



Floating Floor System Resilient Surface Mat

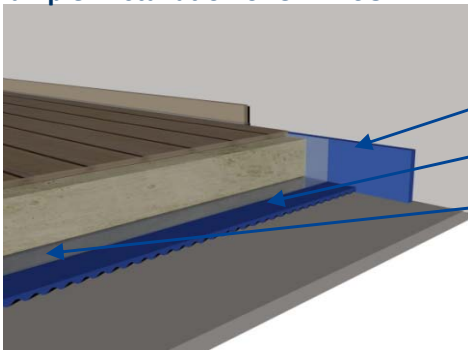


CDM-ISO-MAT Resilient Surface Mat is a continuous mat underlayment that is used to resiliently float wet and dry floor constructions to substantially improve impact and sound transmission.

CDM-ISO-MAT is made of **CDM-RR** recycled rubber granules bonded by polyurethane glue. Different densities are available to accommodate different loads, resulting in different stiffness characteristics. **CDM-RR** materials are especially known for their low dynamic / static stiffness, making these materials ideal for use as acoustical isolators. The mats either come with a flat or a wavy surface profile. Wavy layouts improve the shape factor effect (waves always pointing downwards), resulting in a higher performance for the same overall thickness. **CDM-RR** mats are also very resistant to creep and fatigue, meaning that the performance is guaranteed long term.



Example: Installation of CDM-ISO-MAT – WET SETUP



CDM-ISO-PERIMETER STRIP lateral isolation (usually also made of **CDM-RR** – flat layout)

CDM-ISO-MAT isolation layer (installed without overlap with joints max. 0.04" [1 mm] wide)

Polyethylene waterproof membrane (in case concrete is directly poured on top)

Required Data for Design:

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



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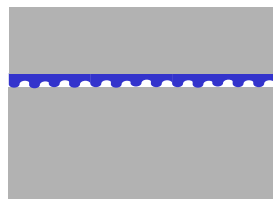
FIELD OF APPLICATION

CDM-ISO-MAT are full surface mats used as a resilient underlay beneath a floating built-up floor made of concrete or wood. Significant improvements in both airborne and structure-borne noise isolation of the floor can be achieved with **CDM-ISO-MAT**.



DESCRIPTION

Basically any of the CDM-SOLIDS materials can be used as a **CDM-ISO-MAT**. However, since the design pressure is usually low, it is recommended to use materials functioning optimally at low pressures. Mats are best used when the height at disposal is small (between 0.1" and 1.0"), as in that case discrete isolator setups are limited.

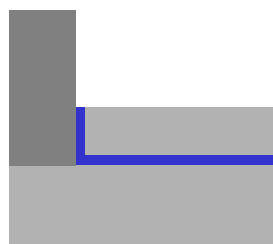


Typical **CDM-ISO-MAT** materials include:

- CDM-PF → 91, 92, 93
- CDM-RR → 42, 43, 45 & MT product line
- CDM-RC → 13, 15, 17 (mostly used for dry floor systems)

Material-specific datasheets help determine the type and thickness.

CDM-RR products can be made with a « wavy » profile on one side of the mat. The wavy side is typically installed downwards (see figure on the left), in order to optimize the shape factor and achieve a lower mat stiffness, improving acoustical isolation at a lower thickness.



For lateral decoupling from the surrounding walls and islands (columns, walls, etc.), the same material (and thickness) can be used. However, it is best not to use with a wavy layout to avoid penetration of water and dust.

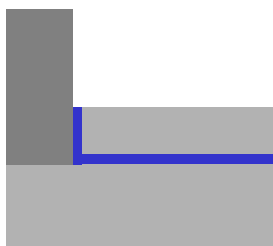




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RECOMMENDATIONS



When applying wet concrete, it is recommended to protect the resilient material, the lost formwork plate, and perimeter isolation with a plastic moisture barrier which is attached to the surrounding walls a minimum of 3" above the finished floor height using tape.

For a dry floor setup, it is recommended to use at least two layers of 3/4" [~19 mm] wood (OSB, MDF, plywood, etc.), staggering seams and nailing sequential layers to the layer below.





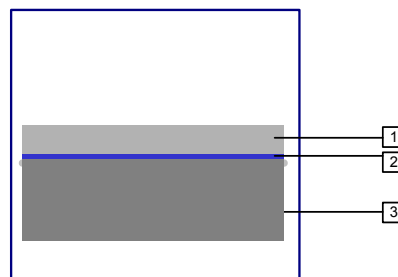
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CDM-RR-43015/7 – TEST RESULTS

CDM product tested	CDM-RR type 43015/7
Description	As elastic underlay for a floating floor in concrete
Tested by	Laboratoria Nacional de Engenharia Civil (PT)
Test site	LEAc (PT)
Test date	17/10/2005
Test method	Following ISO 717-2 (ed. 1997)
Measured parameter(s)	Lnw (Ci)

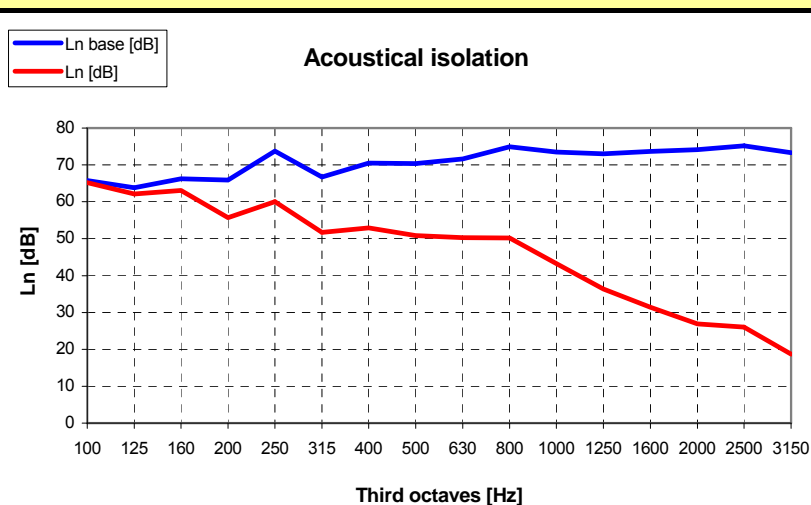
Setup

- 1) floating floor = 1.57" sand/cement screed
- 2) CDM-RR type 43015/7
- 3) 5.51" reinforced concrete
- 4) NA
- 5) NA
- 6) NA
- 7) NA
- 8) NA
- 9) NA
- 10) NA



Results

Frequency [Hz]	Ln base [dB]	Ln [dB]
100	65,7	65,2
125	63,8	62,1
160	66,2	63,1
200	65,9	55,7
250	73,7	60,0
315	66,7	51,7
400	70,5	52,9
500	70,3	50,8
630	71,6	50,3
800	74,9	50,2
1000	73,5	43,3
1250	73,0	36,3
1600	73,6	31,4
2000	74,1	26,9
2500	75,2	26,0
3150	73,3	18,7
Rw(C;Ctr) [dB]	56(-1;-5)	-
STC	75	-
Lnw(Ci) [dB]	-	58(1)
IIC	-	60





Floating Floor System Resilient Surface Mat

CDM-MTA-8/4 – TEST RESULTS

CDM product tested	CDM-RR type MTA-8/4		
Description	As elastic underlay for a floating floor in concrete		
Tested by	Sound Research Laboratories Ltd. (UK)		
Test site	SRL lab in Sudbury, Suffolk (UK)		
Test date	22/03/2006		
Test method	Following ISO 717-1 and ISO 717-2 (ed. 1997)		
Measured parameter(s)	Rw (C, Ctr) & Lnw (Ci)		
Setup			
1) floating floor = 2.56" sand/cement screed			
2) CDM-RR type MTA-8/4			
3) 0.59" sand/cement screed (levelling & pressure layer)			
4) base floor = 5.9" hollow core concrete segments			
5) NA			
6) NA			
7) NA			
8) NA			
9) NA			
10) NA			
Results			
Frequency [Hz]	R [dB]	Ln [dB]	<p style="text-align: center;">Acoustical isolation</p>
50	36,4	51,9	
63	39,2	57,7	
80	41,7	56,9	
100	41,7	61,5	
125	39,9	63,8	
160	39,7	67,2	
200	44,0	63,7	
250	45,9	62,2	
315	49,1	59,5	
400	51,7	58,5	
500	54,4	52,4	
630	56,9	49,6	
800	58,9	48,5	
1000	60,5	45,2	
1250	61,5	44,8	
1600	64,3	42,2	
2000	67,5	39,7	
2500	70,3	39,3	
3150	73,0	36,2	
4000	73,5	32,2	
5000	76,4	26,8	
6300	79,5	21,6	
8000	80,9	14,8	
10000	78,5	11,6	
Rw(C;Ctr) [dB]	57(-1;-5)	-	Rw base(C;Ctr) [dB] = 53(-1;-4)
STC	60	-	STC base = 56
Lnw(Ci) [dB]	-	56(1)	Lnw base(Ci) [dB] = 76(-11)
IIC	-	53	IIC base = 36





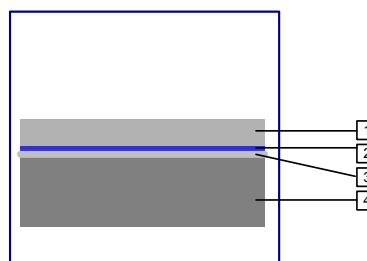
Floating Floor System Resilient Surface Mat

CDM-MTD-6.0 – TEST RESULTS

CDM product tested	CDM-RR type MTD-6,0
Description	As elastic underlay for a floating floor in concrete
Tested by	Sound Research Laboratories Ltd. (UK)
Test site	SRL lab in Sudbury, Suffolk (UK)
Test date	22/03/2006
Test method	Following ISO 717-1 and ISO 717-2 (ed. 1997)
Measured parameter(s)	Rw (C, Ctr) & Lnw (Ci)

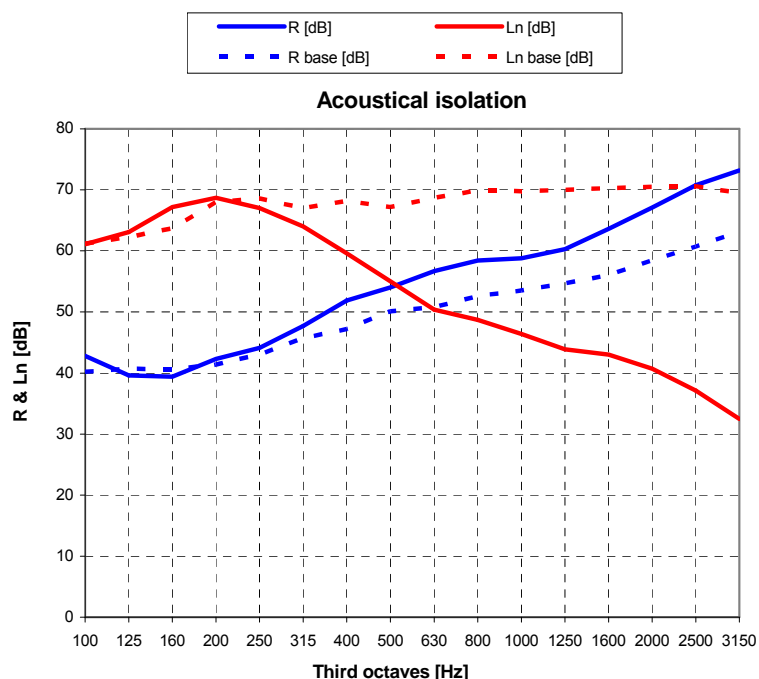
Setup

- 1) floating floor = 2.56" sand/cement screed
- 2) CDM-RR type MTD-6,0
- 3) 0.59" sand/cement screed (levelling & pressure layer)
- 4) base floor = 5.9" hollow core concrete segments
- 5) NA
- 6) NA
- 7) NA
- 8) NA
- 9) NA
- 10) NA



Results

Frequency [Hz]	R [dB]	Ln [dB]
50	38,3	62,7
63	40,1	57,9
80	42,3	55,5
100	42,8	61,1
125	39,6	63,1
160	39,4	67,2
200	42,3	68,7
250	44,1	67,0
315	47,7	64,0
400	51,9	59,6
500	54,0	55,0
630	56,7	50,4
800	58,4	48,7
1000	58,8	46,4
1250	60,3	43,9
1600	63,6	43,0
2000	67,1	40,7
2500	70,8	37,1
3150	73,2	32,5
4000	72,3	28,1
5000	72,7	23,6
6300	75,2	18,5
8000	74,3	15,0
10000	71,6	14,5



Rw(C;Ctr) [dB]	56(-1;-5)	-	Rw base(C;Ctr) [dB] = 53(-1;-4)
STC	59	-	STC base = 56
Lnw(Ci) [dB]	-	58(1)	Lnw base(Ci) [dB] = 76(-11)
IIC	-	52	IIC base = 36

CDM-ISO-FLOOR

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Floating Floor CDM-ISO-MAT

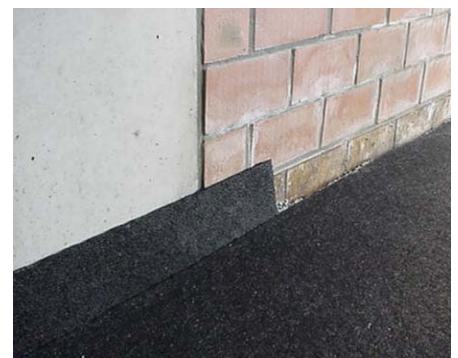
Job Type	Supermarket under and next to dwellings
Vibration Source	Rolling noise of forklifts and shopping carts
Client	Delhaize supermarket chain
Acoustic Consultant	EVA International, Bruges
Installation	2005
Area	± 478 yard ²

In order to reduce the disturbing noise generated by rolling forklifts or shopping carts in the supermarket towards neighbors living above or in the adjacent building, the acoustical consultant of the well-known supermarket chain Delhaize decided to install a floating floor system.

For practical reasons, a surface mat was chosen of the type CDM-RR with a wavy layout, namely CDM-43017/9. The material was delivered in rolls, guaranteeing an easy & quick installation. The lanes were put exactly next to each other, leaving no gaps or holes.



Along the walls at the perimeter of the floor, and also around the columns, the decoupling was done with an upstanding (glued) part of CDM-43 in 0.39 in (full thickness). Before pouring the concrete (approx. 3.94 in thick, steel-reinforced), a plastic protection sheet was installed over the elastic mat to prevent concrete water from penetrating the mat.



CASE STUDY– CDM-ISO-FLOOR

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