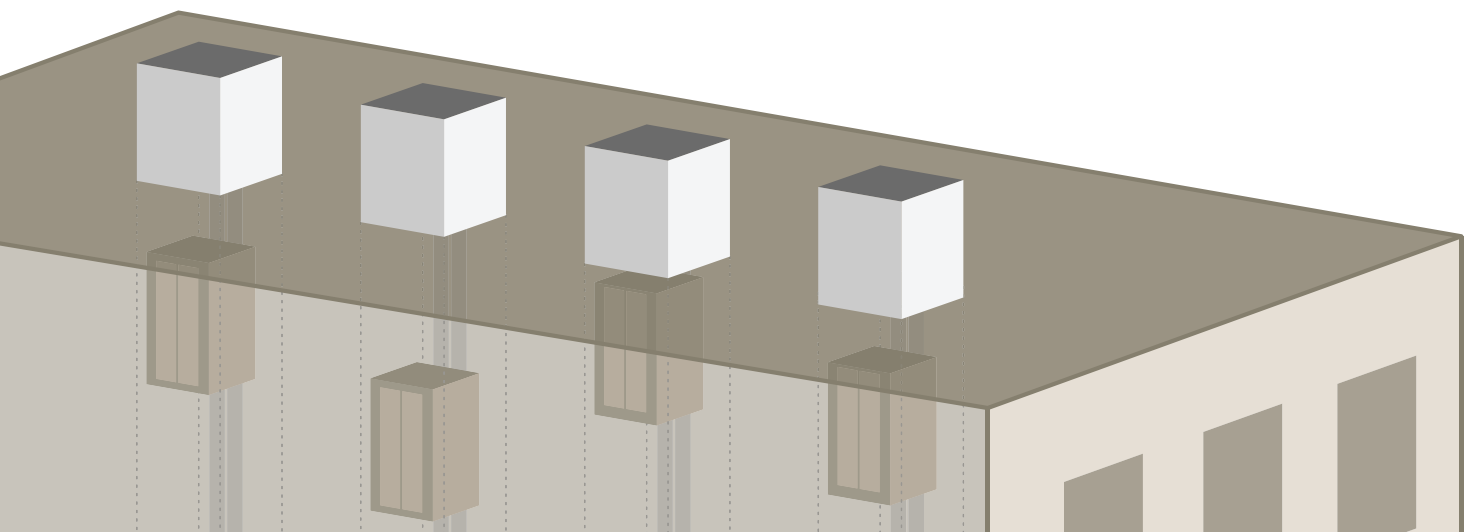
Finite Element Analysis (FEA) is a system to break complex structures into very small parts (finite elements) that can then be more easily modeled and assessed. FEA is done in such a way as to tie all these elements together so the larger motion of the complete structure can be seen and assessed.

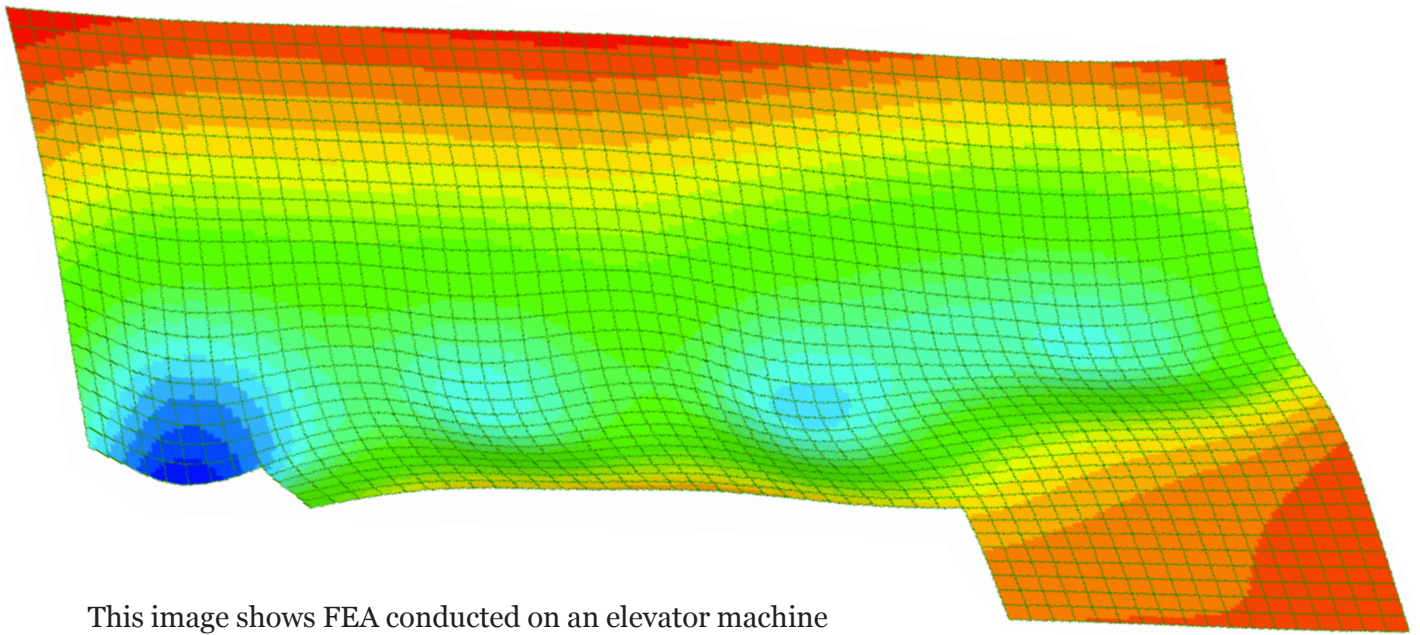
WHY IS FEA USEFUL WHEN DESIGNING YOUR FLOATING FLOOR?

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 colours 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

TEST RESULTS

TEST RESULTS					
TEST REPORT	PRODUCT	FLOOR TOPPIN	STRUCTURE	R _w	L _{N,w}
B3498.1	None	None	150 mm Concrete Slab	53	78
F935-41976, F541-41780	GenieMat® FF17	100 mm Concrete Slab	150 mm Concrete Slab	70	49
F943-41992, F536-41779	GenieMat FF25	100 mm Concrete Slab	150 mm Concrete Slab	70	45
F920-41970, F539-41780	GenieMat FF50	100 mm Concrete Slab	150 mm Concrete Slab	72	43
F921-41970, F540-41780	GenieMat FF75	100 mm Concrete Slab	150 mm Concrete Slab	73	41
e8117.02	GenieMat FF70	100 mm Concrete Slab	150 mm Concrete Slab	64	46
F289-41701, F290-41701	GenieMat FF06	60 mm Screed	140 mm Concrete Slab	59	52
F292-41702, F291-41702	GenieMat FF10	60 mm Screed	140 mm Concrete Slab	59	51
F293-41702, F294-41702	GenieMat FF17	60 mm Screed	140 mm Concrete Slab	60	49
F296-41702, F295-41702	GenieMat FF25	60 mm Screed	140 mm Concrete Slab	61	47
F297-41702, F298-41702	GenieMat FF50	60 mm Screed	140 mm Concrete Slab	63	43
F6279.04	GenieMat FF17	45 mm Stone Pavers + 50 mm Adjustable Deck Supports	150 mm Concrete Slab	55	41
g2953.02	GenieMat FF25	(2) 12.5 mm Cement Board	150 mm Concrete Slab	55	51
g2953.04	GenieMat FF25	(2) 19 mm AdvanTech® Wood Subfloor	150 mm Concrete Slab	57	53
5014139, 7014190	GenieMat FF06	19 mm Gypsum Concrete	2x10 Wood Joist + GenieClip RST + 12.5 mm Plasterboard	59	58
5014142, 7014195	GenieMat FF06	Engineered Wood + 19 mm Screed + 19 mm Plywood	400 mm Open Web Truss + 12.5 mm Resilient Channel + 15 mm Plasterboard	56	57
g1707.11	GenieMat FF06	Vinyl + (2) 6 mm Cement Board + 19 mm OSB	450 mm Open Web Truss + 12.5 mm Resilient Channel + 15 mm Plasterboard	60	45
5014049, 7014060	None	None	Heavy Timber Floor	29	86
5014082, 7014109	None	100 mm Concrete Slab	Heavy Timber Floor	40	76
5014145, 7014200	GenieMat FF42	100 mm Concrete Slab	Heavy Timber Floor	54	59
7014194	GenieMat FF42	Vinyl + GenieMat RST05 + 50 mm Screed + 25 mm Cement Board	Heavy Timber Floor	53	58
F5500.08	GenieMat FF25	100 mm Concrete Slab	175 mm CLT	57	60
F6279.14	GenieMat FF25	Vinyl + GenieMat RST05 + 50 mm Screed	175 mm CLT	53	58
g1707.05	GenieMat FF23	100 mm Concrete Slab	175 mm CLT	56	58
F5500.10	GenieMat FF50	100 mm Concrete Slab	175 mm CLT	59	56

CONTACT US

For Your Project Specific Questions

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