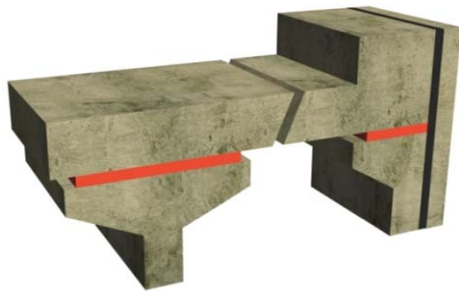




## Structural Element Isolation Resilient Decoupling Strip



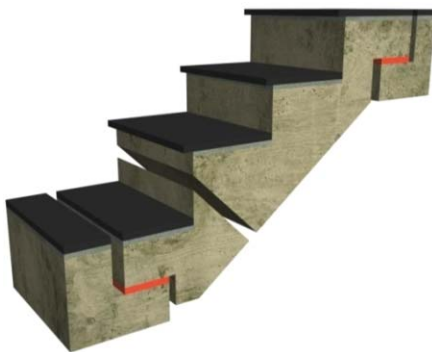
**CDM-ISO-STRIP Resilient Decoupling Strip** is used in many building applications to decouple structural elements. Typical uses for **CDM-ISO-STRIP** include the perimeter of floating floors, walls and ceilings, stairways, walls, beams, foundations, and floor segments. **CDM-ISO-STRIP** can also be used to seal around penetrations of HVAC, Piping, Lighting, Utilities, and other equipment. Strips can be manufactured in any of the CDM-SOLIDS materials, and can be cut and designed to suit a wide variety of applications.



Decoupling of the structural elements



Decoupling of floor segments



Stair flight isolation



Decoupling of walls and beams

### Required Data for Design:

- Required performance (insertion loss or natural frequency)
- Imposed permanent and temporary loads
- Contact surface (type and dimensions)



# Birchstrasse, Zürich, CH

PROJECT DATASHEET



## Resilient Strips for Decoupling CDM-ISO-STRIP



Job Type	Supply of resilient strips for decoupling of the building structure at foundation level
Acoustical Consultant	Rütishauser (SW)
Required res. freq.	< 15 Hz
Vibration source	Rolling stock (center of Zürich)
Supply	Winter 2003
Quantity	> 120 yard <sup>2</sup> (mainly strips of different widths)
Product family	CDM-PF (Polyurethane Foams): types CDM-93, 94, 95, 96, 97, 98, 99
Mat thickness	Standard 0.1 inch

Some views on the installation of the strips and mats



## CASE STUDY – CDM-ISO-STRIP

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noise & vibration control

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# Palace of Arts – Rehearsal Room, HU

PROJECT DATASHEET



## Wall Isolation

## CDM-ISO-STRIP-WALL/WH

Job Type	Wall Isolation
Vibration Source	Ambient, functional (music)
Client & Main Contractor	ARCADOM Építőpari Rt.
Architect	Zoboki, Demeter & Ass. Arch.
Acoustic Consultant	ARTEC
Structural Engineer	D Ketto Statikus Iroda
Installation	2004
Wall Length	total of 281.82 ft
Wall Height	19.52 ft – 34.78 ft
Material	Fibrocement with CDM-83



formwork panel with isolators before concreting the beam

The National Concert Hall, opened in March 2005, is located in the Palace of Arts, Budapest's new cultural epicentre.

The Orchestra Rehearsal Room is found on the 6th floor, part of it overarching the 1700 seat Concert Hall above the organ. To ensure a good  $R_w$  value between the Concert Hall and the Rehearsal Room, the acoustical consultant prescribed a 5.9 inch thick concrete shell on three sides, separately isolated even from the floor of the room.

Due to the different heights of the walls and high local loads near door openings, the layout of the isolators had to be carefully designed with respect of the choice of material and density of pads.

The combination of the wall strip and the wall hangers required special attention for the deflection of the pads under the wall, and the positioning of the wall hangers, so the latter would not tilt as much as to create an acoustic bridge. As a result, the first row of **CDM-ISO-WH** hangers were introduced only at 19.68 ft height.

By this solution, not only 50-60% of the total deflection of the pads had already taken place when first fixing horizontally, but the possible momentum caused by the curtain holder was also largely reduced.

The resonance frequency of the pads under the wall strip was expected to be around 8-10 Hz. Special care was to be taken for a 78.74 ft long and 34.77 ft high wall section. This part was only in contact with perpendicular walls at the ends, and no additional stiffening against bending was foreseen. Furthermore, cantilevers were fixed to this wall at 19.68 ft height to hold heavy curtains for room acoustical purposes, imposing extra momentum on the slim structure. With all that in mind, the necessity of resilient wall hangers connecting the block work wall to the structural in a horizontal sense was realized early in the planning procedure.



beam under wall



## CASE STUDY – CDM-ISO-STRIP

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