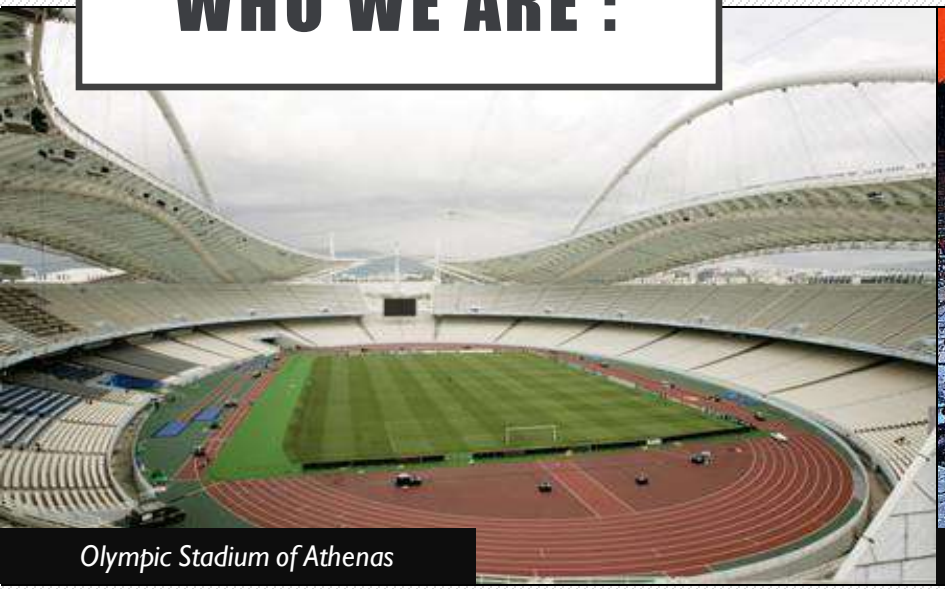
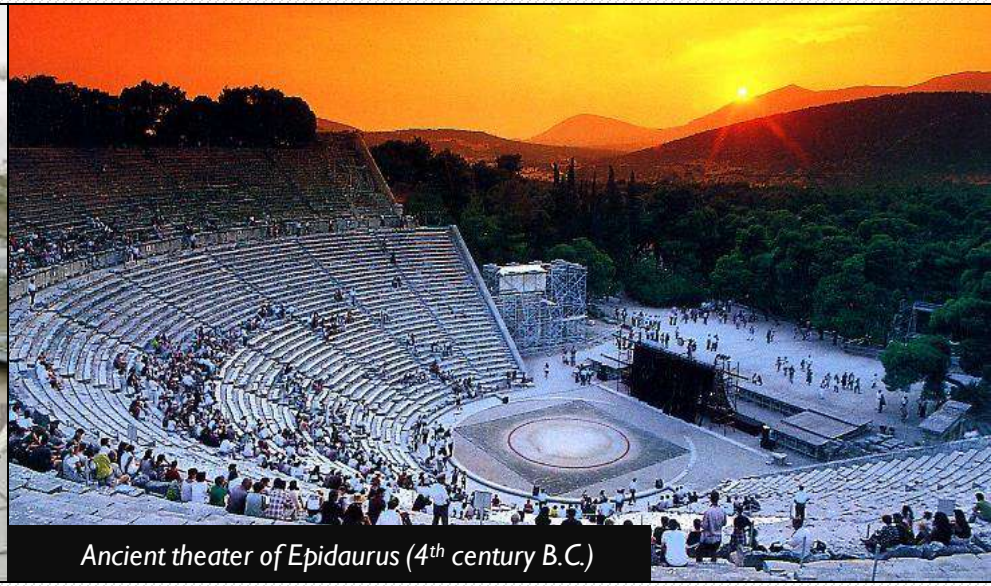
Antonios Argoudelis
B. Eng Industrial Engineering
M. Sc. Environmental and Architectural Acoustics
M. Sc. Project Management (U.T. Sydney)

www.alphacoustic.com
www.antivibration-systems.com

WHO WE ARE :



Olympic Stadium of Athenas



Ancient theater of Epidaurus (4th century B.C.)

- Company Base: Athens, Greece
- CEO Theodor Argoudelis
- C. Eng Mechanical Engineer, pioneer in the field of Acoustics, Noise and Vibration Insulation in Greece, as he has been working in the field **since 1978**.
- Projects around Europe, Middle East, Australia
- Core Values: *Quality, Strong Technical support, Directivity*

DISTRIBUTION NETWORK

SECTOR

- Architectural Acoustics
- Noise Control
- Vibration Control
- Building Sound Insulation
- Advanced Acoustic Products

ARCHITECTURAL ACOUSTICS

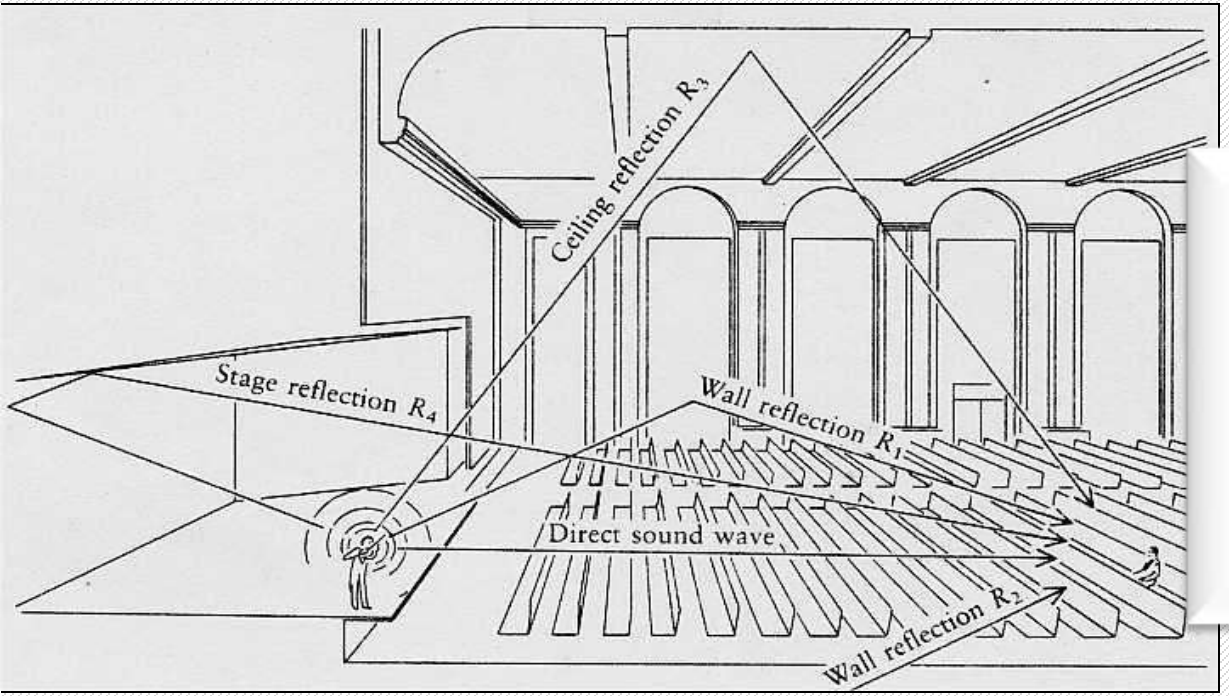
Acoustic Consultancy

Products **ALPHA*coustic***

Turn-key projects

Acoustics Consultancy

Room Acoustics: Absorption – Reflections

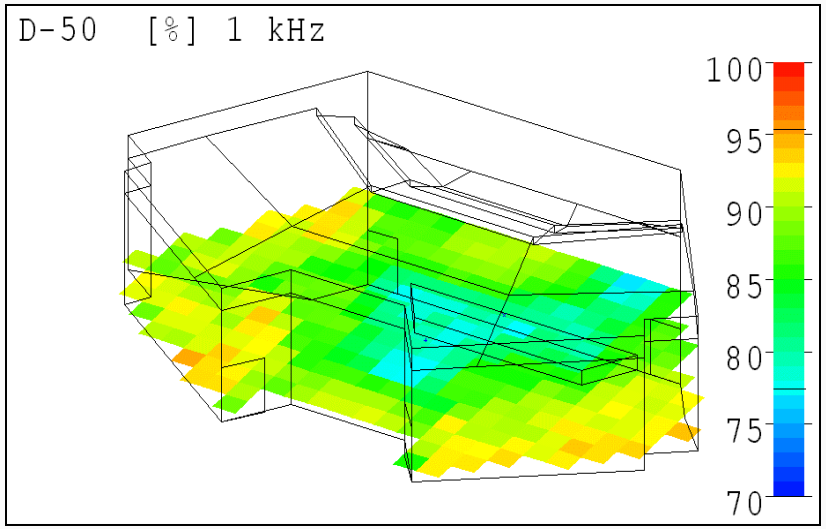


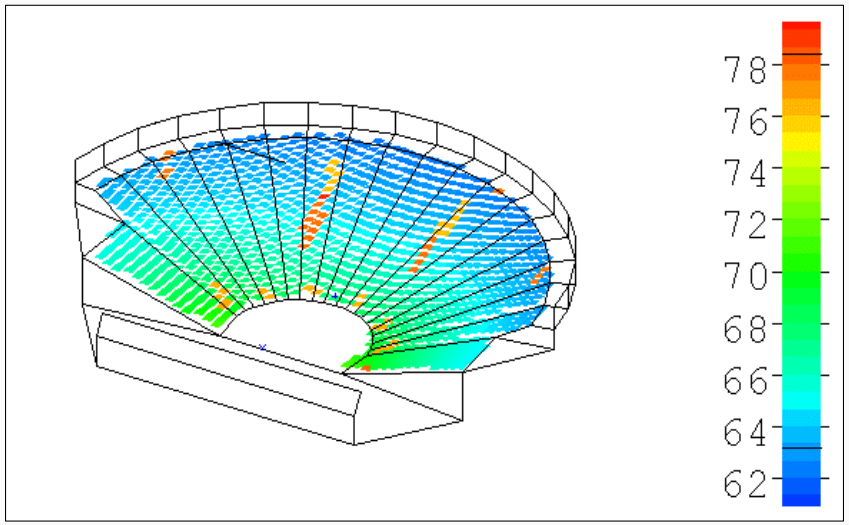
Acoustic Factors:

- Reverberation Time
- Clarity (C 50)
- Articulation Loss (RASTI)
- Echogram
- Definition (D)

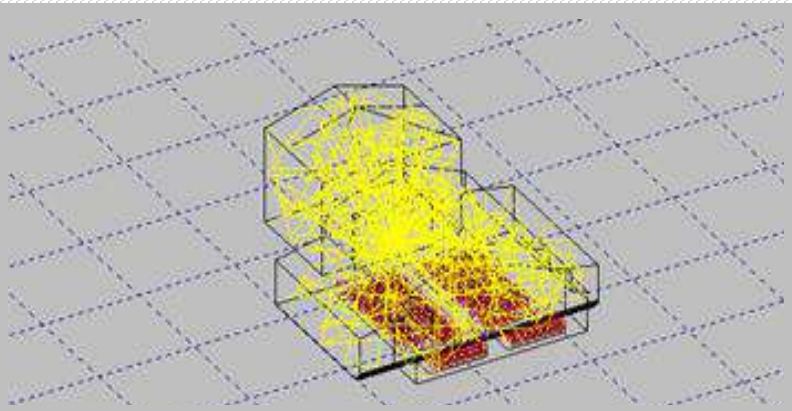
You can hear how your Auditorium will hear like, before it is built (Auralization)

Acoustic Simulations

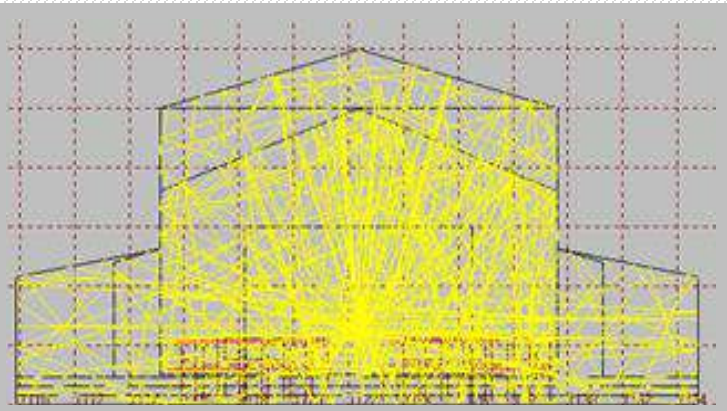




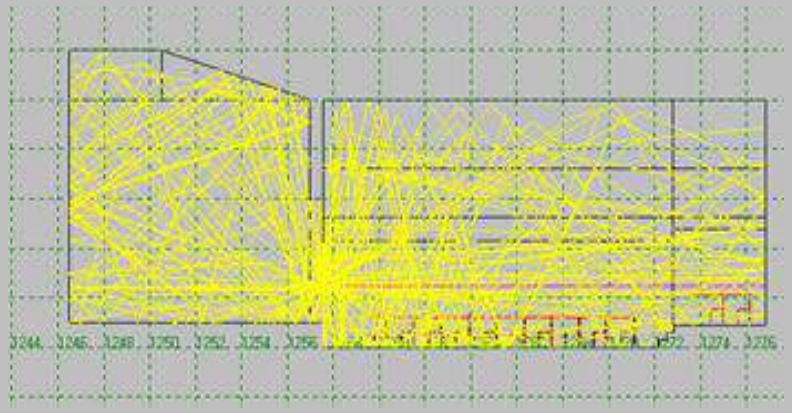
Acoustics Simulations / Ray Tracing



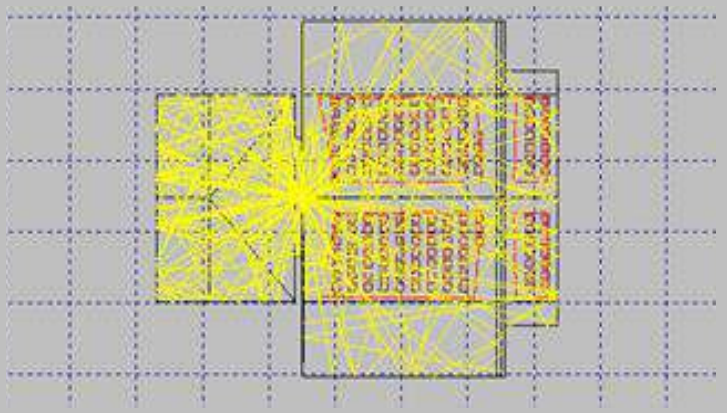
3D PERSPECTIVE



X VIEW

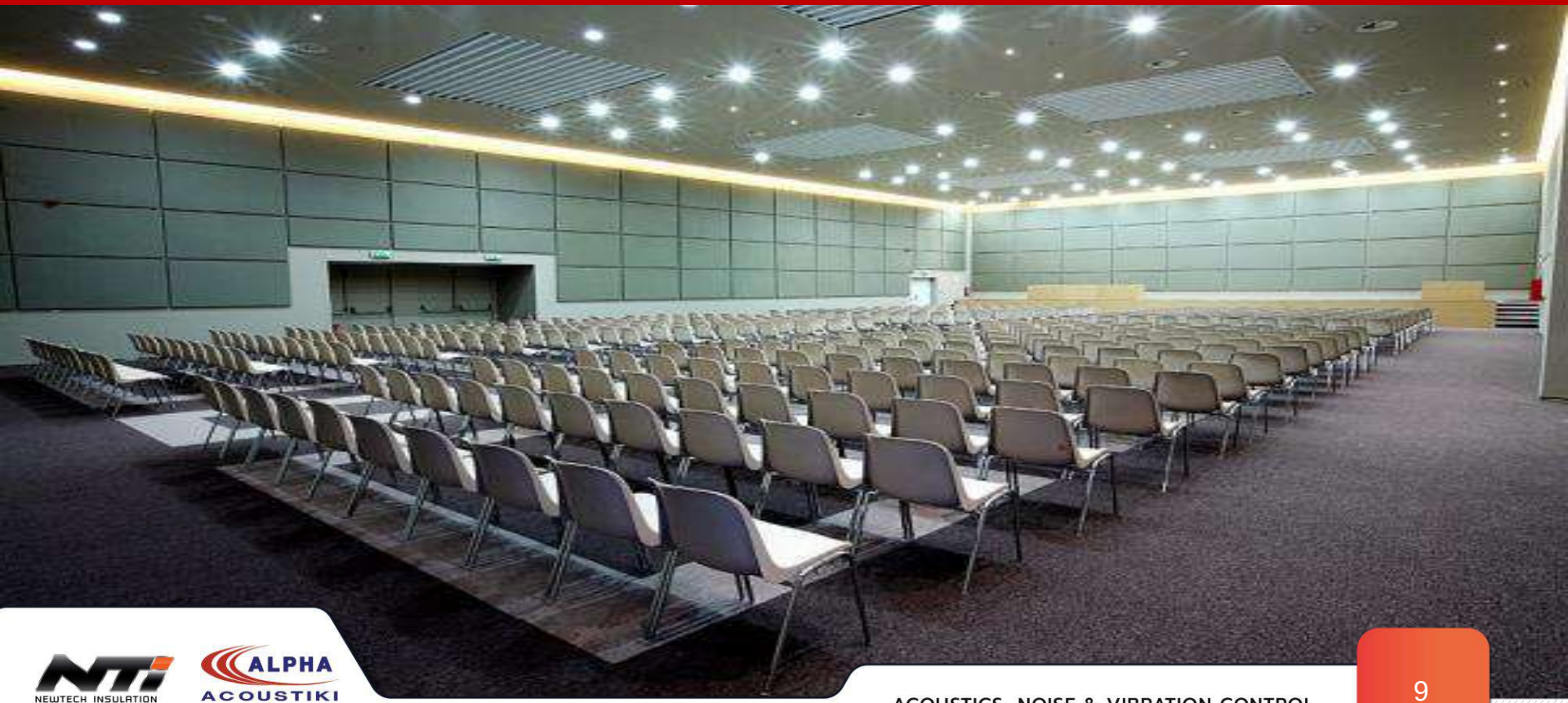


Y VIEW



Z VIEW

Product ALPHAcoustic



ALPHACOUSTIC

TURN KEY ACOUSTIC PROJECTS

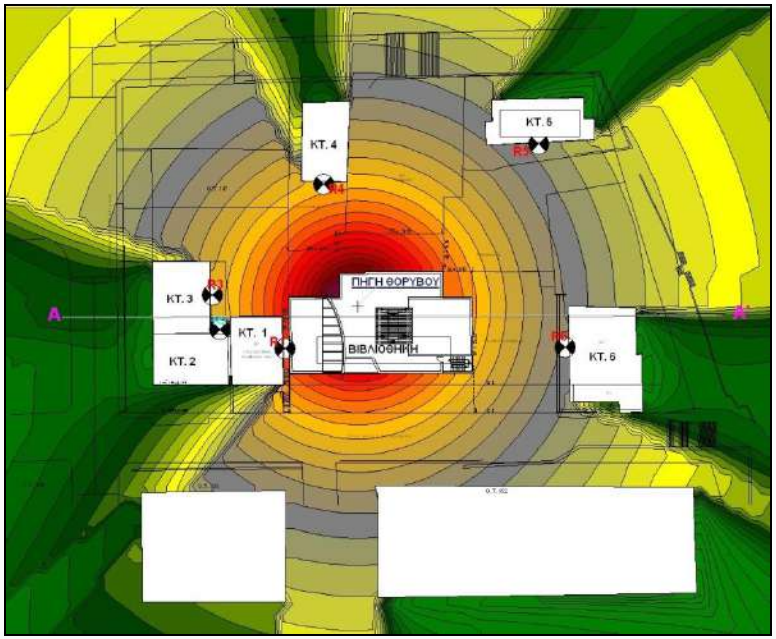
NOISE CONTROL

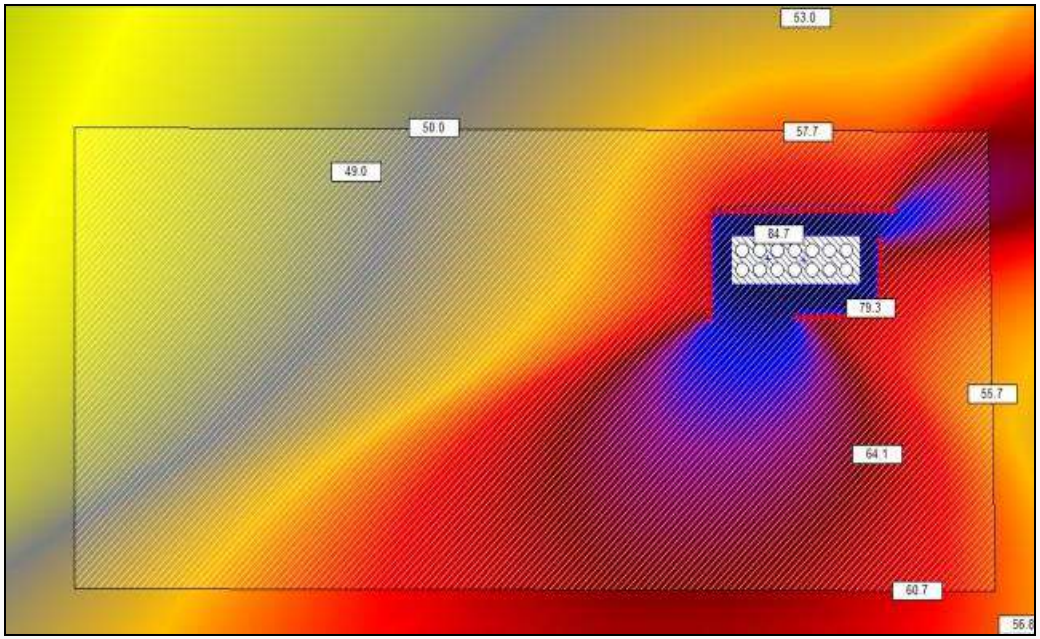
What is Noise?

Unwanted Sound

- Noise Control Consultancy
- Noise Control Products **ALPHA*fon***
- Turn-key projects / Installations

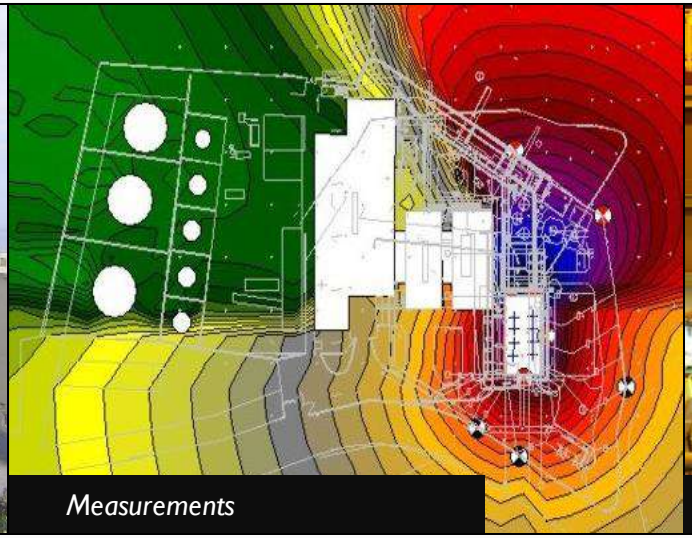
Heating, Ventilation & Air Conditioning



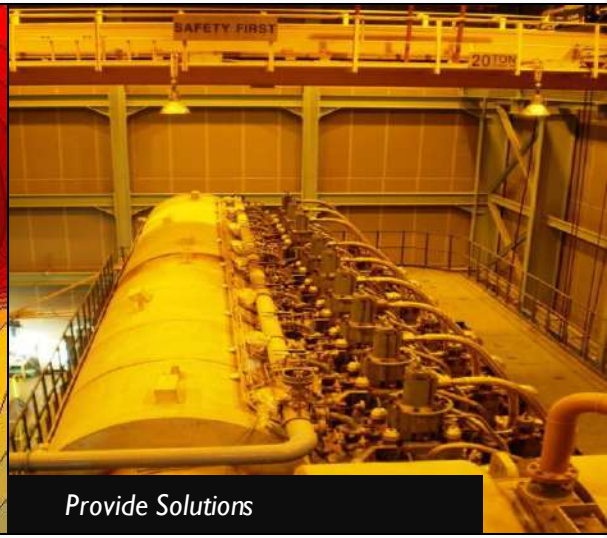


Industrial Noise Consultancy

Prediction



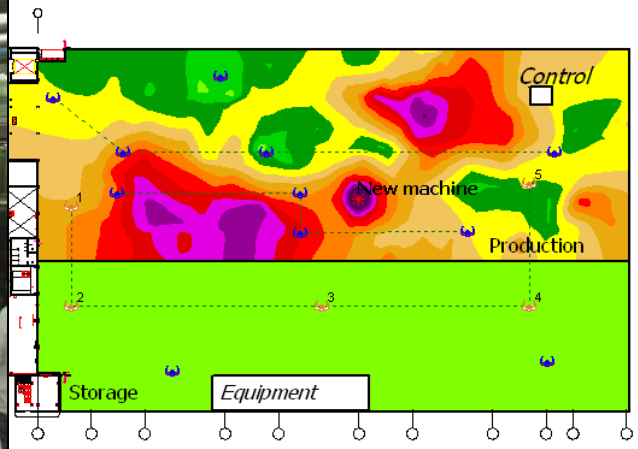
Measurements



Provide Solutions

Noise at Work

Prediction



Measurements

Provide Solutions

Environment Noise

Prediction

Measurements

Provide Solutions

Building Sound Insulation Consultancy

- Prediction
- Measurements
- Provide Solutions

Product ALPHA*fon*

ALPHA*fon*

MB METAL NOISE BARRIERS

- Noise Reduction Rw = 32.5dB
- Absorption coefficient ας>ο,6 @ 250 Hz
- **Thickness:** 5 / 8 / 10 cm

ALPHA*fon*

TRANSPARENT NOISE BARRIERS

ADVANTAGES:

- High Visual transparency
- High Noise Reduction
- Mechanical endurance
- Low humidity absorption

ALPHA*fon*

CB SOUND INSULATION CABINS

ADVANTAGES:

- Easy assembly
- Transferability
- High Noise Insulation

ALPHA*fon*
ICON NOISE INSULATION CONTAINERS FOR GENERATORS

ADVANTAGES:

- Accessibility
- High Noise Insulation
- Low air pressure drop
- Customization

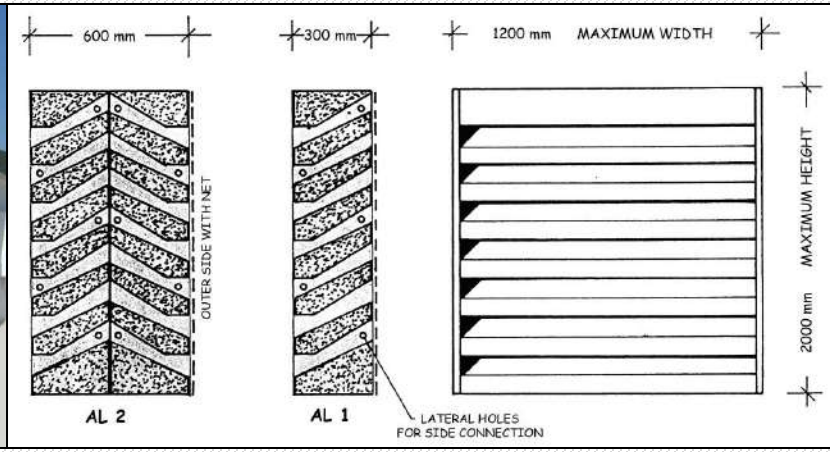
ALPHA*fon*
ICON NOISE INSULATION CONTAINERS FOR GENERATORS

ADVANTAGES:

- Customization
- Thermal Protection
- High Sound attenuation

ALPHA*fon*

AL ACOUSTIC LOUVERS

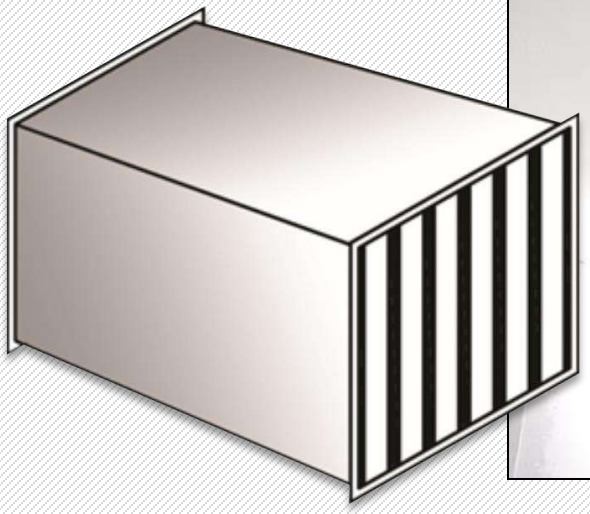


ADVANTAGES:

- Low air pressure Drop
- Protection against Rain
- High noise attenuation

ALPHA*fon*

SA SOUND ATTENUATORS



ADVANTAGES:

- High noise attenuation
- Low air pressure Drop
- Wide range of applications

ALPHA*fon*

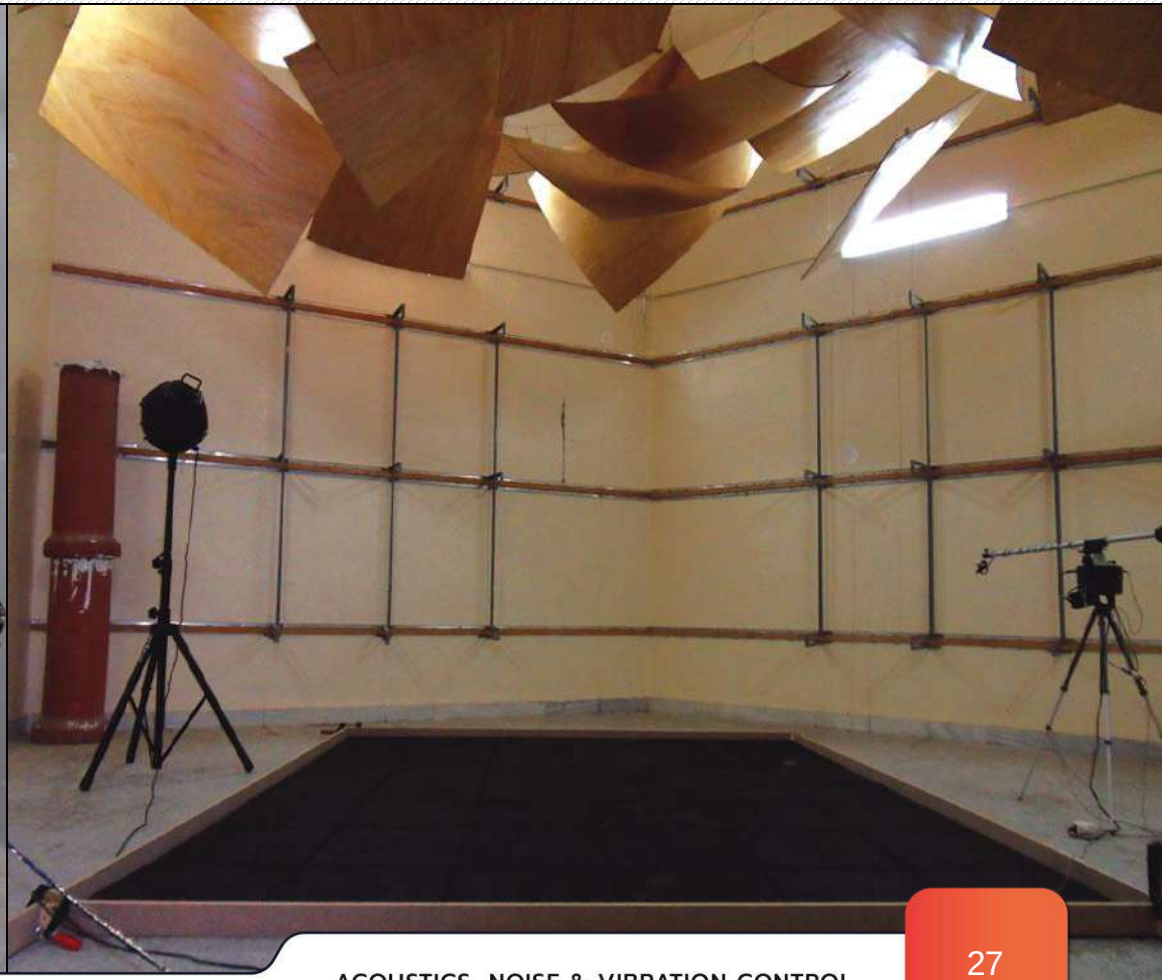
AD ACOUSTIC DOORS (WOODEN or METAL)

ALPHA*fon*

TURN KEY NOISE CONTROL PROJECTS

ALPHA*fon*

RESEARCH & DEVELOPMENT



VIBRATION CONTROL

Vibration Control Consultancy

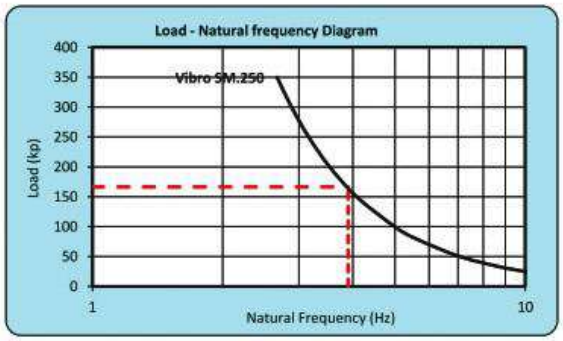
Vibration Control Products Vibro

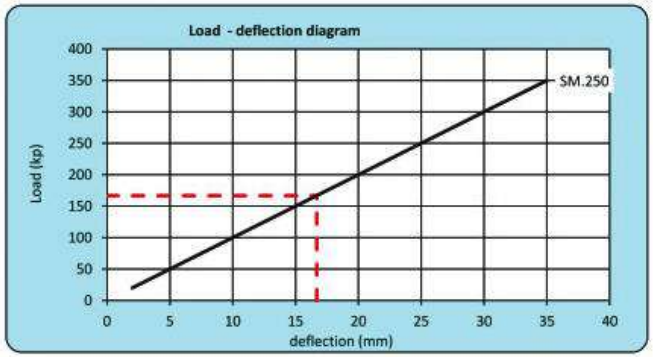
CALCULATION OF VIBRATION REDUCTION

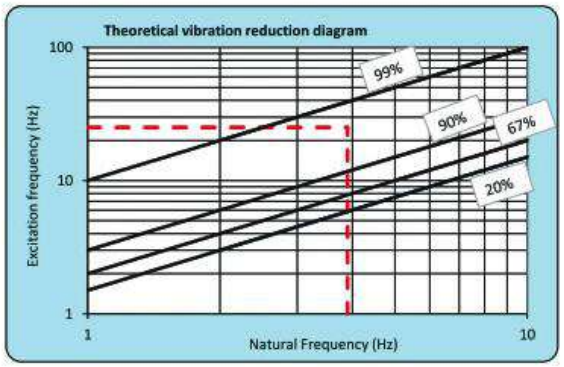
SPRING ANTIVIBRATION PRODUCT SELECTION PROGRAM

DATE	25/1/2011	
EPLOYER	ergodoths	
PROJECT	ΕΡΓΟ	
MACHINE TYPE	Chiller Carrier 30XA	
TOTAL WEIGHT	1000	Kg
NUMBER OF MOUNTS	6	Mounts
LOAD PER MOUNT POINT	166,67	Kg/Mount
EXCITATION FREQUENCY	1500	rpm
	25	Hz
ANTIVIBRATION TYPE	VIBRO SM.250	

DEFLECTION	✓ 16,7	mm
NATURAL FREQUENCY	3,9	Hz
THEORETICAL VIBRATION REDUCTION	97,51	%



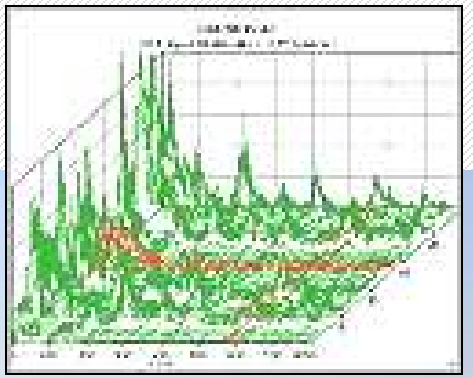


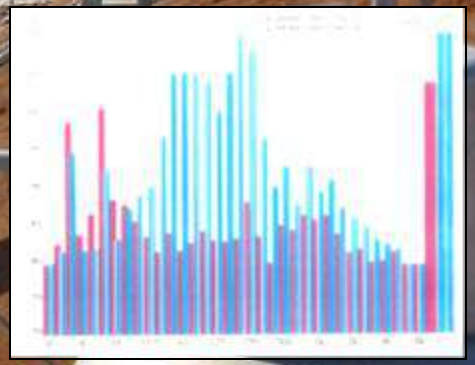


ALPHA ACOUSTIKI

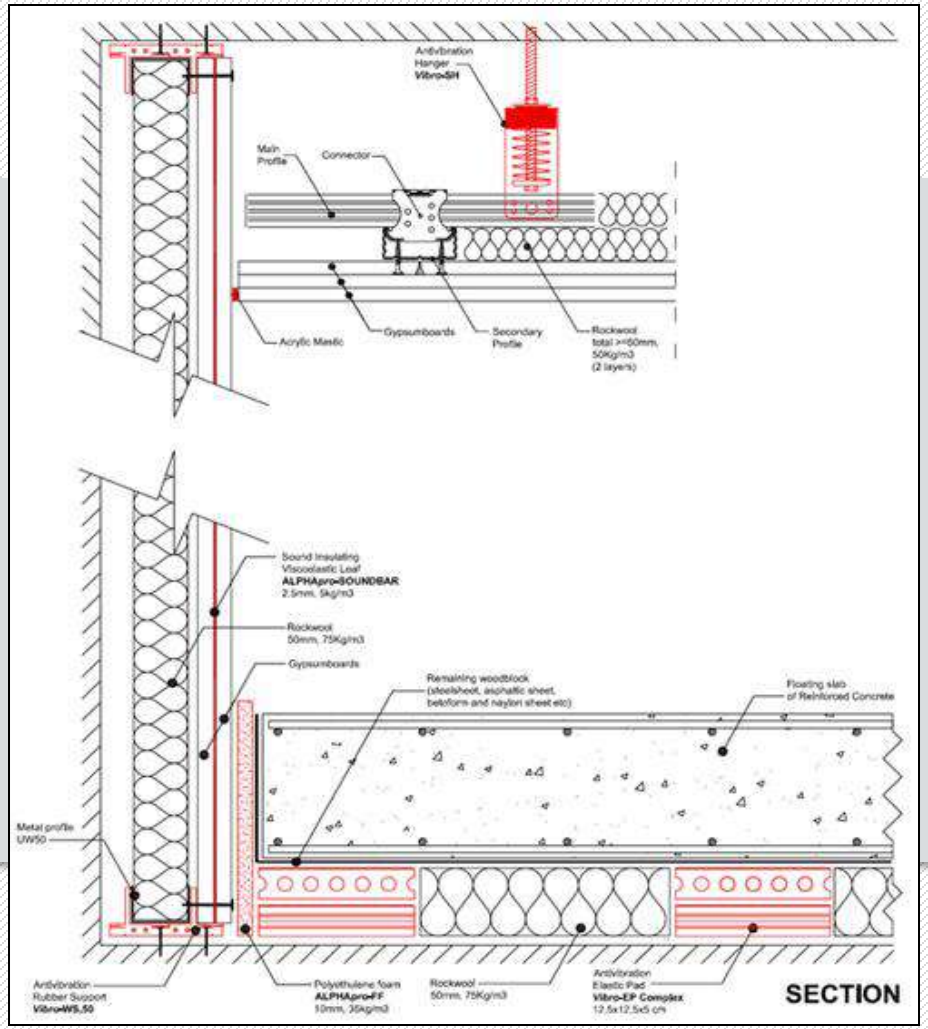
ALPHA ACOUSTIKI LTD, KAMPOUROGLOU STREET 19, ATHENS GREECE 11515 T. +30 210 6779875 F. +30 210 6779269 info@vibro.gr

VIBRATION MEASUREMENTS

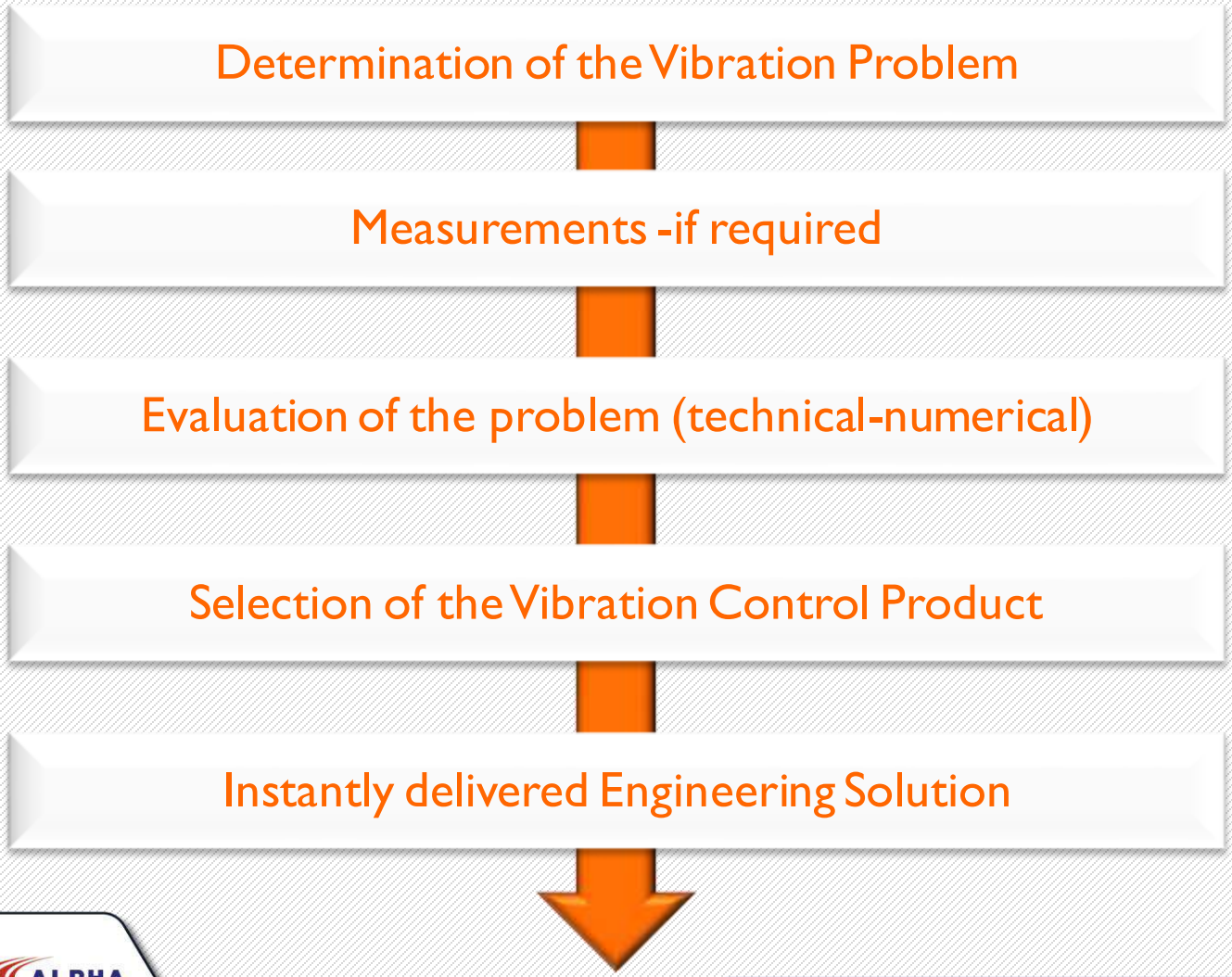




ROOM IN ROOM STUDY



VIBRATION CONTROL SOLUTIONS PROCESS



www.vibro.gr

Vibro

VIBRATION CONTROL PRODUCTS

FIELDS OF APPLICATION

Music Studio

Building Vibration Control

HVAC Vibration Isolation

VIBRATION CONTROL PRODUCTS

PRODUCT CATEGORIES

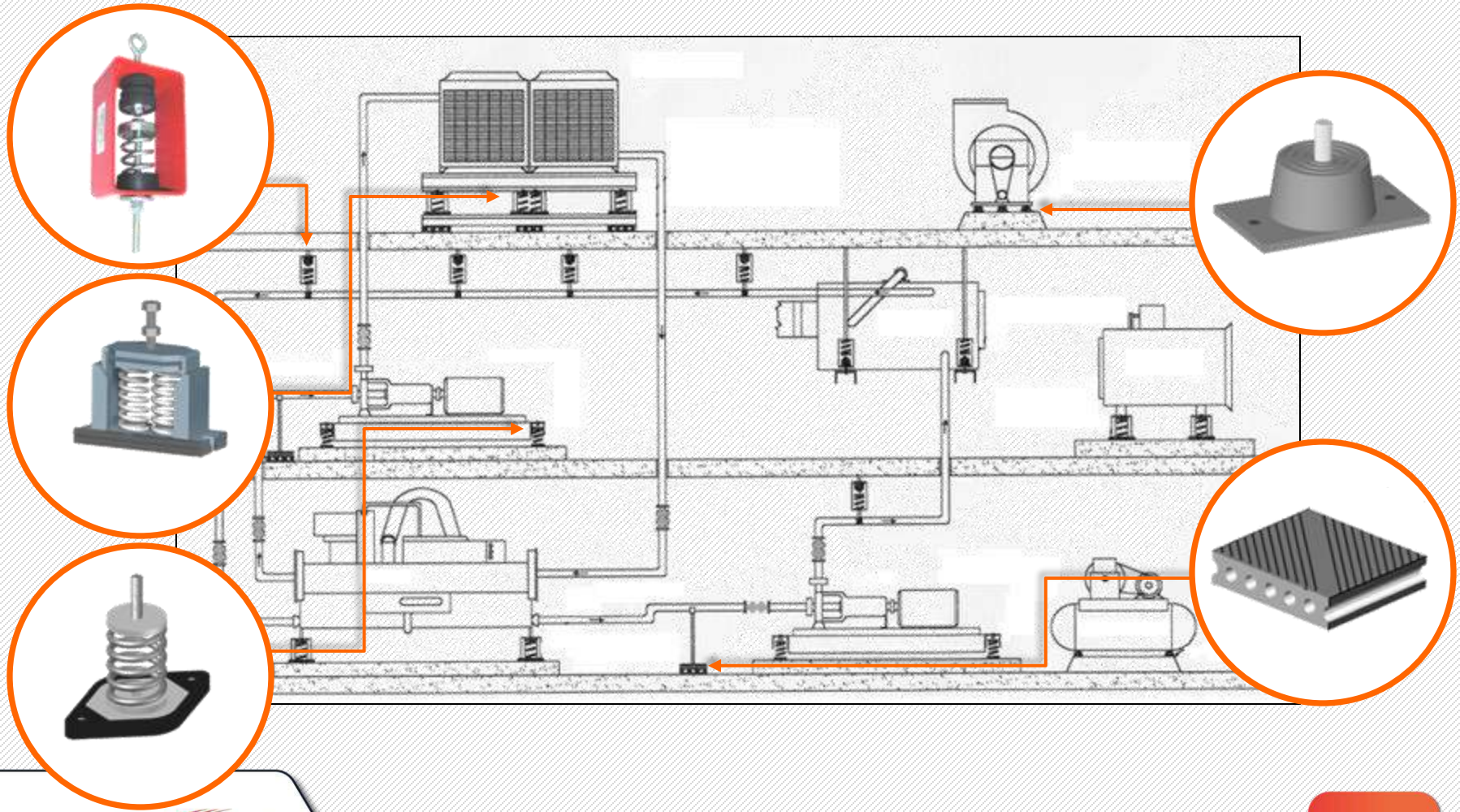
SPRING Antivibration Mounts

BUILDING Vibration Control Products

RUBBER Antivibration Mounts

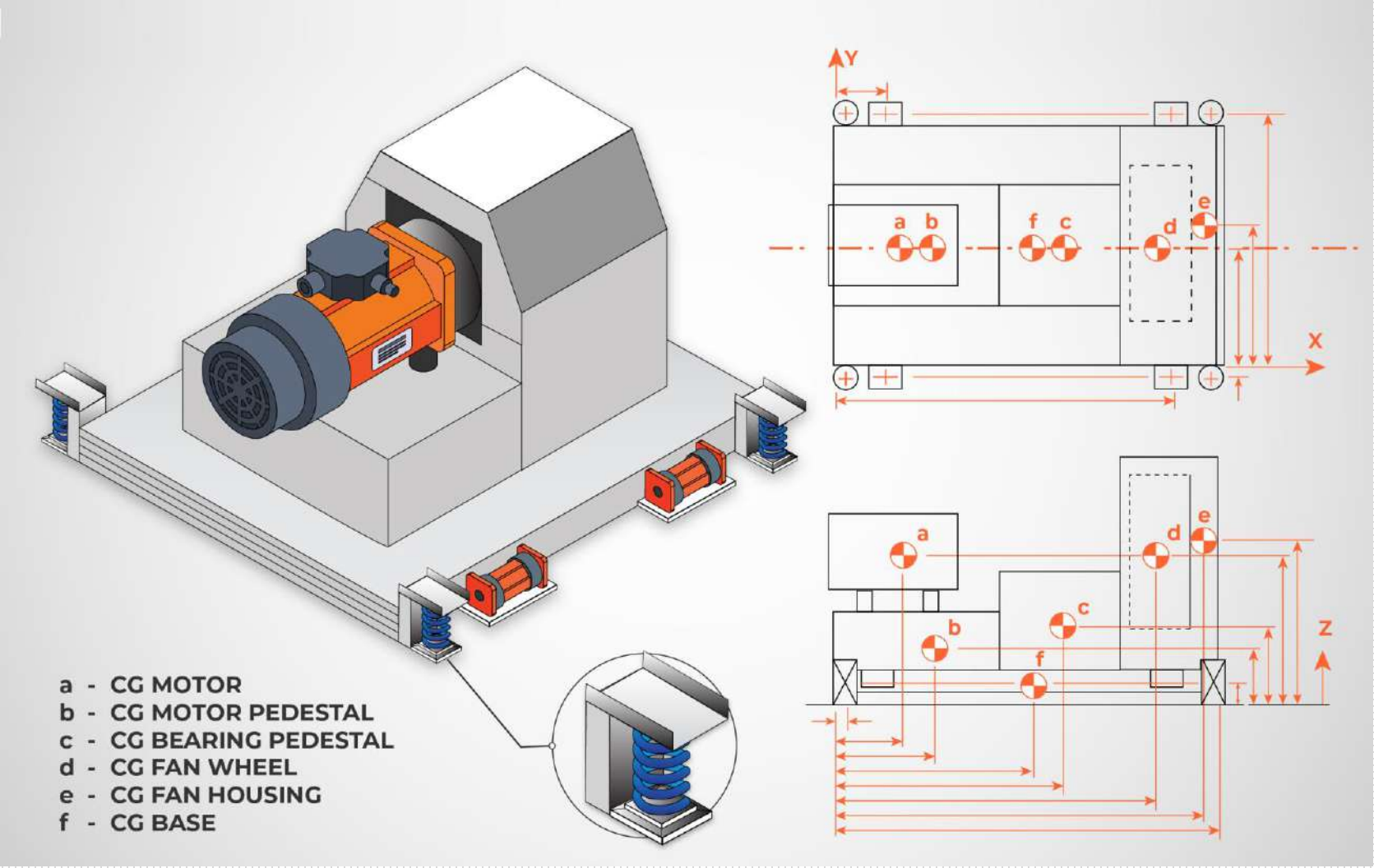
Antivibration HANGERS

TYPICAL ANTIVIBRATION CONTROL
FOR HVAC SYSTEMS

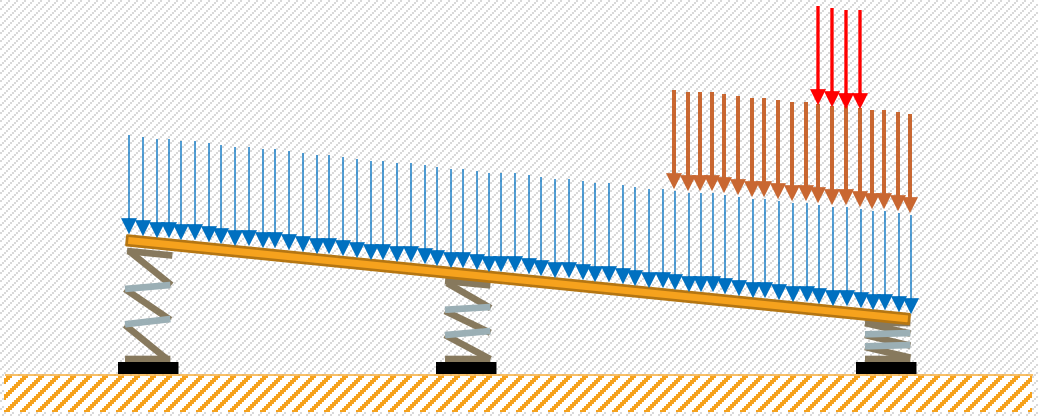


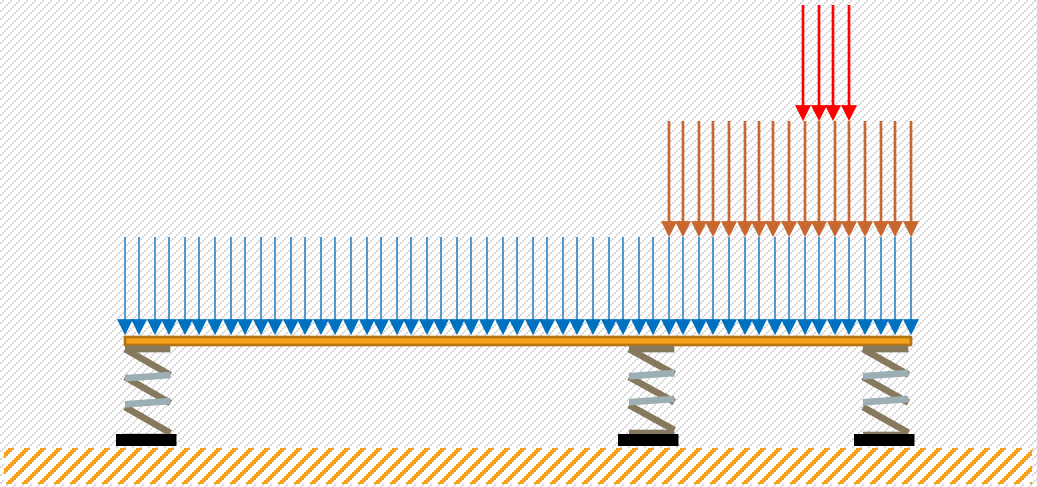
MANUFACTURE

Center of Gravity (C.G.)



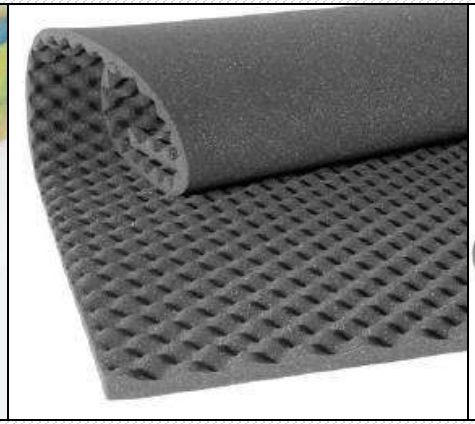
Center of Gravity (C.G.)





BUILDING SOUND INSULATION

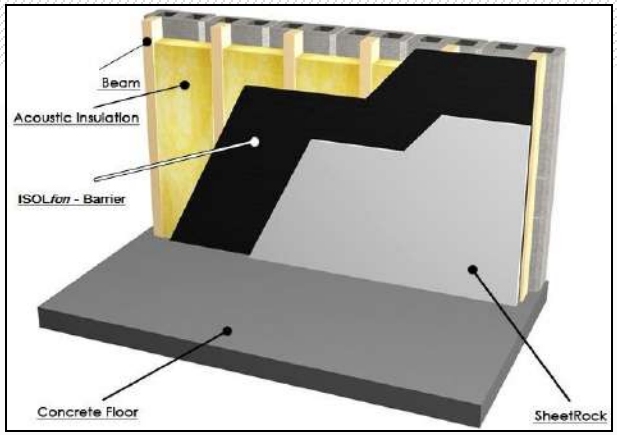
- **ISOL*fon*** PRODUCT



ISOL*fon* PRODUCT

ISOFON - BARRIER

Mass Loaded Vinyl Barrier



High performance, flexible, massloaded Vinyl noise barrier, offering superior acoustic transmission loss

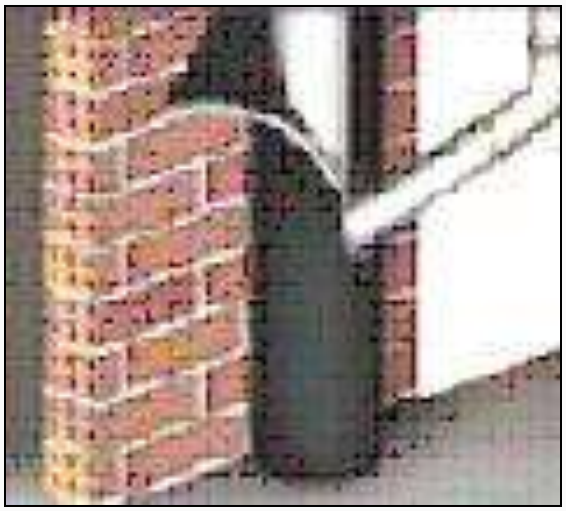
Rw (c,ctr) = 26 (0; -3) db

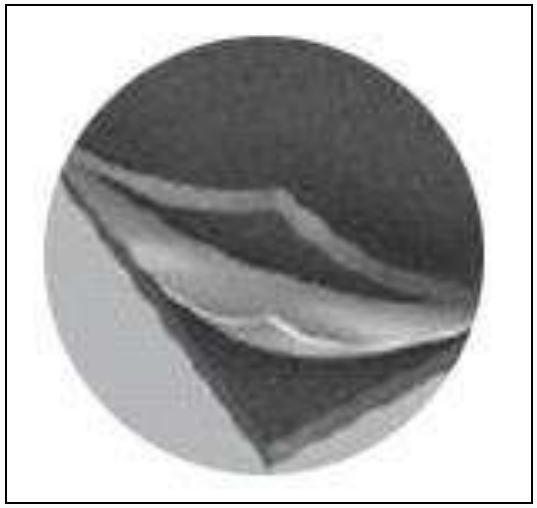
TYPE	DIMENSIONS
Barrier 3.5	3.5 kg/m2 rolls 5 x 1 m x 1.8 mm
Barrier 5	5 kg/m2 rolls 5 x 1 m x 2.6 mm
Barrier 10	10 kg/m2 sheets1.2 x 1 m x 5 mm

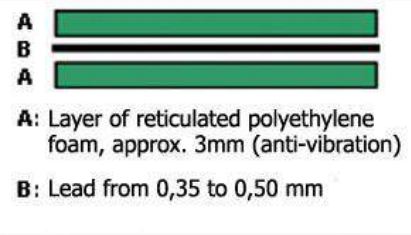
ISOL*fon* PRODUCT

ISOFON - PB

Soundproofing Lead sheets







This material has excellent sound insulating properties. Many construction materials and techniques do not provide enough sound damping. **ISOL*fon*-PB** is the optimum solution in projects that require easy of use, quick installation and best possible acoustic results

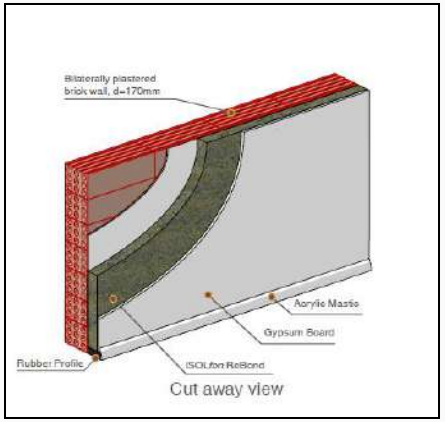
DIMENSIONS
3.5 kg/m2 rolls 5 x 1 m x 1.8 mm

Rw = 27 dB

ISOL*fon* PRODUCT

ISOFON - REBOND

Soundproofing sheets



Cut away view

ISOLfon-ReBond is a complex material, that can be used for:
• Sound •Absorption,
• Soundproofing • Impact Noise Insulation.
It is produced from recycled flexible polyurethane foams pressed & bonded with polyurethane glue.

ISOLfon ReBond Type	Weight (Kg/m³)	Thickness (mm)	Sound Absorption Coefficient Frequency (Hz)				NRC
			250	500	1000	2000	
ReBond.80.40	80	**40**	0.16	0.46	0.91	0.94	*0.61*
ReBond.80.60	80	**60**	0.28	0.70	0.99	0.90	*0.71*
ReBond.80.80	80	**80**	0.59	0.92	0.87	0.96	*0.83*
ReBond.80.100	80	**100**	0.70	0.85	0.87	0.93	*0.83*
ReBond.80.120	80	**120**	0.74	0.95	0.89	0.95	*0.88*
ReBond.80.140	80	**140**	0.84	0.82	0.92	0.97	*0.90*

Sound absorption coefficient according to ISO 10534-2:1998

RECYCLED MATERIAL

ISOL*fon* PRODUCT

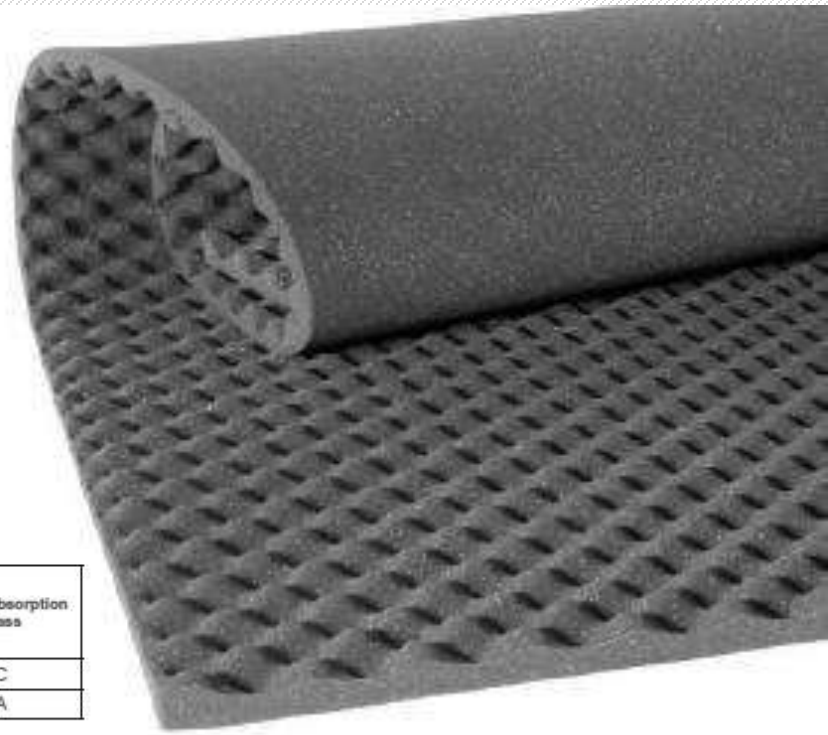
ISOFON - SEP

Soundproofing sheets

Acoustic foam ISOLfon - SEP

is polyurethane foam slab with an egg-crate design, that effectively traps sound and reduces the reverberation time.
ISOLfon - SEP offers sound absorption in the middle and high frequencies.

It is produced in various thicknesses to cover the needs of all kinds of applications where sound absorption is required.



Type: ISOLfon-SEP	Practical Sound Absorption Coefficient α_p						Weighted Sound Absorption Coefficient (α_w)	Sound Absorption Class
	Frequency (Hz)							
	125	250	500	1000	2000	4000		
ISOLfon-SEP.25	0.05	0.2	0.4	0.75	1	1	0,75(H)	C
ISOLfon-SEP.50	0.10	0.3	0.7	0.9	1	1	0,9	A

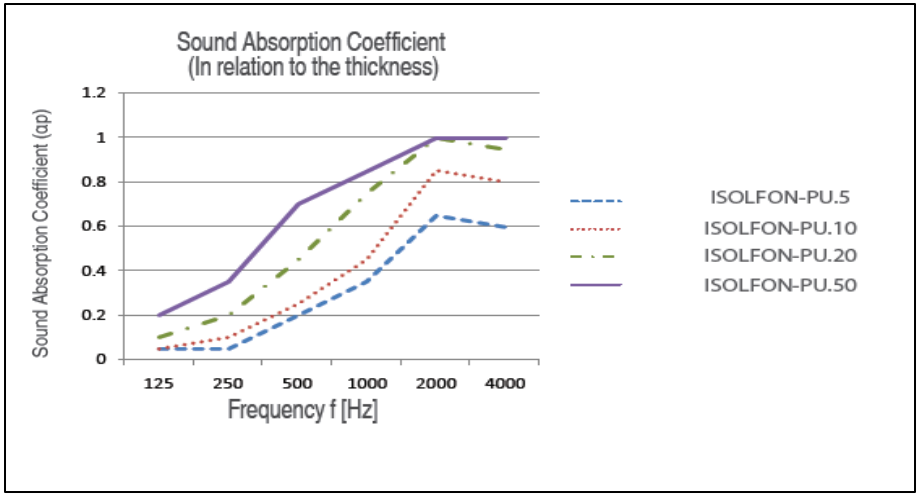
Practical Sound Absorption Coefficient α_p has been calculated according to ISO 11654:1997

ISOL*fon* PRODUCT

ISOFON - PU

Soundproofing sheets

Polyurethane foam slabs with a flat form design that effectively absorb the sound and reduce the noise.



Type ISOLFON-PU	Practical Sound Absorption Coefficient (α_p) Frequency(Hz)						Weighted Sound Absorption Coefficient (α_w)	Sound Absorption Class
	125	*250*	*500*	*1000*	*2000*	*4000*		
ISOLFON-PU.5	0.05	0.05	0.2	0.35	0.65	0.6	0.35 (H)	D
ISOLFON-PU.10	0.05	0.1	0.25	0.45	0.85	0.8	0.45 (H)	D
ISOLFON-PU.20	0.1	0.2	0.45	0.75	1	0.95	0.75 (H)	C
ISOLFON-PU.50	0.2	0.35	0.70	0.90	1	1	0.9	A

Practical Sound Absorption Coefficient αp has been calculated according to ISO 11654:1997

ISOL*fon* PRODUCT

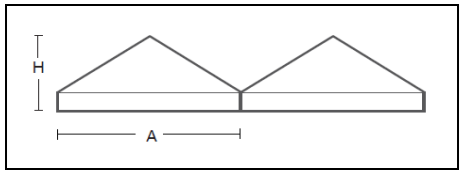
ISOFON – SE.PY

Soundproofing sheets

ISOLfon - SE.PY is polyurethane foam slab with a patterned pyramidic forms, that effectively traps sound and reduces the reverberation time.

ISOLfon - SE.PY offers sound proofing in the middle and high frequencies.
It is produced in various thicknesses to cover the needs of all kinds of applications where sound absorption is required.

Type ISOLfon-SE.PY	Pyramid Dimensions (H x A) (mm)	Practical Sound Absorption Coefficient α_p Frequency (Hz)						Weighted Sound Absorption Coefficient (α_w)	Sound Absorption Class
		125	250	500	1000	2000	4000		
ISOLfon-SE.PY.35-50	35 x 50	0.05	0.2	0.4	0.8	1	1	0,8(H)	B
ISOLfon-SE.PY.65-70	65 x 70	0.1	0.3	0.7	0.9	1	1	0,9	A

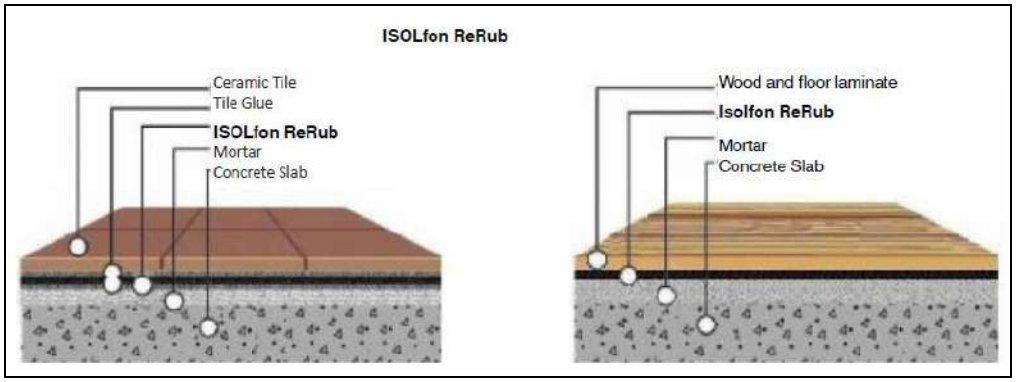


Practical Sound Absorption Coefficient α_p, has been calculated according to ISO 11654:1997

ISOL*fon* PRODUCT

ISOFON – RERUB

Soundproofing sheets



ISOLfon ReRub combines heavy surface mass, excellent elasticity and viscoelastic reaction of the compressed elastic particles. It is produced with a combination of recycled vulcanized rubber bonded with polyurethane glue and compressed with heat until the desired density is reached.

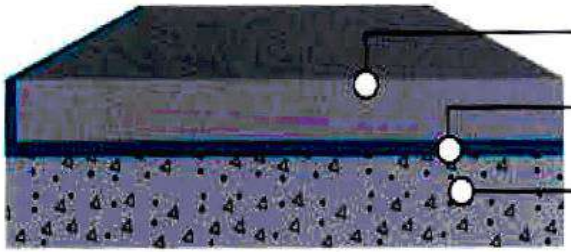
RECYCLED MATERIAL

THICKNESS	ROLL LENGTH (m)
3	20
5	12
10	6

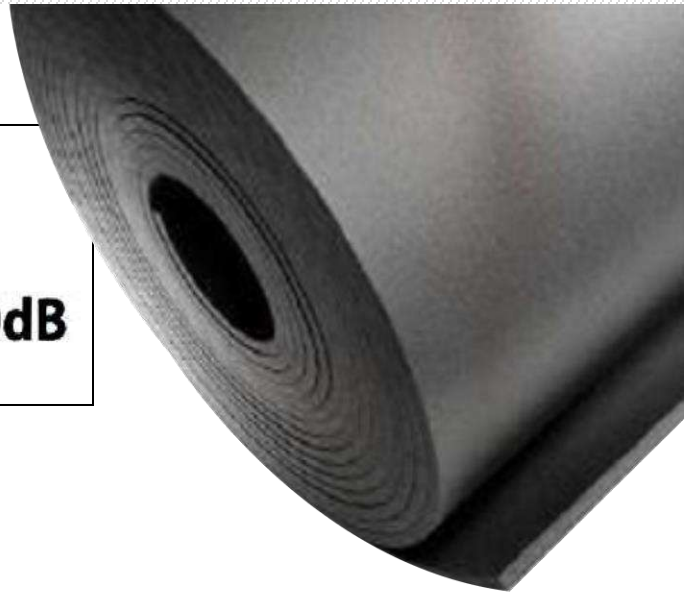
ISOL*fon* PRODUCT

ISOFON – FF

Soundproofing XLPE sheets



ΔLw = 20dB



ISOLfon - FF combines good rebound properties and low deformation over time. It is easy installed in a great range of applications where impact noise insulation on floors is required.

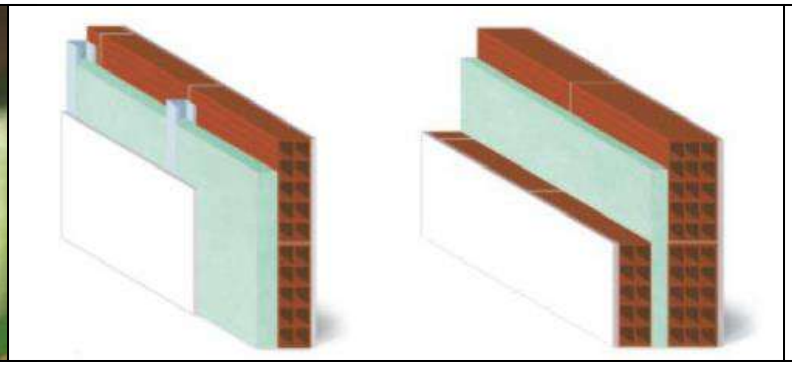
It is produced from XLPE (Elastic polyethylene closed cell foam) combined with molecular chains of crosslinked density 25 kg/m3

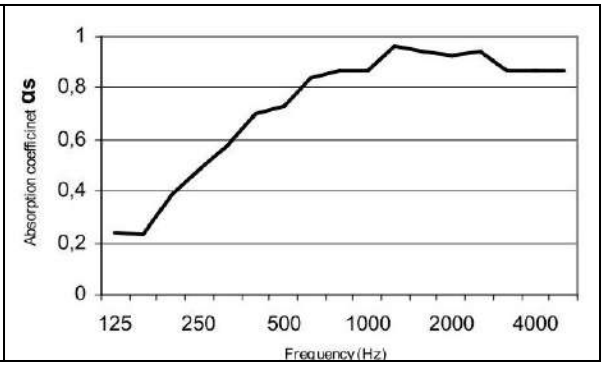
ISOL*fon* PRODUCT

IZIFON

Sound Absorption Polyester fibers

RECYCLED MATERIAL





Density	38 kg/m^3
Thickness	20 / 30 / 50 mm
Thermal Insulation	λ10 = 0,0291 Kcal /h.m.C

NEWTECH INSULATION

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NEWTECH INSULATION

ACOUSTIKI

THANK YOU FOR YOUR ATTENTION!

Any Questions Please ?