

# Case Study - Kinetics RIM-C Structural isolation



## Eagles Meadow

**Client** Wilson Bowden  
**Isolation Area** 1,238m<sup>2</sup>

### In brief

CMS Vibration Solutions has used the Kinetics RIM-C floating floor system to isolate a first floor bowling alley floor at the Eagles Meadow mixed use development, preventing vibrations travelling out of the structure and into retail units below.

### Project scope

Combining flagship retail space with a bowling alley, restaurants and bars, the Eagles Meadow complex in Wrexham required careful planning to accommodate all of the amenities under one roof, whilst maximising the availability of retail space. As such, developer Wilson Bowden positioned the 24-lane bowling alley on the first floor, directly above the retail units. For this build to be viable, structural measures had to be planned into the design, to prevent vibrations travelling out of the bowling alley and into the retail units below.

A floating floor was identified as the most effective method of decoupling the bowling alley floor slab from the rest of the development. In response to this, anti-vibration specialists CMS Vibration Solutions specified, supplied and managed the installation of the Kinetics Rollout Isolation Material Concrete (RIM-C) Floor System.

This system, available exclusively in the UK through CMS Vibrations, creates an air void between the floor and the sub structure by essentially 'floating' the concrete floor slab on top of precompressed fibreglass isolators. Nearly four thousand of these Kinetics Isolation Pads (KIPs) were used to construct the RIM-C system in order to isolate the full 1,238m<sup>2</sup> of the bowling alley floor. The KIPs were fixed in fibreglass matting at 600mm centres then flanked with a Perimeter Isolation Board (PIB). This was then covered with plywood and a damp proof membrane, creating a platform to cast the concrete slab on top. Once the concrete had cured the floor could be used immediately, helping to keep construction work to schedule.

The KIPs are vital to the high performance level of the RIM-C system, maintaining a constant and long-term natural frequency over a wide range of static and dynamic loads. Moreover, there is no appreciable degradation in the isolation performance during the projected lifetime of the floating floor.



**Kinetics RIM-C floating floor system was installed to prevent vibrations travelling out of the bowling alley and into retail units below.**



## Results

CMS Vibrations delivered an anti-vibration system with excellent airborne and impact noise ratings, preventing vibrations from the bowling alley travelling through to the flagship retail units below.

Adrian Smith, construction manager, Wilson Bowden, concludes: "The Kinetics RIM-C met all of our requirements in terms of cost, performance and ease of installation. As vibration specialists on the project, CMS Vibrations were able to provide technical advice on relative system merits, and follow this through to supply and installation, which were all completed within our scheduled site programme."

## Benefits

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



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