Kinetics RIM System

CMSDANSKIN ACOUSTICS

Technical Data Sheet

KIP fiberglass noise, shock, and vibration isolators offer many advantages versus natural rubber, neoprene, or other elastomeric pads. Uniquely permanent and dynamically predictable, due to precise manufacturing methods using inorganic materials, this isolation media provides freedom of design and use unprecedented by any other material.

KIP fiberglass isolation pads are high-density matrix of compressed molded fiberglass; individually coated with a flexible, moisture-impervious membrane, designed to allow controlled air movement in the fiber media. The pumping action of air between fibers provides viscous damping, reducing motion caused by transient shock and vibration.

KIP fiberglass isolators uniquely allow a wide range of loading on a given isolator while maintaining a constant natural frequency.

KIP fiberglass is unique as a structural support in that applied loads are substantially below precompression loads thus providing 200% overload safety factor. The result is permanent resiliency with constant natural frequency. KIP fiberglass resists rust, ozone, mildew and fungus. It is vermin proof, will not shrink, swell, or decompose. Isolation characteristics of the media are constant over a temperature range of -40°C to 121°C.

APPLICATION

Typical noise isolation applications include the use of KIP fiberglass isolators integrated into the RIM to create high performing acoustic floating floors. Typical shock isolation applications include the use of KIP fiberglass isolators as support mounts for punch presses, metal shears, and similar industrial process machinery. Also, the Kinetics RIM as a floating floor system is suitable for mechanical rooms, music and recording studios, ballrooms, dance studios, cinemas and theatres, and 1st floor residential above commercial spaces.

Typical vibration isolation applications include the use of KIP fiberglass isolators as support mounts for high-speed fans, pumps, and chillers, on grade, having operating speeds of 1750 RPM and higher.

KIP fiberglass isolators are available in a wide range of standard and special mount configurations for various load ranges, natural frequencies, and other support characteristics.

For floating floor applications and structures that cannot support the weight of concrete, alternative lighter weight building materials can be considered such as Smartspan, a high density gypsum based board.

FEATURES and BENEFITS

- Inorganic fiberglass media
- Flexible elastomeric coating
- Constant natural frequency in wide load range
- Permanent and predictable resiliency
- Predictable dynamic response
- High-energy dissipation
- Controlled viscous damping
- Load capacities 0.35 to 35kg/cm^2

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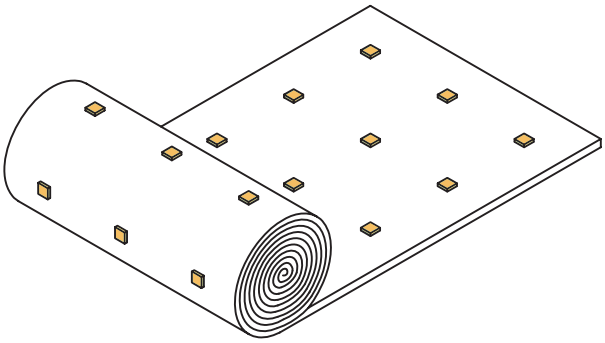
PHYSICAL INFORMATION

Roll dimensions	8.4m x 1.2m x 40mm*
Standard pad size	51mm x 51mm x 51mm**

* 40mm thick, 33kg/m^3 dense earthwool bonded to a foil back

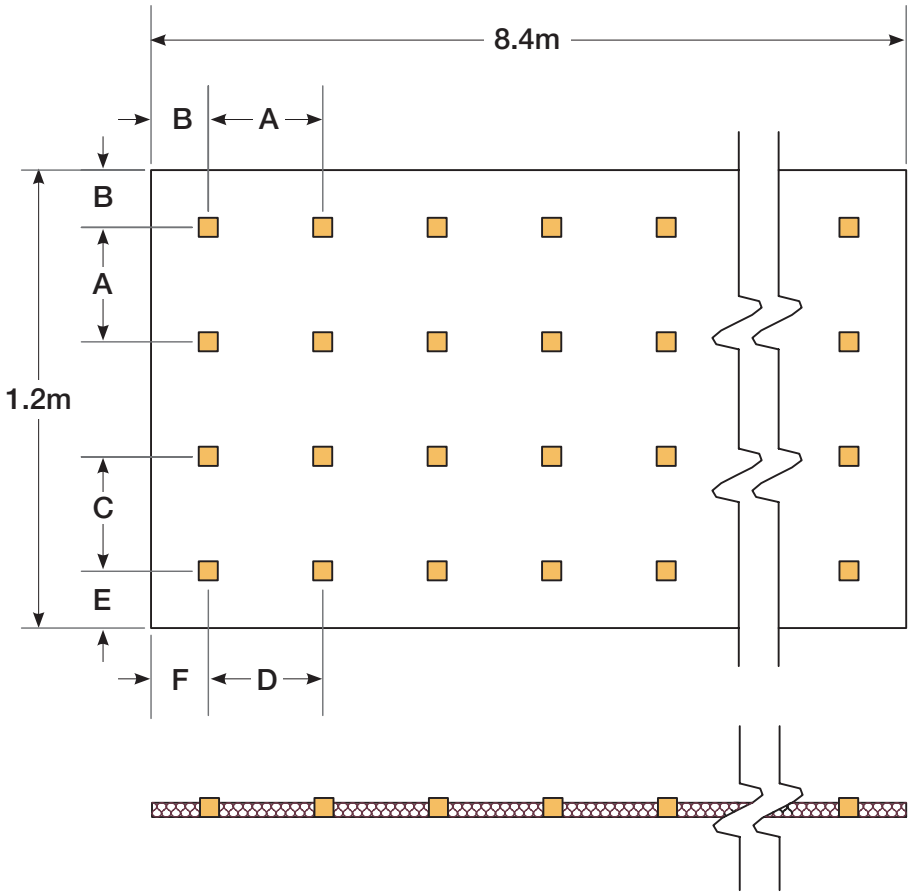
** Other pad sizes are available, not all are available as the RIM System

Pad centres vary subject to the application.



Standard KIP Pads

KIP 22 L 2 Pad	Max Load 90kg/pad
KIP 22 Q 2 Pad	Max Load 180kg/pad



Centres (mm)	Dimensions (mm)					
	A	B	C	D	E	F
600 x 600	600	300	-	-	-	-
400 x 400	400	200	-	-	-	-
300 x 300	300	150	-	-	-	-
600 x 400	-	-	600	400	300	200

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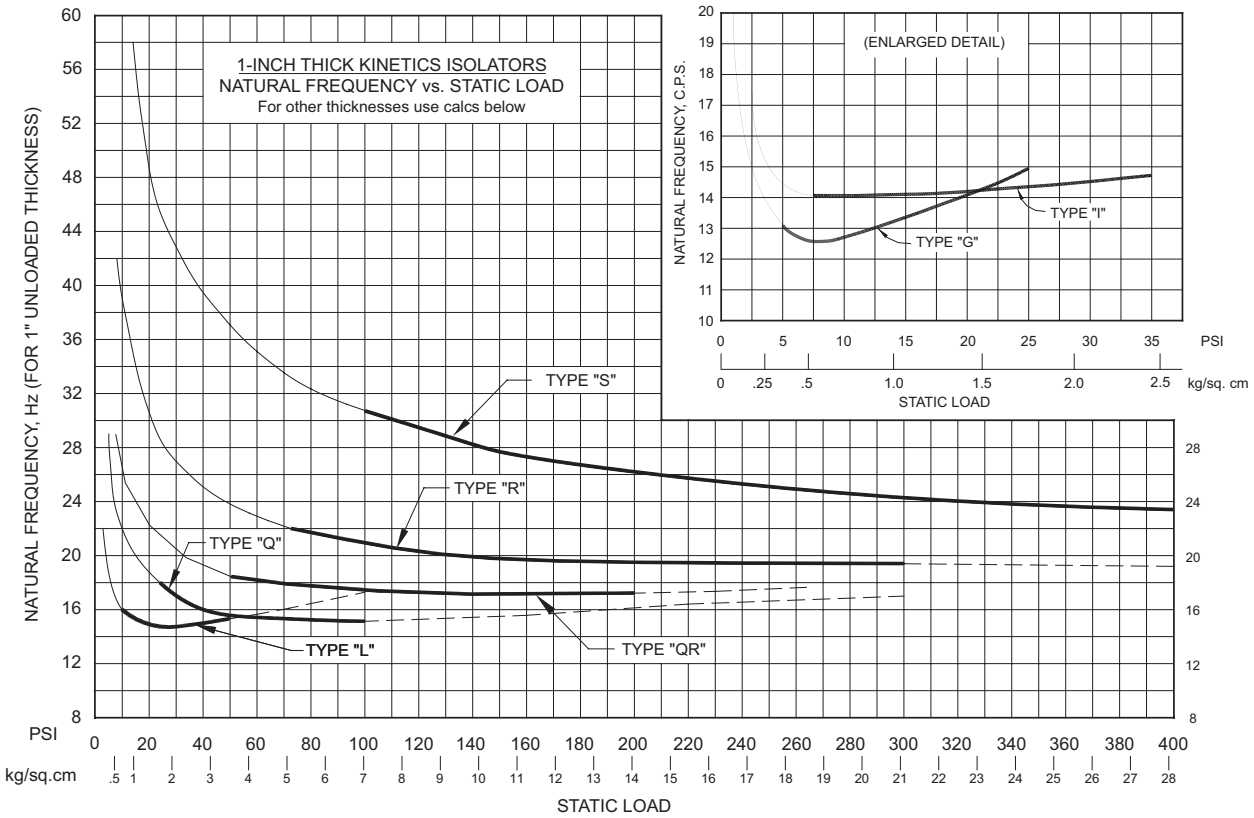
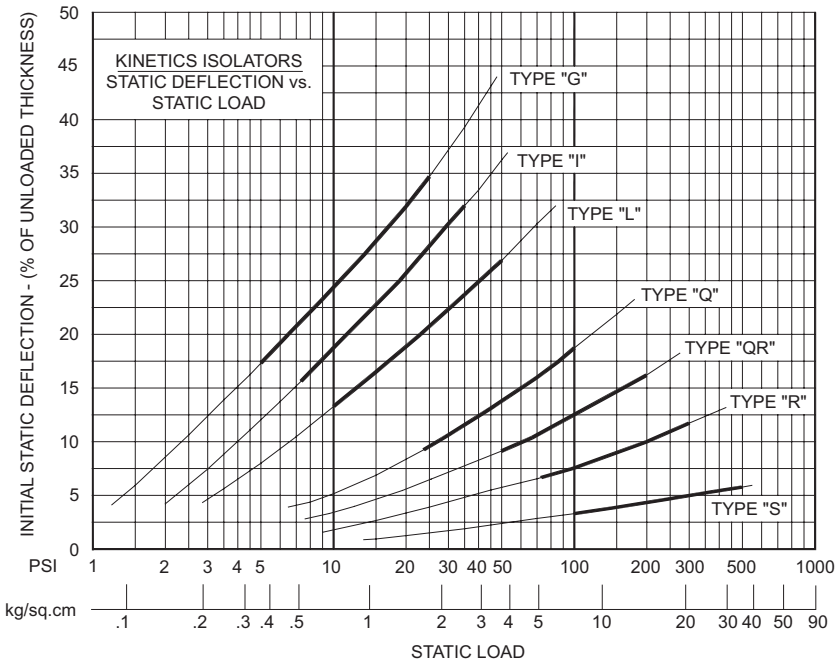
KIP Pad Natural Frequency and Deflection





To determine natural frequency for other thickness KIP pads.

- for 1/2" (13mm) pads, multiply 1" (25mm) natural frequency by 1.41
- for 1-1/2" (38mm) pads, multiply 1" (25mm) natural frequency by 0.82
- for 2" (51mm) pads, multiply 1" (25mm) natural frequency by 0.71
- for 3" (76mm) pads, multiply 1" (25mm) natural frequency by 0.58
- for 4" (102mm) pads, multiply 1" (25mm) natural frequency by 0.50

Note: Enlarged portion of curves indicates the optimal load range for various Model KIP isolators used in typical applications. Model KIP selection for floors exposed to high impact/shock loads will vary depending on the floor construction. Factors such as mass and stiffness of he floor assembly as well as stiffness of the entrapped air can affect the actual loads to which individual isolators are exposed under dynamic conditions.

Lightweight plywood floor assemblies on KIP are not recommended for heavy shock load (weight drop) applications.

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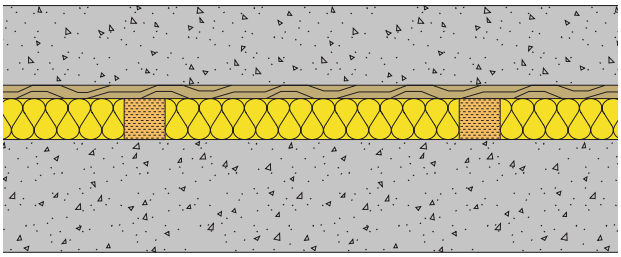
Acoustic Test Results

The values shown in brackets represent the spectrum adaptation term.

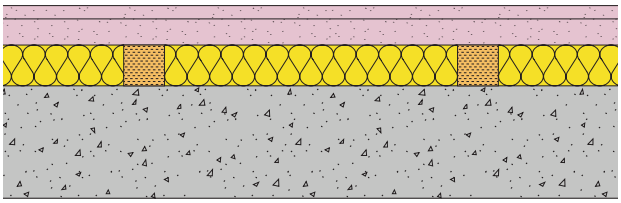
100mm Concrete Slab
18mm OSB
51mm RIM Q 2 400
140mm Concrete Slab

DLw (Cl,D)	37 (-9) dB
Ln,w (l)	41(-6) dB
Rw(C;Ctr)	70 (-2;-6) dB



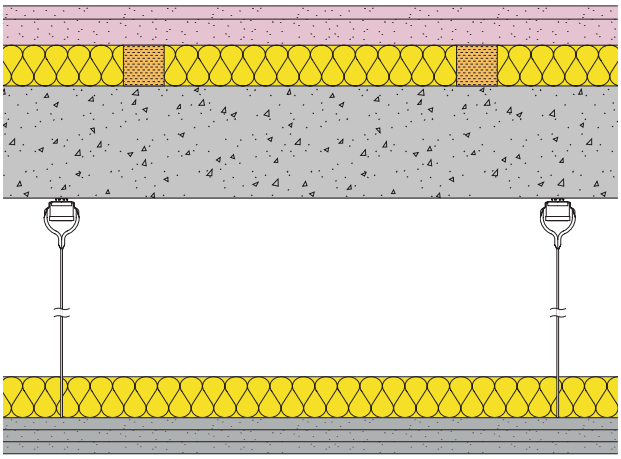
18mm Smartspan
32mm Smartspan
RIM L 2 600/400
140mm Concrete Slab

DLw (Cl,D)	40 (-12) dB
Ln,w (l)	38(-2) dB
Rw(C;Ctr)	71 (-2;-7) dB



18mm Smartspan
32mm Smartspan
RIM L 2 600/400
140mm Concrete Slab
Isogrid 105 Hangers + 50mm APR in a 325mm Void
3 x 15mm Soundbloc Plasterboard

DLw (Cl,D)	58 (-14) dB*
Ln,w (l)	17(2) dB
Rw(C;Ctr)	89 (-2;-7) dB



* Indicates tests not UKAS accredited because a ceiling was part of the test sample which is not strictly in accordance with the test standard for impact improvement tests.

Laboratory Measurement of Normalised Impact Sound Pressure Levels to BS EN ISO 10140-3:2010
Laboratory Measurement of Sound Reduction Index to BS EN ISO 10140-2:2010

Test reports for the above constructions and other floor and ceiling constructions are available on request.

KINETICS Noise Control

Assembled and supplied by:
CMS Danskin Acoustics
Unit 2, Lyncastle Rd, Appleton, Warrington, WA4 4SN

CMSDANSKIN ACOUSTICS

T 01925 577711 (Central)
E info@cmsdanskin.co.uk
T 01698 356000 (Scotland)
E enquiries@danskin.co.uk
W **www.cmsdanskin.co.uk**

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