

Akustik +
sylomer[®]
by getzner



VIBRATION ISOLATION OF BUILDINGS

AMC
MECANOCAUCHO

ABOUT AMC MECANOCAUCHO

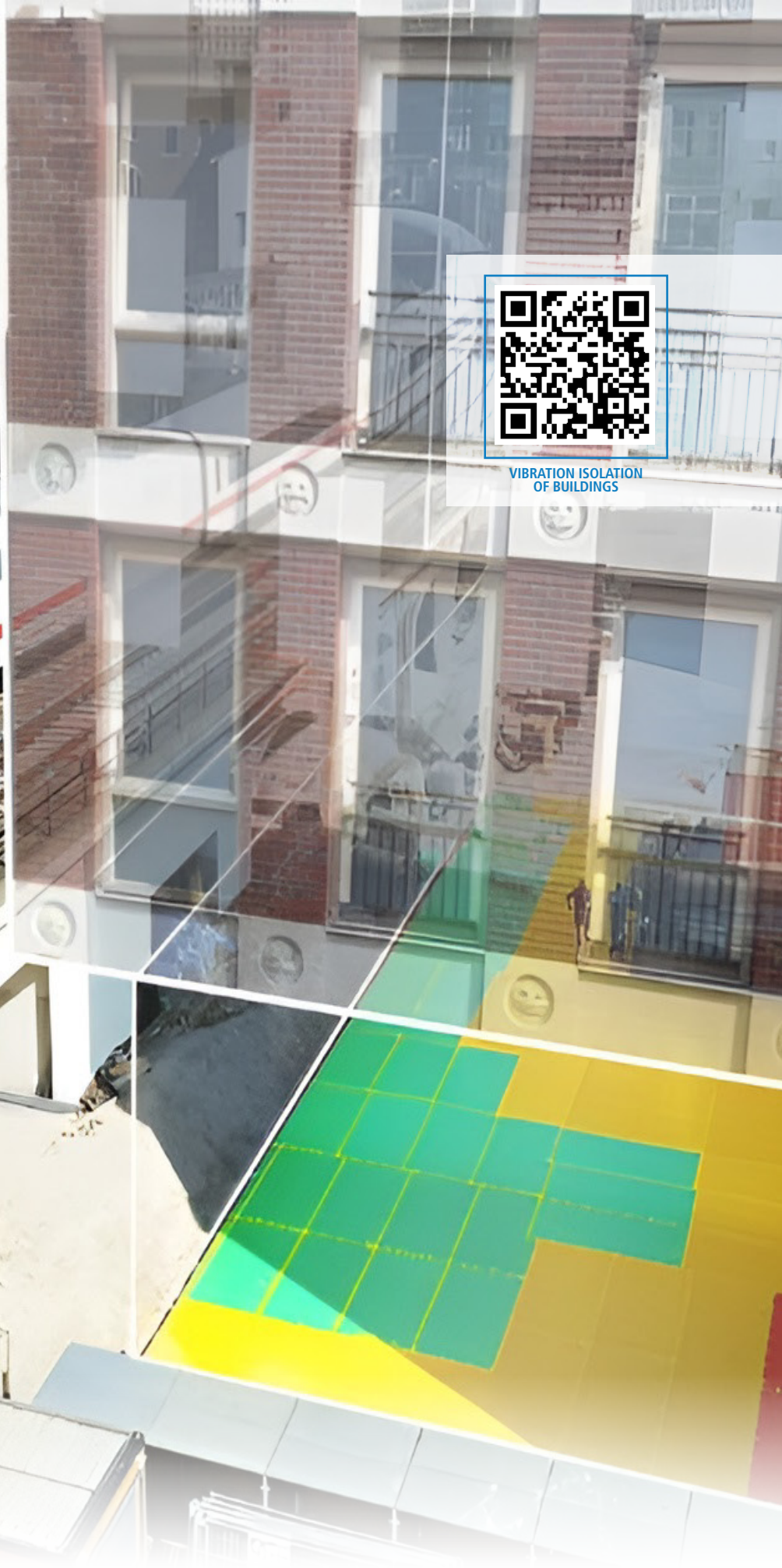
Aplicaciones Mecánicas del Caucho (AMC) is a company that designs and produces anti-vibration mounts as well as noise insulation composites for the industrial and building sectors.

Since 1969 we have been developing noise and vibration solutions for a wide range of applications. To meet the demands of each project our products combine the properties of different isolating materials such as rubber, metal, springs and Sylomer.

Our dedicated engineering team are on hand to offer technical support with vibration calculations and product advice. On our website akustik.com you will find access to an extensive range of technical data for our products as well as calculation tools such as our acoustic mount selector. This tool allows the input of your system specifications and provides a recommendation of ceiling and floor mounts to meet the requirements of your project. Our library of acoustic test data is also available to view using our dB finder tool, this details the acoustic data we have obtained for various ceiling, wall and floor systems.

With a wide variety of clients served from across the world, we are ready to provide you with a personalised acoustic solution to your problem.



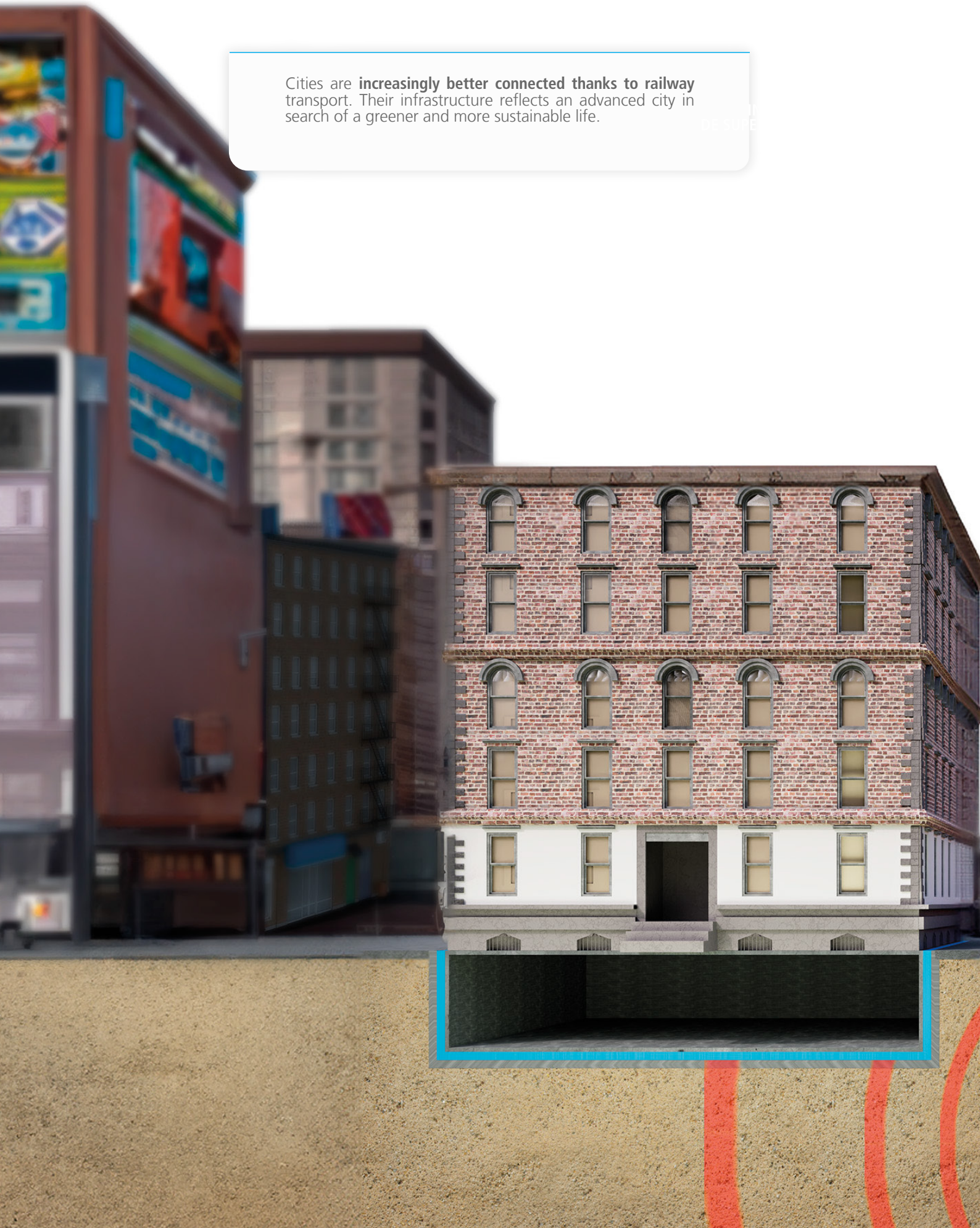


VIBRATION ISOLATION
OF BUILDINGS

AMC Solutions for buildings

CONTEXT

Cities are **increasingly better connected** thanks to railway transport. Their infrastructure reflects an advanced city in search of a greener and more sustainable life.



Los supermercados en zonas urbanas son muy prácticos y cómodos debido a su tamaño más pequeño. Su proliferación es síntoma de la gran rentabilidad de estos establecimientos, pero chocan con el derecho al descanso de los vecinos colindantes. Urban supermarkets, practical and profitable due to their small size, often conflict with residents' right to rest.

However, this **entails a risk for adjacent buildings** to suffer from noise and vibrations generated by trains and subways.

BOX IN BOX

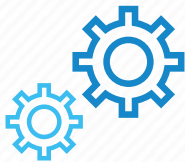
CARGA Y DESCARGA

MONTACARGAS



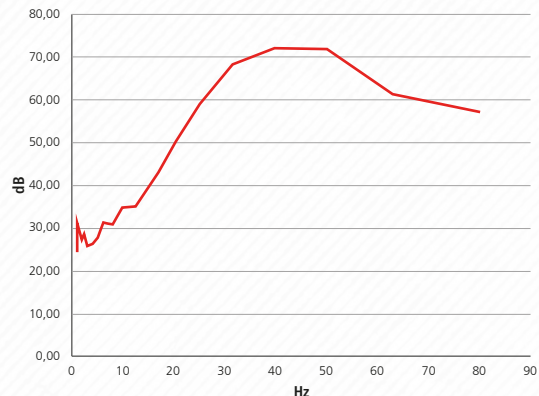
AMC Solutions for buildings

CONTEXT



If the track is not properly insulated and the acoustic specialist foresees an excessive vibration level due to the proximity of the building:

The housing developer needs to [passively isolate the building](#) structure to comply with Royal Decree 1367/2007, which establishes the maximum permissible levels of vibration immision.



BUILDING USE	LIMIT VALUES FOR VIBRATION IMMISION L_{aw}
RESIDENTIAL OR HOUSING USE	75 dB
HOSPITAL	72 dB
EDUCATIONAL OR CULTURAL	72 dB

AMC Solutions for buildings

CONTEXT

AMC SOLUTIONS – MICROCELLULAR POLYURETHANE

AMC offers solutions with microcellular polyurethane. The Sylomer and Sylodyn ranges have the approval of the German Institute for Building Technology (DIBt) for use in construction works.

by getzner
sylomer®



Large support areas with lower load such as foundations and footings.



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ISOLATION STRATEGIES

1. ENTIRE FOUNDATION SURFACE AND WALLS



Easy execution

Easy implementation in projects

Suspension stability

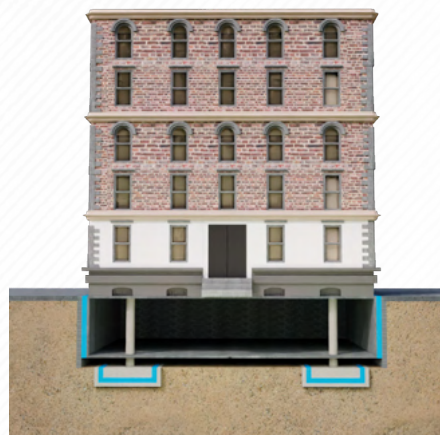
2. FOOTINGS AND WALLS

Greater possibility of achieving the desired natural frequency

Easy execution

Easy project implementation

More economical



3. FROM ONE LEVEL UPWARDS: COLUMNS, WALLS, AND ELEVATOR SHAFTS



Greater possibility of achieving the desired natural frequency

Elastic decoupling from a certain level

More complex to implement in the structural project, needs to be planned from the beginning

Easy to implement in the project

More economical

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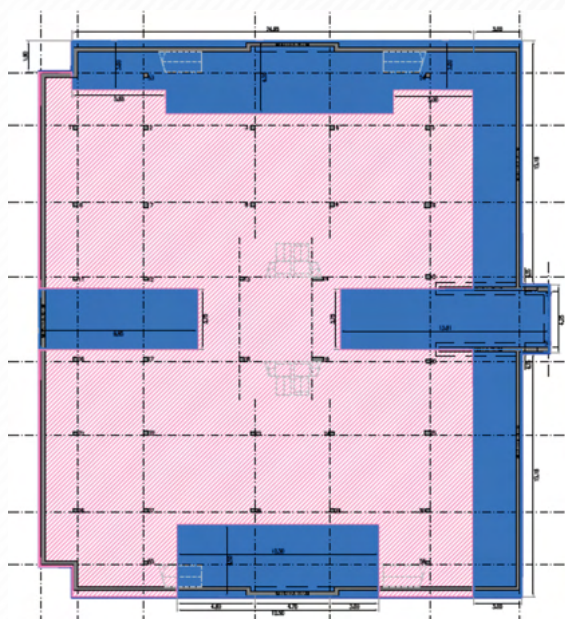
EXAMPLES OF ISOLATION STRATEGIES

1. ENTIRE FOUNDATION SURFACE AND WALLS

RESIDENTIAL BUILDING NEGUBIDE – GETXO (2019)

MATERIAL: Sylomer

THICKNESS: 25 mm



RESIDENTIAL BUILDING CALLE OBLIT – BARCELONA (2020)

MATERIAL: Sylomer

THICKNESS: 25 mm



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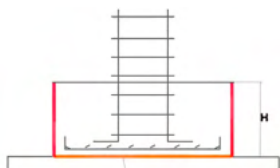
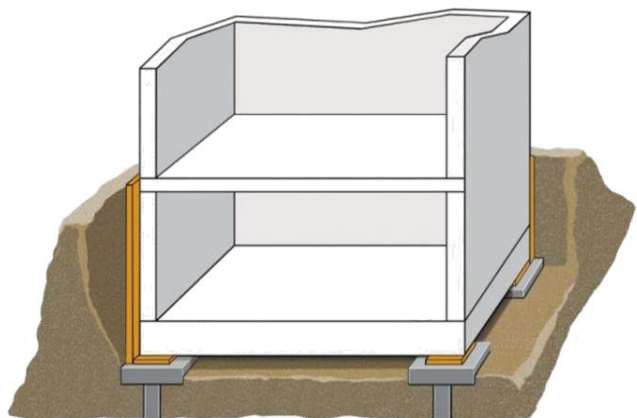
EXAMPLES OF ISOLATION STRATEGIES

2. FOOTINGS AND WALLS

RESIDENTIAL BUILDING AV. TORRE VINCENS – LLEIDA (2016)

MATERIAL: Sylomer

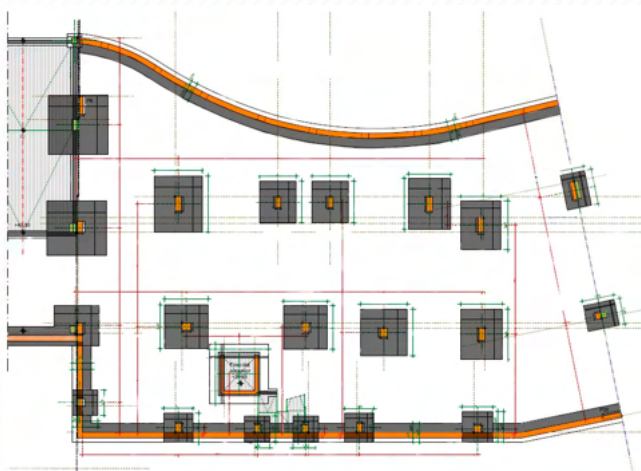
THICKNESS: 12,5 mm



RESIDENTIAL BUILDING ELGOIBAR (2019)

MATERIAL: Sylomer

THICKNESS: 25 mm



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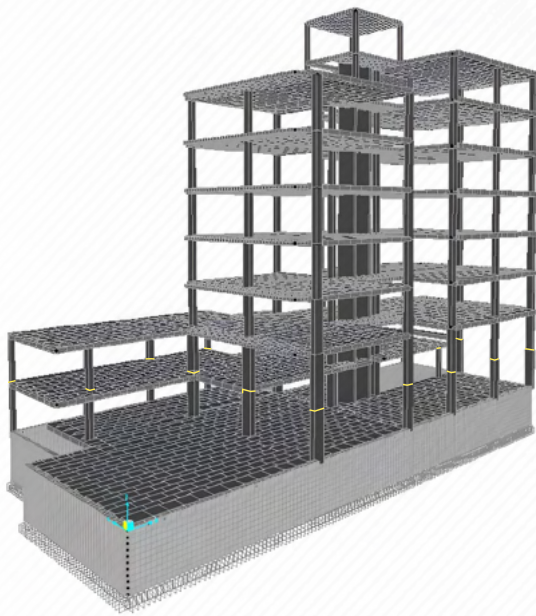
EXAMPLES OF ISOLATION STRATEGIES

3. FROM ONE LEVEL UPWARDS: COLUMNS, WALLS, AND ELEVATOR SHAFTS

RESIDENTIAL BUILDING PLAZA SAGRADA FAMILIA – BARCELONA (2019)

MATERIAL: Sylodyn

THICKNESS: 25 mm



BUSINESS BUILDING CALLE OMBÚ – MADRID (2021)

MATERIAL: Sylodyn

THICKNESS: 25 mm



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CASE STUDY

A developer tested the effectiveness of Sylomer by simulating the surface load of the building with two concrete blocks: one placed directly on the ground and the other isolated with Sylomer.

Vibration measurements were carried out simultaneously with the same train passages and in accordance with Decree 213/2012.

MEASUREMENT POINT	MAXIMUM OVERALL VIBRATION VALUE L_{aw}
BLOCK WITHOUT INSULATION	91 dB
BLOCK WITH SYLOMER	68 dB

At the end of the work, a new measurement was carried out, obtaining a L_{aw} value of 66.6 dB, therefore below the 75 dB limit established by the standard.



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REFERENCES

PROJECT	DATE	PROJECT TYPE	FOUNDATION AREA	LOCATION
Teatro Nacional de Cataluña	1991	Theater	The entire surface	Barcelona
Edificio C/ Joan Güel	may-15	Residential building	Columns	Barcelona
Edificio Av. Torre Vincens	may-16	Residential building	Footing	Lleida
Edificio C/ Fernando	jan-17	Residential building	Columns	Madrid
Edificio C/ Jacinto Laballa	jun-17	Residential building	Columns	Valencia
Edificio C/ Pujades	jun-17	Residential building	Columns	Barcelona
Edificio Las Terrazas	jul-17	Residential building	Columns	Barcelona
Edificio Av. Onze de Setembre	jan-18	Residential building	Footing	Lleida
Edificio C/ Marcelino Suarez 55	aug-18	Residential building	Footing	Oviedo
Edificio C/ Marcelino Suarez 65	aug-18	Residential building	Footing	Oviedo
Escola Ignasi Iglesias	oct-18	School	Footing	Barcelona
Edificio C/ Negubide	jan-19	Residential building	Footing	Getxo
Edificio C/ Llum	jan-19	Residential building	The entire surface	Valencia
Edificio C/ San Marcos	mar-19	Residential building	Columns	Madrid
Edificio Plaza Sagrada Familia	apr-19	Residential building	Columns	Barcelona
Edificio Elgoibar	may-19	Residential building	Columns	Elgoibar
Edificio Iradier	may-19	Residential building	Footing	Barcelona
Edificio C/ Just Oliveras	aug-19	Residential building	The entire surface	Hospitalet de Llobregat
Edificio Ronda Guinardó	oct-19	Residential building	Footing	Barcelona
Hotel Candina	nov-19	Residential building	Columns	Santander
Edificio Plaza Elíptica	feb-20	Hotel	Columns	Madrid
Edificio C/ Oblit	may-20	Residential building	Columns	Barcelona
Edificio C/ Escolapi Cancer	nov-20	Residential building	The entire surface	Barcelona
Edificio C/ Ombu Acciona	feb-21	Residential building	Footing	
Edificio C/ Meridiana	jul-21	Business building	Columns, cores and slab	Barcelona
Edificio C/ Gran Vía	jul-21	Residential building	Columns	Barcelona
Edificio Carrer Vallparda	dec-21	Residential building	Footing	Hospitalet de Llobregat
Edificio C/ Montsec 26	feb-22	Residential building	Columns	Barcelona
Edificio Carrer Vallparda 116	mar-22	Residential building	Footing	Hospitalet de Llobregat
Edificio Patraix	aug-22	Residential building	Perimeter insulation	Valencia
Edificio C/ Binefar	feb-23	Residential building	Footing	Barcelona
Edificio Lot 4 Arriassa	mar-23	Residential building	Columns	Barcelona
Edificio C/Valle de Ayora	mar-24	Residential building	Footing	Valencia
Edificio C/ Campos Crespo	apr-24	Residential building	Footing	Valencia
113 viv Berenice	jul-24	Residential building	Columns	Madrid
120 viv Molí Mistral	nov-24	Residential building	Footing	Valencia
Retirement home	jun-25	Residential building	Footing	Madrid
Edificio Ronda Sant Pau 46	jul-25	Residential building	Columns and walls	Barcelona
Edificio C/ Pujades 231	nov-25	Residential building	Columns	Barcelona
Edificio C/ Enric Roca Peralta 10	nov-25	Residential building	Footing	Lleida

VIBRATION ISOLATOR PRO

Análise la vibración de su aplicación y encuentre un soporte antivibratorio que ofrezca un aislamiento de la vibración.

Peso Kg ☐ lbs ?

Nº de soportes ?

Frecuencia Hz ?

Aplicación Todas Hz ☐ RPM ?

Atenuación (%) % ☒ ?

☐

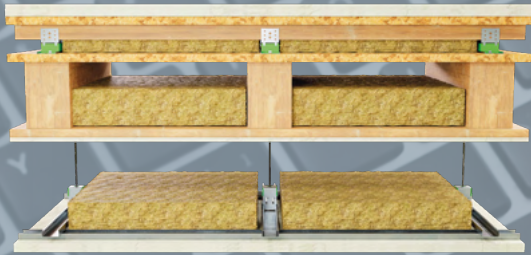
 Not Failsafe ?

BUSCAR

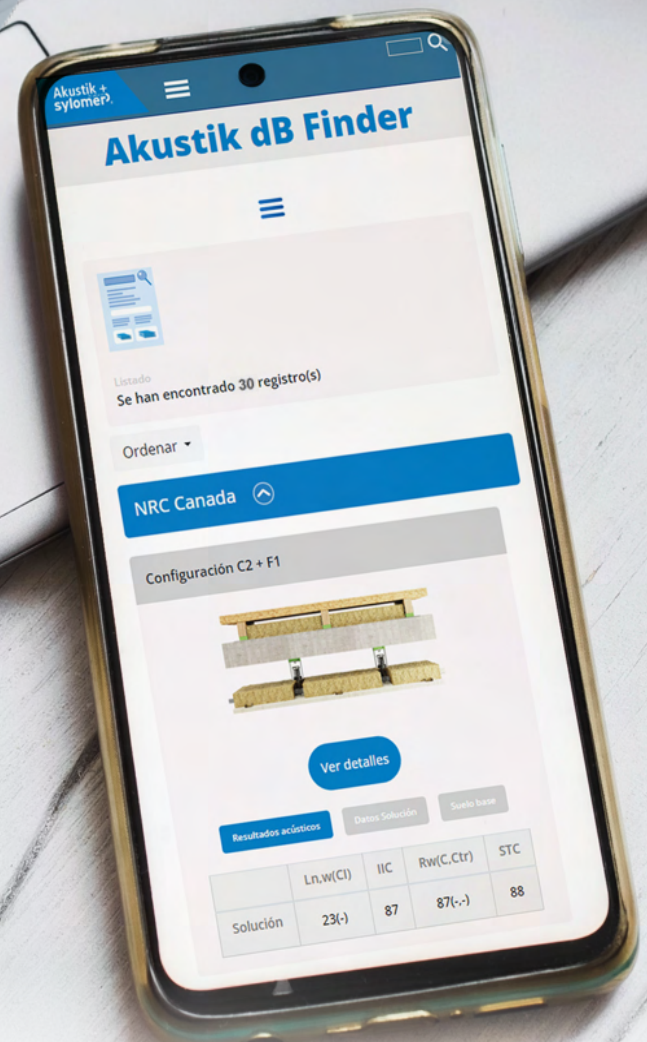
 Failsafe ?

AKUSTIK DB FINDER

Let your phone discover the main disturbing frequencies of your application. The integrated accelerometers of your phone are capable of making an FFT measurement where you will be able to see what are the main frequencies that you need to isolate.



Akustik dB Finder



Resultados acústicos				
Datos Solución				
Suelo base				
	Ln,w(CI)	IIC	Rw(C, Ctr)	STC
Solución	23(-)	87	87(-)	88



Our expertise lies in the building and industrial acoustics field, with a dedicated technical department. We have skilled engineers situated across various countries who are prepared to comprehend your specific situation and offer suitable solutions. Don't hesitate to get in touch with our main office or explore our websites and social media platforms.



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