

Case Study - Kinetics RIM-C Floating Floor



Harris Academy

Client	Harris Academy
Contractor	Mansell
Isolation Area	252m ²

In brief

A £2.2 million expansion programme at the Harris Academy, Merton, incorporated a new post-16 study block, which necessitated a flexible use area for the sixth form pupils to utilise across a wide range of education activities including quiet study, examinations, wet play and light sports.

A first floor multi-purpose room was included in the building design and conditions demanded a structural isolation system be installed that would both minimise nuisance noise penetrating the room and prevent vibrations caused by high footfall activities travelling into the classrooms below. Main contractor, Mansell required an anti-vibration solution that would deliver a natural frequency below 15Hz for the duration of the installation without impeding on pupils' learning experiences.

Project scope

Boasting excellent airborne and impact noise ratings, the Kinetics RIM-C floating floor system was selected for its ability to meet the natural frequency of the room while also providing high performance noise control within the overall programme budget.

CMS Vibrations installed a Kinetics RIM-C system that comprised of 800 two inch KIPs (Kinetics Isolation Pads) centred at predetermined intervals of 600mm to meet the required performance levels. Supporting a 100mm thick concrete slab and flanked with a Perimeter Isolation Board (PIB), the floating floor covered a total area of 252m².

Achieving superior anti-vibration control by effectively 'floating' the concrete floor slab, the Kinetics RIM-C system works by creating an air void between it and the substructure. The leading formwork technique for isolating concrete slabs in floor and roof systems that also require sound abatement, the system can be adapted to create an airspace between one and four inches, depending on the acoustic performance required.

Moreover, Kinetics RIM-C is a resilient anti-vibration solution that demonstrates no appreciable degradation in the isolation performance throughout the projected lifetime of the installation.



CMS Vibrations installed the Kinetics RIM-C floating floor system in a multi-purpose learning environment to deliver superior anti-vibration performance.



Results

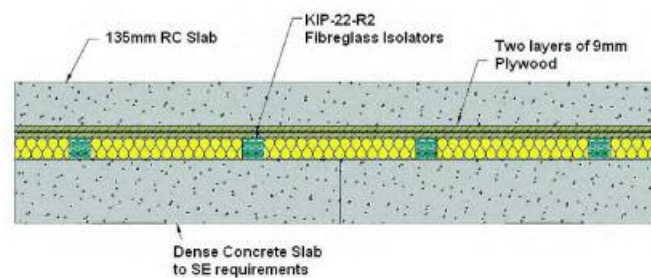
Designed to deliver a constant natural frequency below 15Hz, the Kinetics RIM-C floating floor system effectively minimised vibration and nuisance noise transmissions in the multi-purpose room to provide a conducive learning environment.

Kelvin Davies, project manager, Mansell, commented: “Managing the design and installation of the Kinetics RIM-C system, CMS Vibrations delivered a high performing anti-vibration solution to the Harris Academy in line with overall budget constraints. The professional team demonstrated impressive technical expertise throughout the project, instilling confidence that the system would effectively isolate vibrations at source while simultaneously minimising nuisance noise transmission. Furthermore, CMS Vibrations were able to offer a flexible installation programme that did not impact on the build schedule, ensuring that the building was completed in readiness of the September school term.”

Benefits

- Excellent dampening and isolation characteristics
- Fast, simple and cost effective to install
- Can be designed to withstand any load range
- Natural frequency constant over a wide load range
- Effective over the lifetime of the installation

Example Floor Build up



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