

# Case Study - Kinetics RIM-C Floating floor



## Bridgewater Centre Cinemas

<b>Client</b>	Bridgewater Centre Cinemas
<b>Contractor</b>	Patton Fit-Out
<b>Acoustic Consultant</b>	AWN Consulting
<b>Structural Engineer</b>	Barrett Mahony Consulting Engineers

### In brief

The Kinetics Roll-out Isolation Material (RIM-C) floating concrete floor system was installed by Patton Fit-Out to structurally isolate nine cinema blocks at the new Bridgewater Centre in Arklow, Ireland. The RIM-C systems were designed to prevent unwanted structural noise and flanking sound transmission.

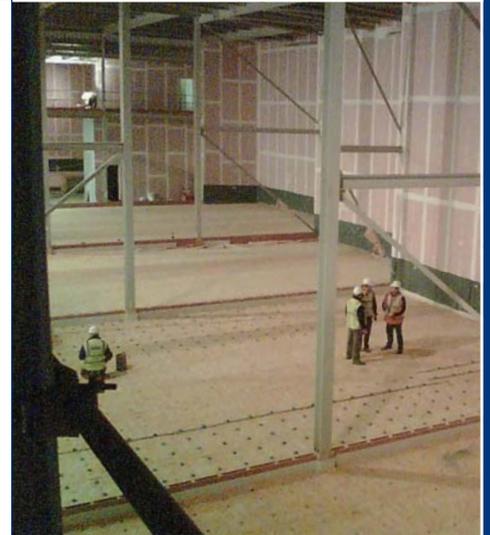
### Project scope

As the Bridgewater Centre cinema complex is situated above a flagship Dunnes store, the nine cinema blocks not only needed to be isolated from each other, but also from the rest of the retail complex.

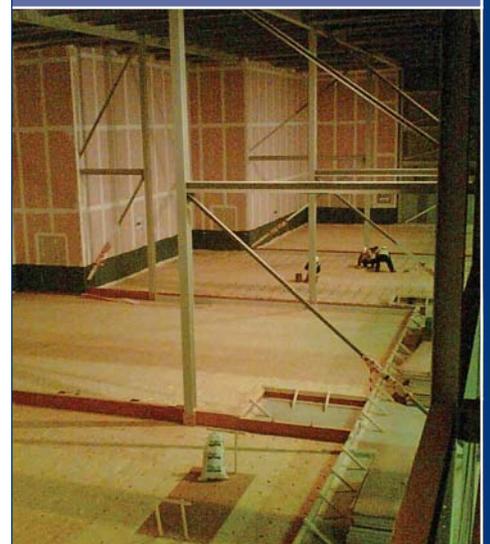
To achieve this, CMS Vibrations supplied Kinetics Roll-out Isolation Material (RIM-C). This is a highly versatile solution that achieves excellent airborne and impact noise ratings by 'floating' the concrete floor slab and creating an air void between it and the substructure.

Kinetics RIM-C consists of one to four inches thick Kinetics Isolation Pads (KIPs) fixed in fibreglass matting. These are flanked with Kinetics Perimeter Isolation Board and covered with marine plywood and a damp proof membrane prior to the casting of the 150mm thick floating concrete floor slab.

The Bridgewater Centre specification demanded a natural frequency less than 20Hz and a dynamic load bearing capacity of 8.7KN/m<sup>2</sup>.



RIM-C was installed at the new Bridgewater Centre to structurally isolate nine cinema blocks from each other and the Dunnes store below.



## Results

By identifying RIM-C as an appropriate solution, CMS Vibrations was able to go above and beyond these requirements, delivering a constant natural frequency of between 11Hz and 13Hz for this project. When required, frequencies as low as 7.5Hz can be achieved.

In order to spread the floor loads evenly, over 6,000 KIPs were laid on 450mm centres in the non-seating areas and 430mm centres in the higher load bearing seating sections of the cinemas.

The overall result was that the noise-generated vibrations could not travel into the building structure and result as nuisance noise in adjoining screens and the Dunnes store below.

## Benefits

- Achieves excellent airborne and impact noise ratings
- Available in a wide range of densities, sizes and load capacities
- Withstands varying loads without significantly altering the natural frequency
- Highly versatile and maintains flexibility
- Offers a long lasting and stable performance
- Undergoes minimal creep
- Quick and easy to install
- Offers significant time savings over jack up floor systems



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