ARCHITECTURAL ACOUSTICS建声

CDM

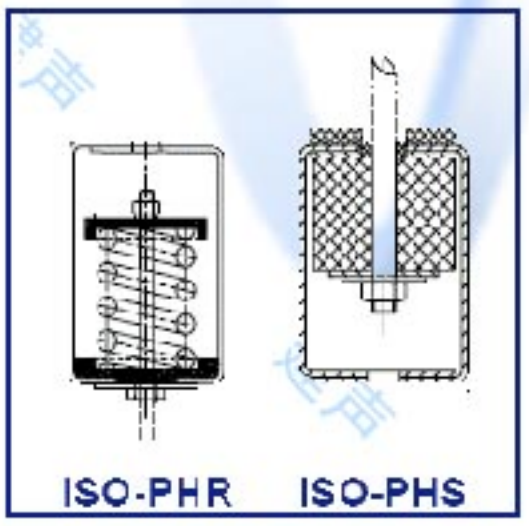
CDM-ISO-PHS/PHR

CDM-ISO-PHS/PHR Resilient Hangers are designed to suspend heavy ceilings, walls, lighting rigs, ducts and pipework. By isolating these elements from the main structure sound insulation and vibration isolation is maximised.

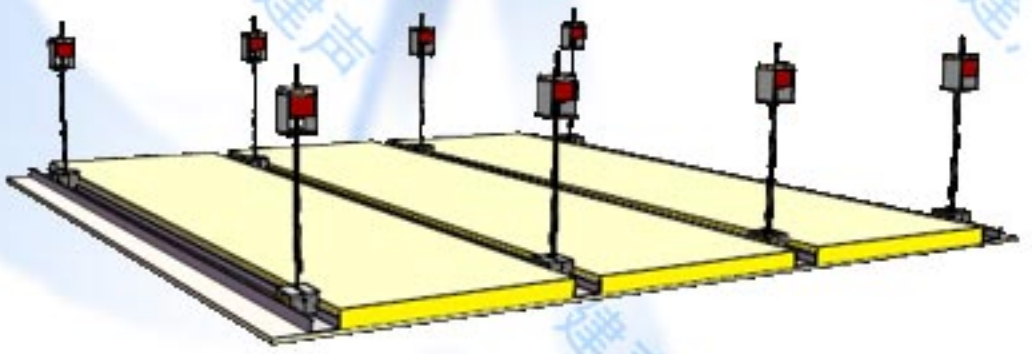
The choice between CDM-ISO-PHS and CDM-ISO-PHR depends on the required resonance frequency and the applied load.

Hangers can be manufactured to take any load and to achieve other natural frequencies on request (eg 3Hz spring hangers) Installation Guidelines

CDM-ISO-PERIMETER-STRIP should be used around the perimeter of the ceiling to ensure that the suspended elements are acoustically de-coupled from the supporting structures.



f_{res} [Hz]	Type	Optimal Load per element [N]
ca. 8 – 10 Hz	**ISO-PHS-150**	**150** (100-250)
	ISO-PHS-500	**500** (250-600)
	ISO-PHS-1000	**1000** (600-1000)
	ISO-PHS-1400	**1400** (1000-1800)
ca. 4 – 5 Hz	**ISO-PHR-150**	**150** (120-180)
	ISO-PHR-500	**500** (400-600)
	ISO-PHR-1000	**1000** (800-1200)
	ISO-PHR-2000	**2000** (1600-2400)



Hanging a suspended ceiling

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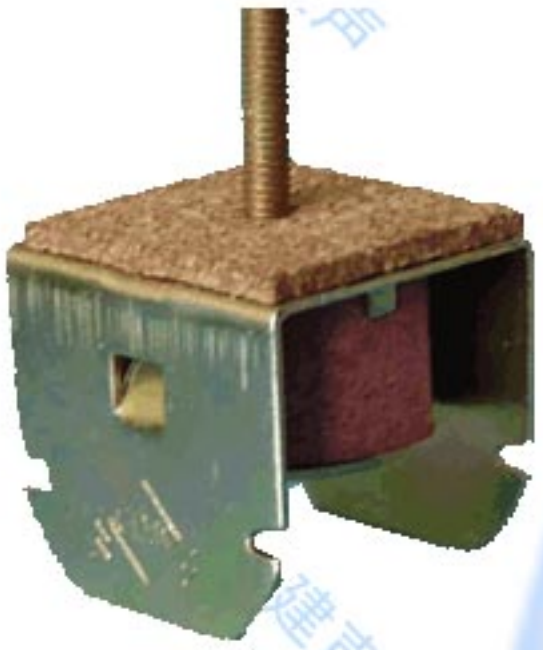
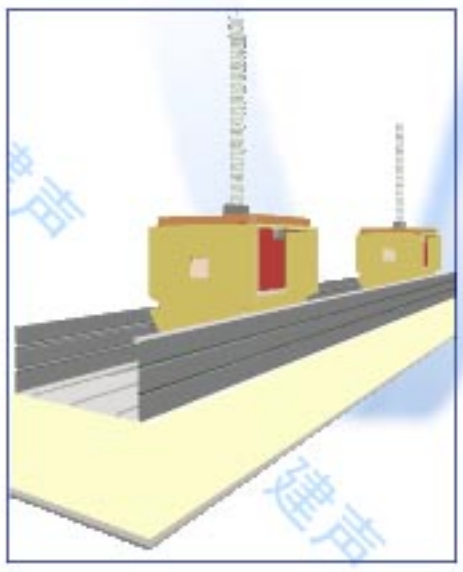


CDM-ISO-CC

The CDM-ISO-CC Acoustic Suspension System is designed to optimise the sound insulation of suspended ceilings.

The system comprises of the CDM-ISO-CC hanger + the CDM-PROFILAT rail (either 45mm or 60mm wide) that clips into the hanger. There are 2 types available:
CDM-ISO-CC40 with the CDM-PROFILAT40 rail
CDM-ISO-CC60 with the CDM-PROFILAT60 rail

With CDM-ISO-CC suspension elements, sound insulation improvements of more than 20 dB can be achieved.



Installation Guidelines

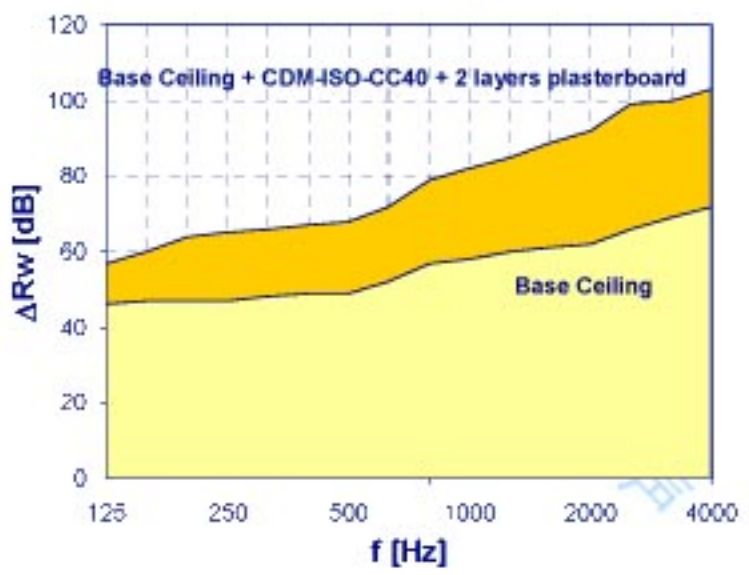
The hangers are mechanically fixed to the ceiling and then the CDMPROFILAT rail is snap fitted into the hangers. Plasterboard can then be fixed into the rails.

The minimum air void possible with this system is 45mm.

CDM-ISO-CC hangers must only be used with the CDM-PROFILAT rails (45mm/60mm) to ensure structural stability of the ceiling.

CDM-ISO-PERIMETERSTRIP must be used to isolate the suspended ceiling from surrounding walls to avoid undermining the acoustic integrity of the ceiling.

f_{res} [Hz]	Type	Optimal Load per element [N]
11–12 Hz	**CDM-ISO-CC40L**	**150** (100-200)
	CDM-ISO-CC40H	**350** (200-550)
	CDM-ISO-CC60L	**150** (100-200)



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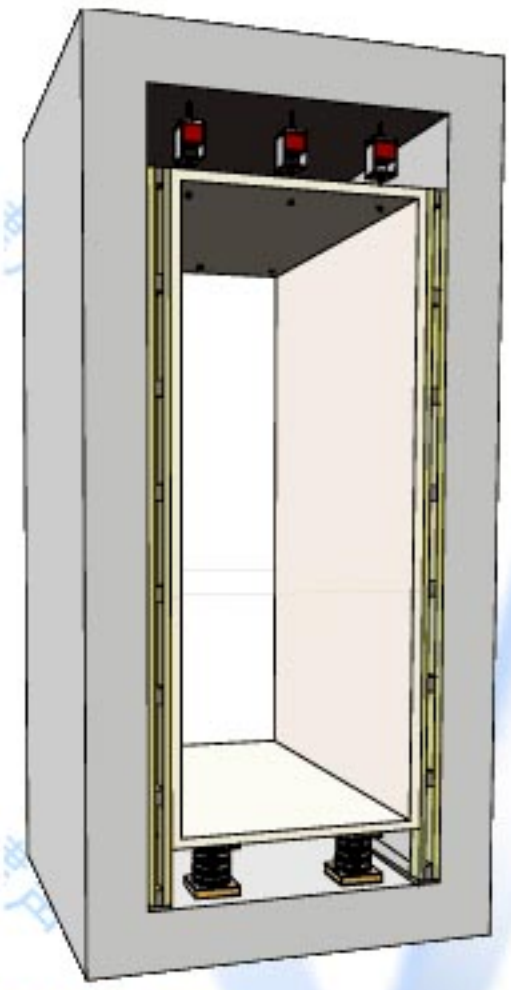
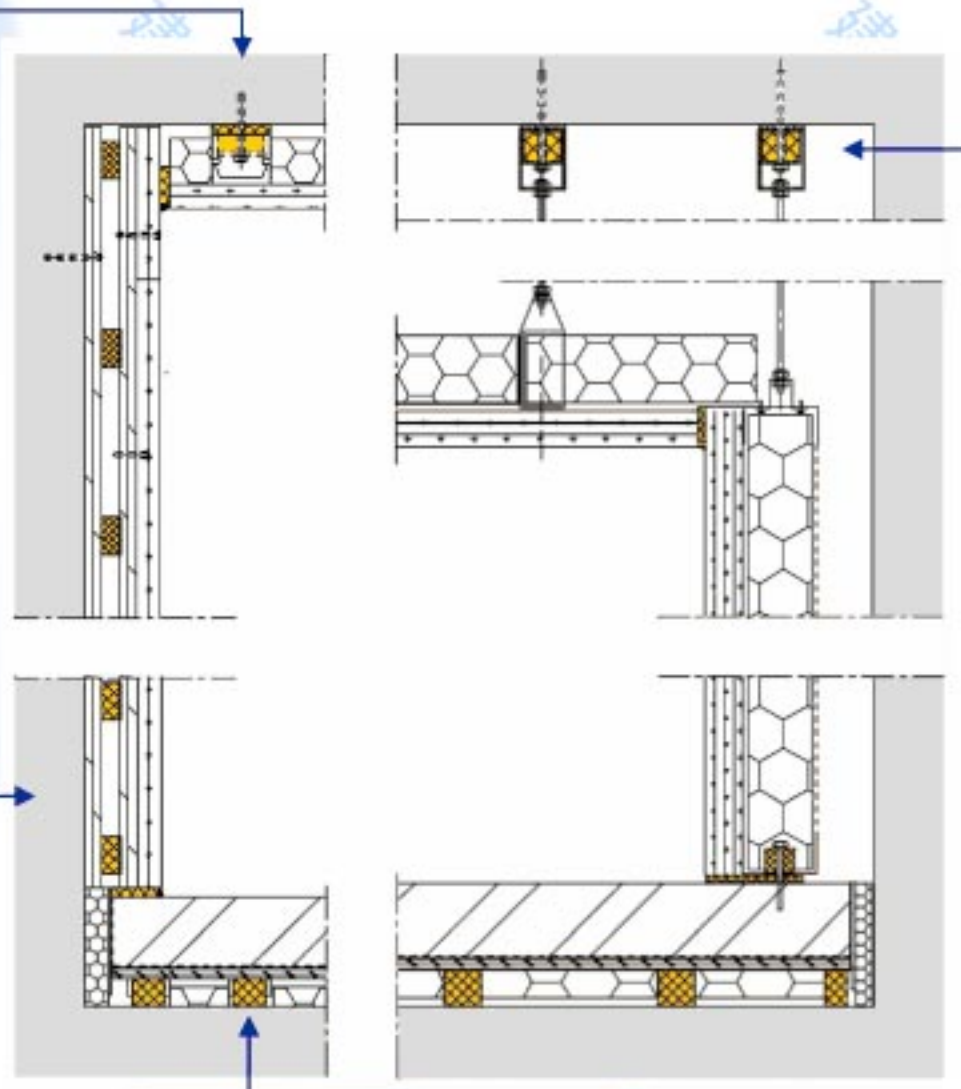
CDM-ISO-BOX

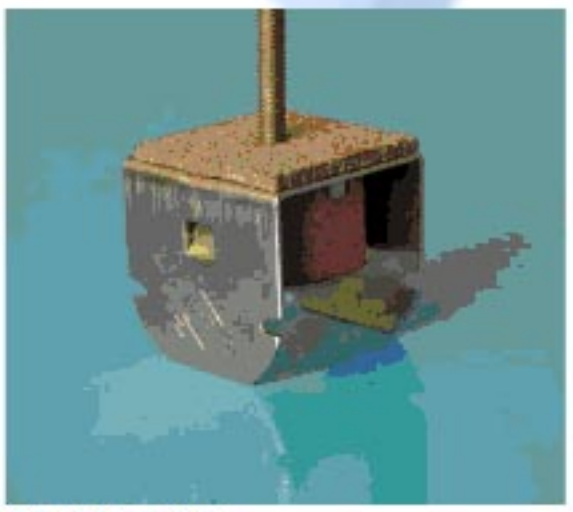


CDM-ISO-BOX

The'Box-in-Box'concept is based on the complete decoupling of floors, walls and ceilings from the building structure to achieve the maximum isolation possible.

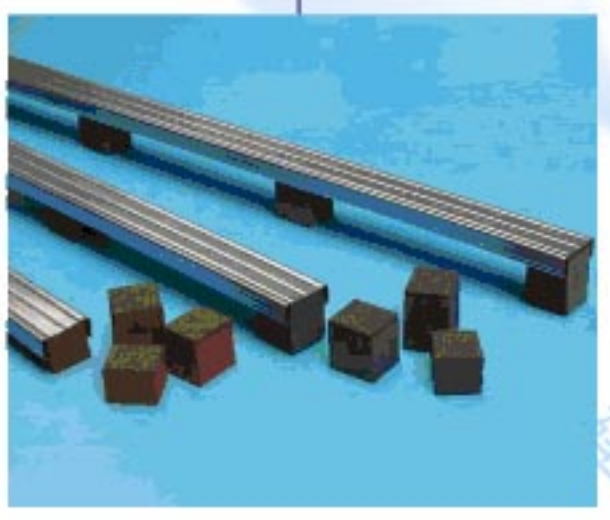
CDM-ISO-BOX uses a combination of CDM-ISO-FLOOR and CDM-ISO-WALL and CDM-ISO-CEILING to create high-performance box-inthe- box systems. Airborne and structure-borne noise improvements of more than 30 dB can be achieved.





CDM-ISO-CC

CDM-ISO-T



CDM-ISO-LAT

CDM-ISO-PHS

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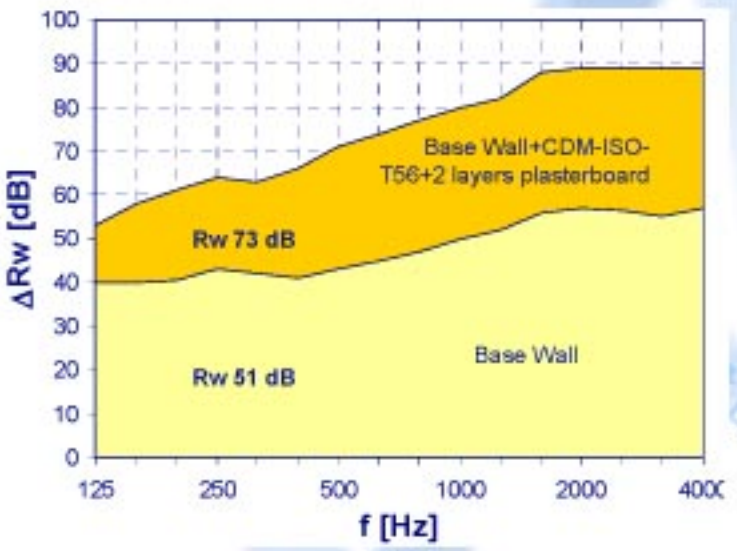
CDM-ISO-T

CDM-ISO-T Resilient Sound Insulation Battens are designed to optimise the sound insulation of walls. The battens are direct fixed to the existing wall without the need for independent framework. Plasterboard or other wall boards can then be fixed to the battens.

Two standard types are available
CDM-ISO-T-56, creates 56mm void
CDM-ISO-T-96, creates 96mm void



Other void depths available on request

Advantages
1 optimises sound insulation for a given additional wall
2 can be used for most additional dry wall constructions
3 can be used for several applications
4 easy to install

Example: 190mm brick wall; improvement 22dB

Installation guidelines:

1. Install perimeter and base isolation strips (CDM-ISO-PERIMETERSTRIP);

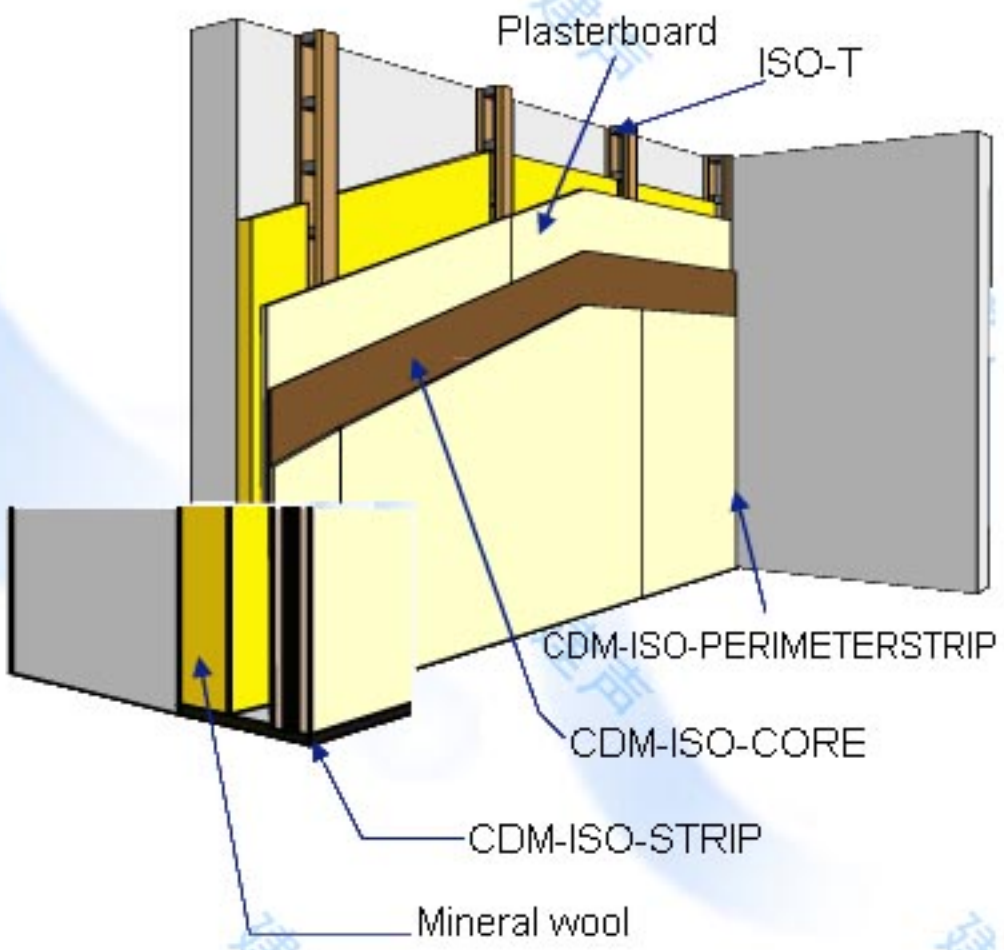
2. Fix CDM-ISO-T batten to the wall at approximately 600mm centres to match the joints of the first layer of plasterboard or wall board;

3. Install low density mineral fibre between battens;

4. Fix first layer of plasterboard or wall board to CDM-ISO-T battens ensuring that it butts tightly to the perimeter and base isolation strips;

5. Fix damping sheet and then additional layers of plasterboard (fixings must not touch supporting wall);

6. Skim plaster and paint to finish.



Installation of the CDM-ISO-T battens

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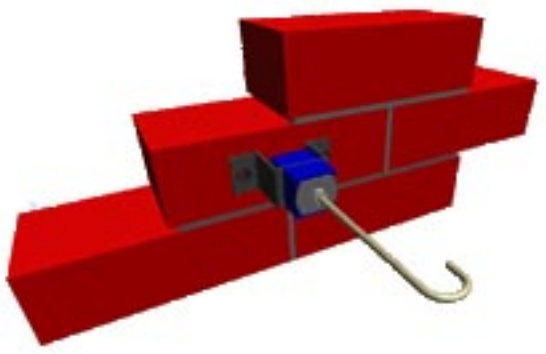
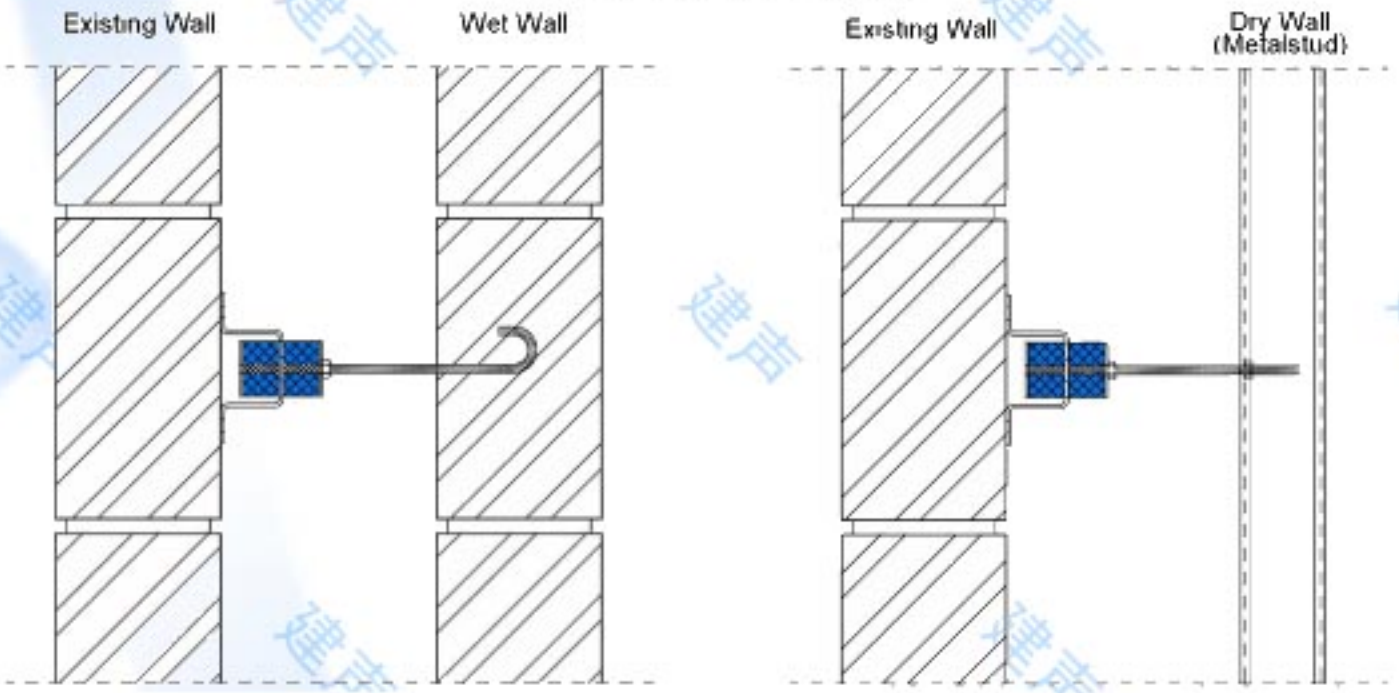


CDM-ISO-WH

The CDM-ISO-WH resilient wall tie enables walls to be mechanically tied together without rigidly connecting them.

1 Maximises sound insulation
2 Available with straight rod for dry walls or with hook(s) for wet walls
3 Easy to install
4 All metal elements in stainless steel
5 Min. void depth = 60mm

Application examples



Artemovsk 38 (A38) is a new floating meeting place in Budapest, on the Danube river, close to two universities and vibrant campuses. The thoroughly refurbished former rock transporting barge now accomodates a restaurant, a bar and a 160 sqm concert room.

Decoupling the structures of the concert room, inside the steel boat body, with excellent vibration transmitting properties, left the acoustical consultants with no other option than creating a box-in-the-box solution.

The positive feed-back of the first artists giving concerts on the boat, and the reception by the press justified all the efforts that was put into the vibration and room acoustical design. CDM supplied suspension elements for the walls and ceiling of the concert room.

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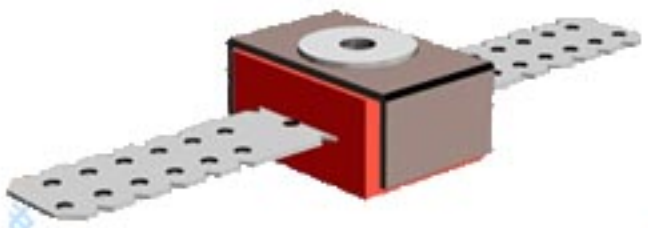


CDM-ISO-QR

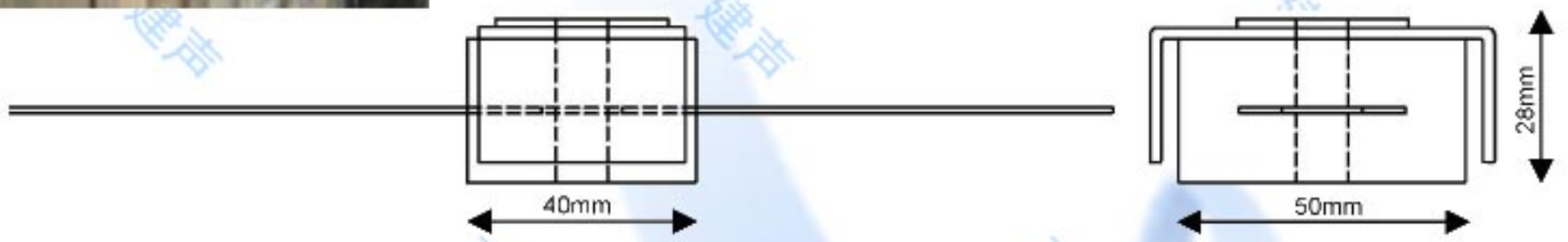
The CDM-ISO-QR resilient wall fixing enables dry wall systems to be mechanically connected (e.g. for practical or stability reasons), but without transmitting audible energy

1 Maximises sound insulation
2 Easy-to-install
3 For voids from 40 to 60mm

The patented system applies a precompression force of approx. 500N onto the standard plasterboard fixation strip in galvasteel. At that moment the metal C-channel touches the structural wall behind (via its legs).

When used in combination with CDMISO- STRIP under the base and along the perimeter of the light wall system, a complete acoustical decoupling is realized.

The system offers a cost-effective and easy-to-install solution, along with the acoustical performance of a fully independent plasterboard wall system.



Installation:

1. Install M8 fixing through CDM-ISO-QR element

2. Compress fixing until C-channel is in contact with substrate.

3. Fold flaps at edge of rubber.

4. Use self-tapping screws to fix into wall rail or stud.

5. Ensure that base and perimeter of plasterboard wall is fully de-coupled from non-isolated structures by CDM-ISO-STRIP.

f(Hz)	Ro (dB)	R (dB)
100	35.2	43.6
125	26.7	39.9
160	27.6	42.1
200	26.3	45.1
250	26.9	47.6
315	25.0	43.8
400	30.8	46.6
500	29.5	47.5
630	31.8	50.4
800	35.3	52.7
1000	38.4	55.4
1250	43.1	57.6
1600	45.1	61.2
2000	47.1	63.9
2500	49.5	66.7
3150	51.2	70.1
4000	53.8	72.9
5000	55.4	74.9
Rw (dB)	36.0	54.0

Test anno 2004 (lab WTCB):

Ro = 100mm gypsum blocks
R = basic wall+QR+2 BA13