

# Whisper

AM SERVICES (WY) LTD  
NOISE REDUCTION SOLUTIONS

Sound Absorbing Foam  
Unique acoustic material to  
manage challenging noise  
problems





# ELIMINATE NOISE POLLUTION

The World Health Organisation has concluded that noise pollution is a major environmental issue, second only to air pollution. Excessive noise can trigger stress responses, impacting our physiological and mental health. Noise is becoming a part of our lives that should not be overlooked.

The increasing prevalence of acoustically reflective hard surfaces in our day to day environment enables noise to reflect, diffract, amplify and travel. The remedy is to absorb the unwanted noise however many traditional acoustic materials are fragile, and cannot maintain performance in wet, humid or outdoor environments. The challenge is exacerbated by the need to protect these materials, increasing cost, complexity, resources and reducing performance.

## A UNIQUE ACOUSTIC SOLUTION

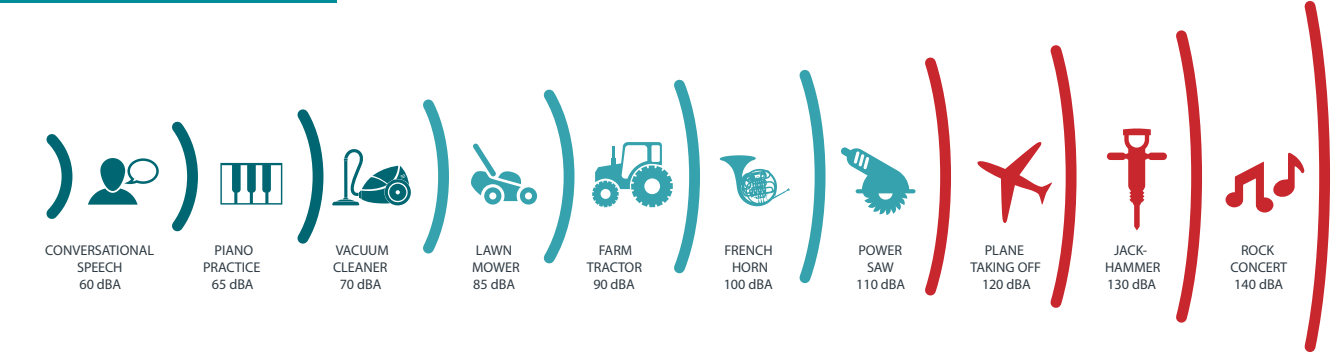
--- Whisper® --- is a closed cell polyethylene foam which uses a high performance honeycomb like structure to absorb noise. This durable material remains acoustically 'soft' eliminating the problem of hard reflective surfaces that contribute to reverberation and echo.

If you have challenging conditions to deal with such as, water, moisture, humidity, dirt, dust, ultraviolet light, chlorine and harsh chemicals, then Whisper® is the right acoustic solution for you.

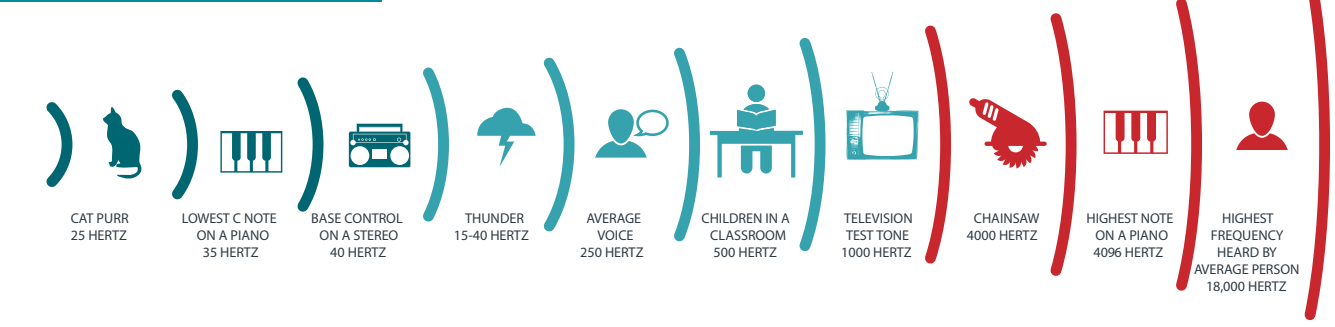
--- Whisper® --- is easy to fabricate, light weight, quick to install, and retains its structure in humid environments. Its superior noise reduction qualities are proven in some of the most rigorous applications, such as road and rail traffic and industrial machinery.

--- Whisper® --- sound absorbing panels help to safely reduce noise, make music sound better, allow people to speak and hear one another, and contribute to a safer and more productive work environment, indoors, or outside.

### DECIBEL CHART



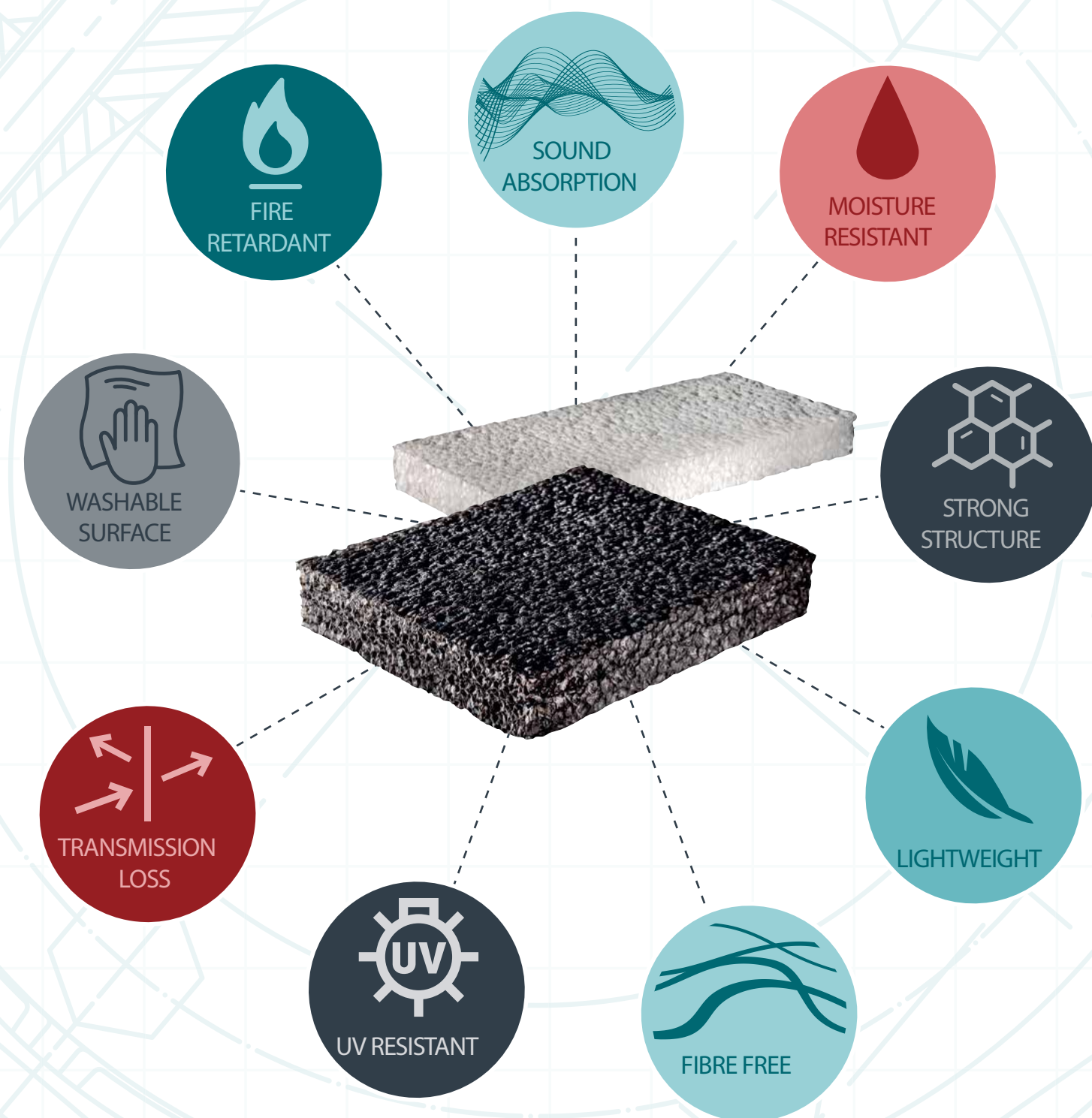
### FREQUENCY CHART





# WHY CHOOSE STRATOCELL® WHISPER®?

IT'S THE COMBINATION OF PERFORMANCE ATTRIBUTES THAT MAKES STRATOCELL® WHISPER® SO UNIQUE.



## SOUND ABSORPTION

--- Whisper® --- uses a networked honeycomb like structure to absorb sound, providing unique properties over conventional fibre, polyester and open cell foams.

## MOISTURE RESISTANT

The structural and acoustic properties of Whisper® are demonstrably maintained following exposure to moisture. Therefore, there is no need for a water barrier, protective film or perforated metal facing to ensure acoustic properties are maintained.

## STRONG STRUCTURE

With its semi-rigid self-supporting structure, Whisper® foam is easy to cut and easy to install on site

## LIGHT WEIGHT

--- Whisper® --- is easy to handle with a weight of less than 1.5 kilograms per square metre at 50mm, providing sustainable use of raw material inputs.

## FIBRE FREE

--- Whisper® --- has no fibrous materials, low VOC and zero ODP. Whisper® foam does not cause irritation, is non-friable and does not crumble. In the Danish Society of Indoor Climate's rigorous particle emissions test (for particles as small as 0.7 µm) --- Whisper® --- averaged 0.02mg/m<sup>2</sup> over the 15 hour period. This is only 1% of the target of 2mg/m<sup>2</sup> for low particle emissions.

## UV RESISTANT

--- Whisper® --- UV has been independently tested to over 2000 hours in a QUV accelerated aging chamber. Testing showed that after UV exposure, the material exhibited similar acoustic behaviour to unexposed material. Whisper® UV is rated as a self-extinguishing material to DIN 4102 Class B2.

## FIRE RETARDANT

--- Whisper® --- FR foam panels achieved EN 13501 Class B S1 D0 at 20-30mm  
EN 13501 Class B S2 D0 at 40-50mm  
DIN 4102 Class B1;  
Fire testing data is available for rail, mass transit, marine and automotive.

## TRANSMISSION LOSS

--- Whisper® --- has incredibly high airflow resistivity giving it performance at 50mm of Rw 13.8; 60mm has Rw 16 and 100mm attains Rw 18.

This means that Whisper® doesn't just absorb sound, it also contributes measurably to the transmission loss you might expect in wall or enclosure application.

Whisper® has a low surface energy and is a non polar plastic. This means that polar substances such as water, and dust do not typically stick to it. This image illustrates how the water sticks onto the high surface energy glass, making it spread out. Whereas the water beads on the low surface energy Whisper® stand proud of the surface.



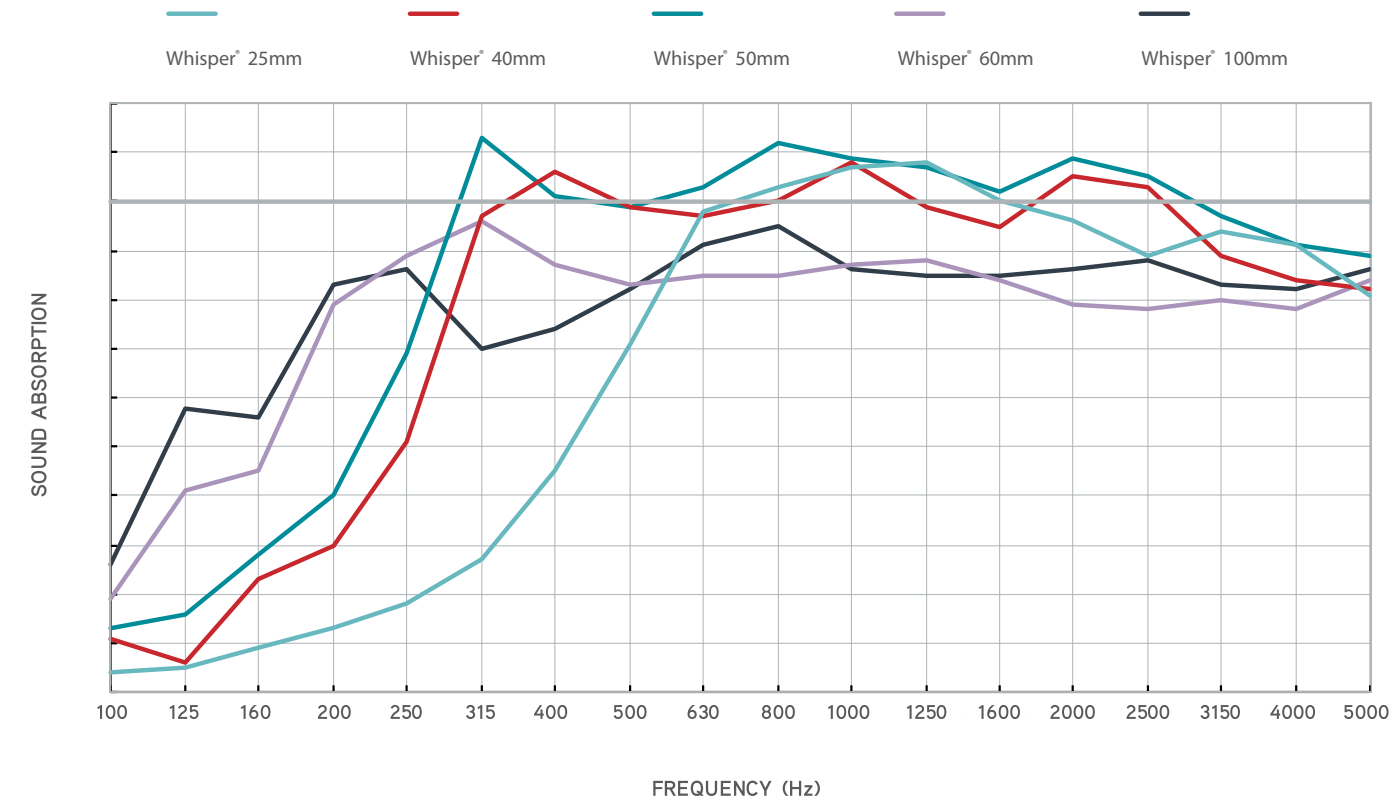
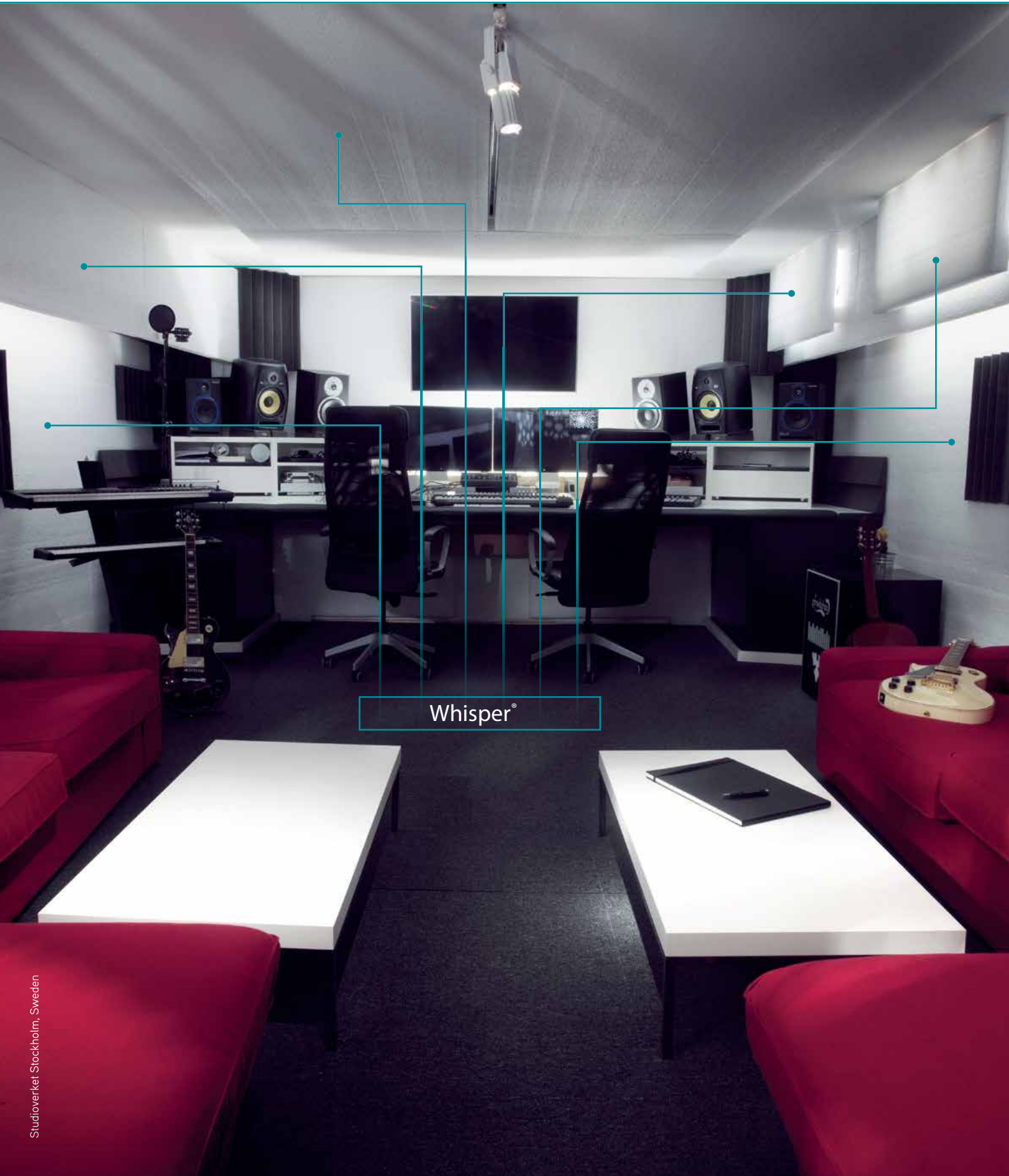
# SOUND ABSORPTION

Reverberation Room testing according to EN ISO 354

Whisper<sup>®</sup> 40 & 50mm are classified as high absorbent – according to EN ISO 11654 – Class A.



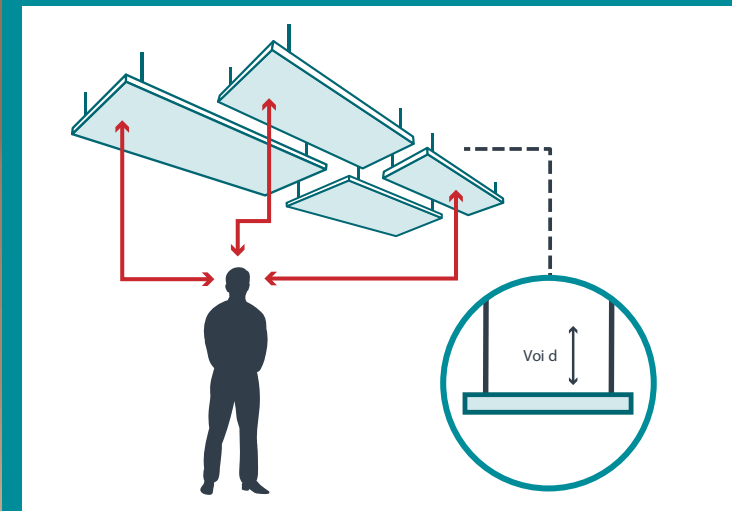
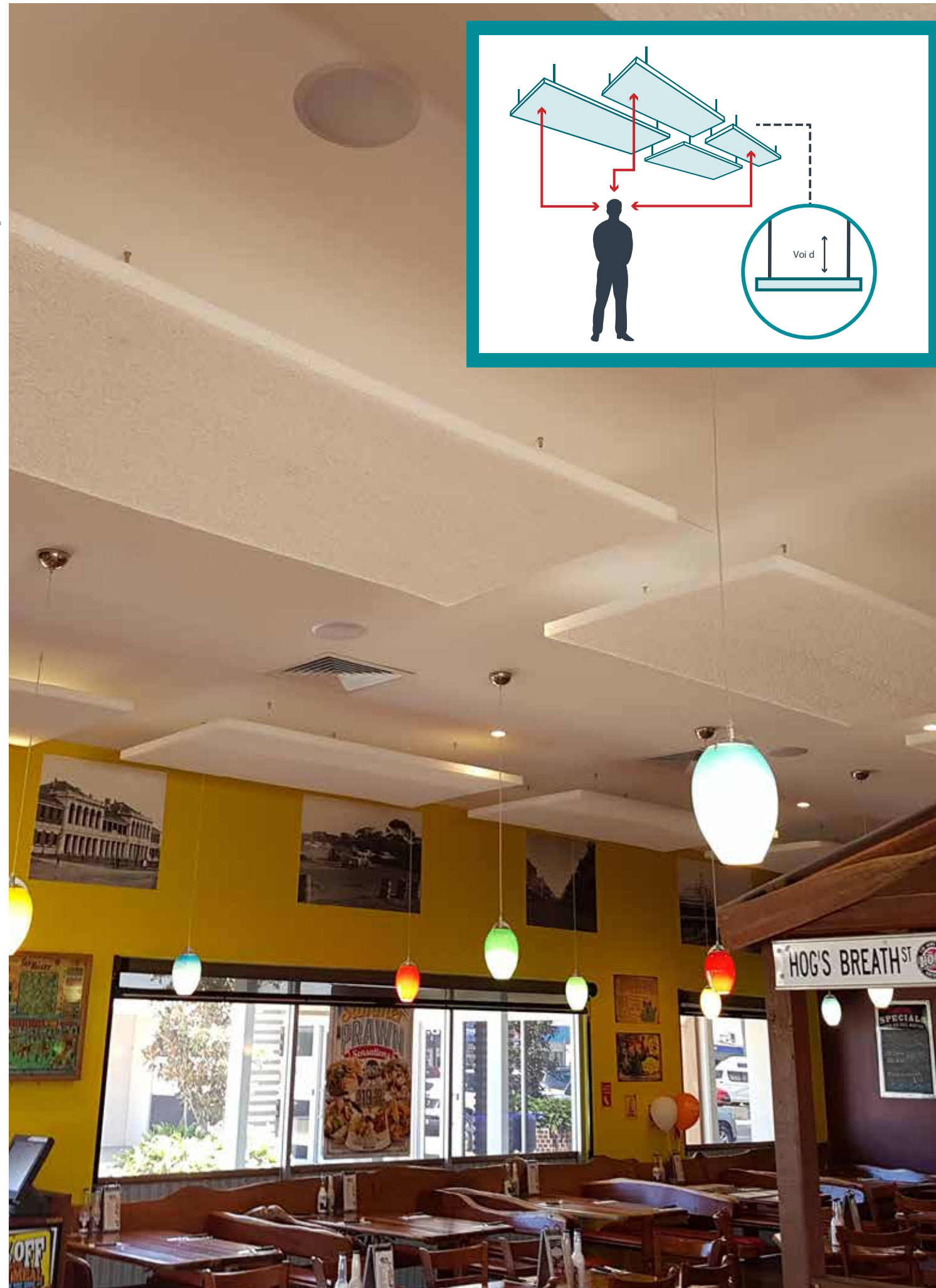
Sound absorption is often needed when source and receiver are in the same room.



Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	AW	NRC	SAA	Class
Whisper <sup>®</sup> 25mm	0.04	0.05	0.09	0.13	0.18	0.27	0.45	0.71	0.98	1.03	1.07	1.08	1	0.96	0.89	0.94	0.91	0.81	0.50	0.75	0.78	D
Whisper <sup>®</sup> 40mm	0.11	0.06	0.23	0.30	0.51	0.97	1.06	0.99	0.97	1	1.08	0.99	0.95	1.05	1.03	0.89	0.84	0.82	0.90	0.90	0.91	A
Whisper <sup>®</sup> 50mm	0.13	0.16	0.28	0.4	0.69	1.13	1.01	0.99	1.03	1.12	1.09	1.07	1.02	1.09	1.05	0.97	0.91	0.89	1	1	0.98	A
Whisper <sup>®</sup> 60mm	0.19	0.41	0.45	0.79	0.89	0.96	0.87	0.83	0.85	0.85	0.87	0.88	0.84	0.79	0.78	0.8	0.78	0.84	0.85	0.85	0.85	B
Whisper <sup>®</sup> 100mm	0.26	0.58	0.56	0.83	0.86	0.7	0.74	0.82	0.91	0.95	0.86	0.85	0.85	0.86	0.88	0.83	0.82	0.86	0.9	0.85	0.84	A

Testing of Whisper<sup>®</sup> was carried out by Eco-scan bvba, Belgium under EN ISO 354 Measurement of Sound Absorption in a reverberation room. [www.ecoscan.be](http://www.ecoscan.be)



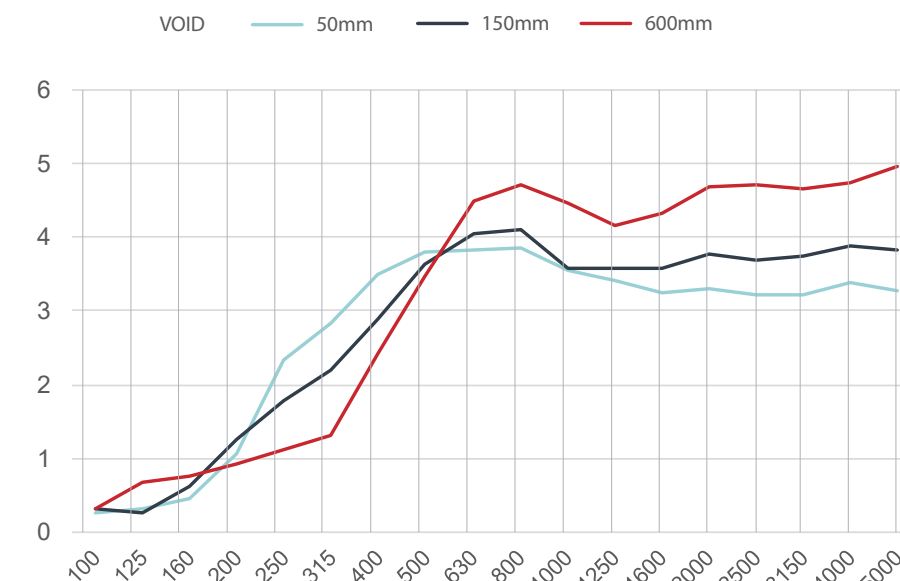


# CEILING RAFTS

Hanging panels are an economic method of applying acoustic absorption to an interior space. Whisper<sup>®</sup> absorbs sound on both sides, therefore baffles enable minimum product for maximum absorption. Ceiling rafts are a better option where total available height in a space is restricted or material use needs to be minimised for maximum acoustic performance.

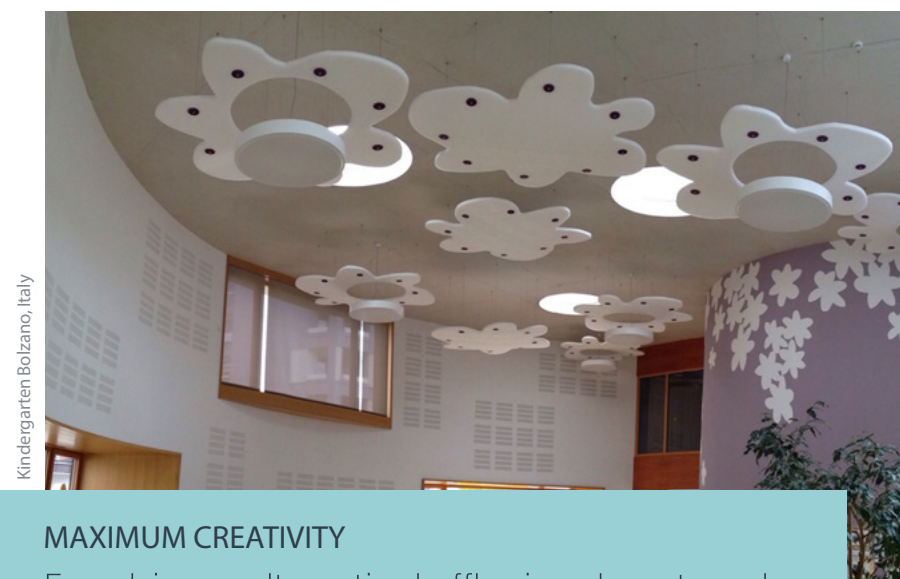
Results below are presented in equivalent sound absorption area, 1 object in M<sup>2</sup> or Sabin (SA)

BAFFLE LAYOUT HORIZONTAL 50X1200X2400MM



SOUND ABSORPTION SA

Frequency (Hz)	50mm Void (SA)	150mm Void (SA)	600mm Void (SA)
100	0.26	0.31	0.32
125	0.32	0.26	0.69
160	0.45	0.62	0.77
200	1.07	1.27	0.92
250	2.33	1.77	1.12
315	2.84	2.21	1.31
400	3.49	2.89	2.43
500	3.8	3.64	3.47
630	3.82	4.05	4.49
800	3.85	4.1	4.71
1000	3.54	3.58	4.47
1250	3.41	3.57	4.15
1600	3.25	3.58	4.32
2000	3.3	3.76	4.67
2500	3.23	3.69	4.72
3150	3.22	3.74	4.66
4000	3.39	3.87	4.74
5000	3.28	3.83	4.95
NRC	1	1	1



## MAXIMUM CREATIVITY

For advice on alternative baffle sizes, layouts and shapes contact us at AM Services (WY) Ltd.

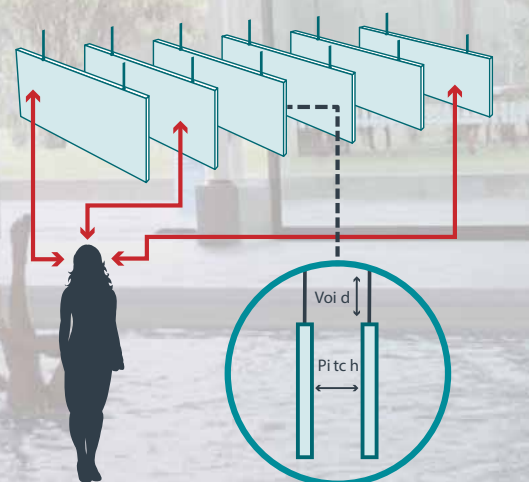


As with any pool, the products used need to perform well in a very humid environment while remaining stable and not degrading from moisture related issues or from impact from ball sports,” ..... “Having a product that is also extremely lightweight meant that the support could be fairly minimal and putting less load on the main structure.

Andrew Wheatley,  
Senior Architect at Architecture HDT.

## VERTICAL HANGING BAFFLES

Hanging baffles are the most economic method of applying acoustic absorption to an interior space. Whisper® absorbs sound on both sides, therefore baffles enable minimum product for maximum absorption. As many as 16 baffles have been installed per hour on large builds.



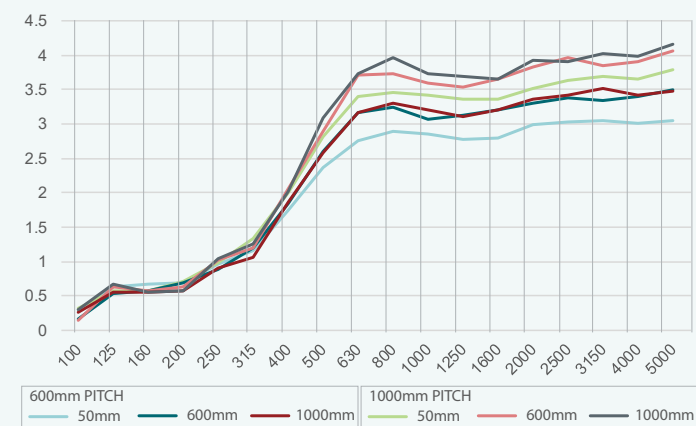
### MAXIMUM CREATIVITY

For advice on alternative baffle sizes, layouts and shapes contact AM Services (WY) Ltd

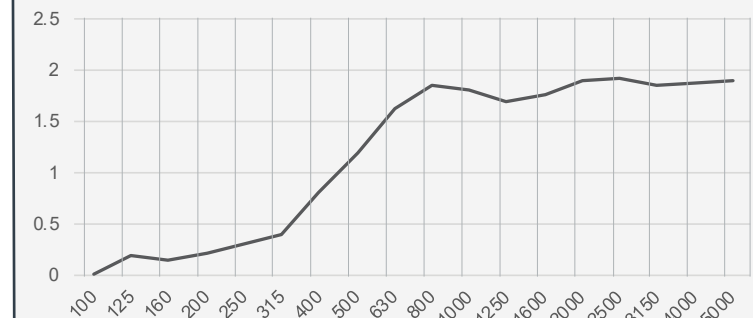
## MINIMUM MATERIAL, MAXIMUM PERFORMANCE

Measurement of sound absorption in a reverberation room (ISO 354). Results below are presented in equivalent sound absorption area, 1 object in m<sup>2</sup> or Sabin (SA).

BAFFLES 50 x 1200 x 2400MM



SMALL BAFFLES 50 x 400 x 2400MM



600MM PITCH

Frequency (Hz)	50mm Void (SA)	600mm Void (SA)	1000mm Void (SA)
100	0.31	0.17	0.27
125	0.63	0.54	0.55
160	0.68	0.58	0.55
200	0.7	0.69	0.57
250	0.96	0.88	0.91
315	1.15	1.19	1.07
400	1.75	1.85	1.86
500	2.36	2.6	2.59
630	2.76	3.17	3.17
800	2.9	3.25	3.31
1000	2.85	3.08	3.21
1250	2.77	3.12	3.11
1600	2.79	3.21	3.21
2000	2.99	3.31	3.36
2500	3.04	3.39	3.43
3150	3.06	3.35	3.51
4000	3.01	3.41	3.43
5000	3.06	3.5	3.48
NRC	1	1	1

1000MM PITCH

Frequency (Hz)	50mm Void (SA)	600mm Void (SA)	1000mm Void (SA)
100	0.32	0.15	0.3
125	0.58	0.63	0.67
160	0.57	0.57	0.55
200	0.71	0.64	0.57
250	0.99	1.03	1.04
315	1.33	1.2	1.26
400	1.99	2.06	2.02
500	2.82	2.9	3.09
630	3.41	3.72	3.73
800	3.47	3.73	3.97
1000	3.42	3.59	3.73
1250	3.37	3.54	3.7
1600	3.37	3.66	3.65
2000	3.51	3.84	3.92
2500	3.64	3.97	3.91
3150	3.69	3.86	4.02
4000	3.65	3.91	3.98
5000	3.79	4.07	4.17
NRC	1	1	1

600MM VOID & 2000MM PITCH

Frequency (Hz)	600mm Void (SA)
100	0.00
125	0.20
160	0.14
200	0.22
250	0.30
315	0.39
400	0.82
500	1.20
630	1.64
800	1.87
1000	1.81
1250	1.71
1600	1.77
2000	1.90
2500	1.92
3150	1.86
4000	1.88
5000	1.91
NRC	1



# TRANSMISSION LOSS 50MM

Whisper® 50mm Sound Reduction Index R, according to ISO 10140-2, in combination with common barrier materials

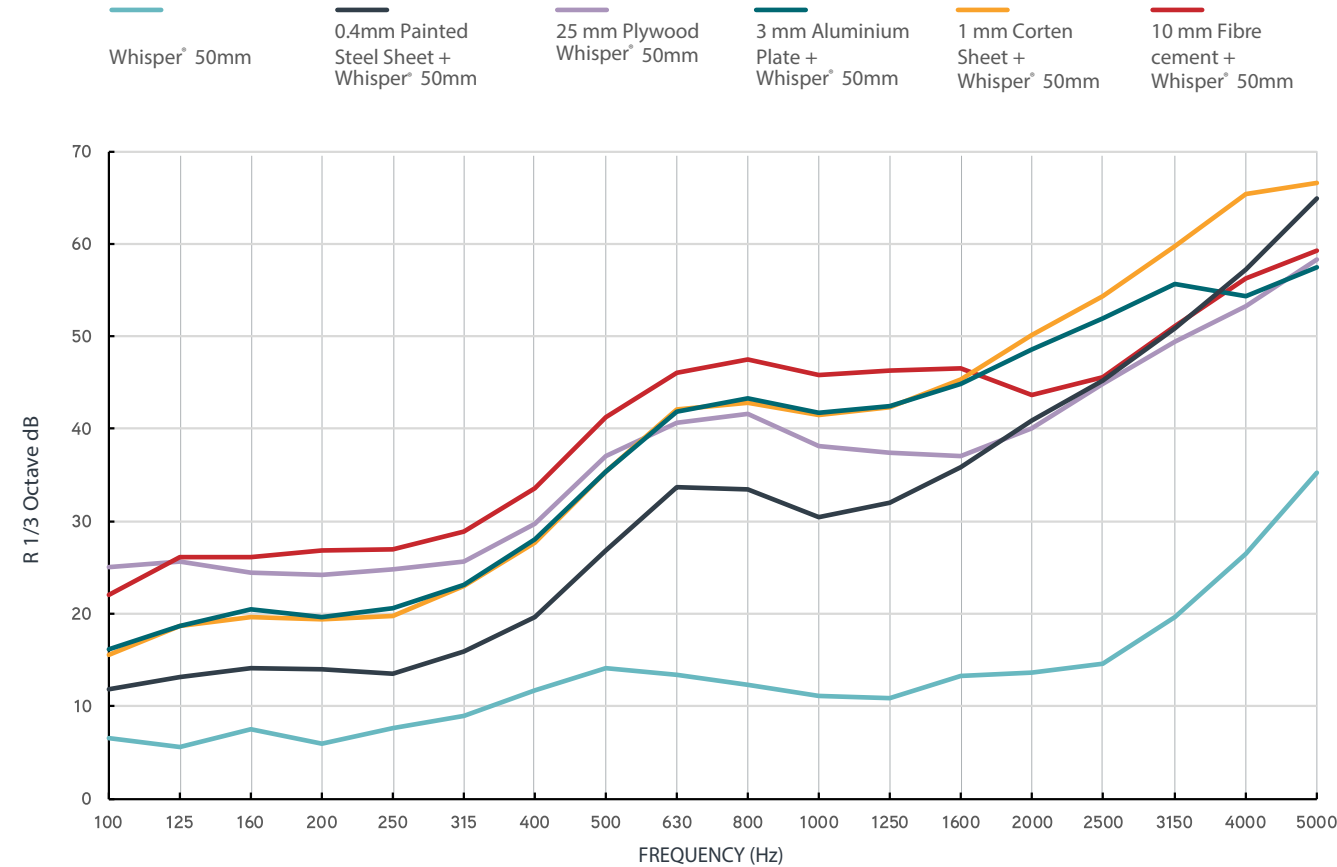
Whisper® 50mm has an Rw of 13.8 – according to ISO 717-1



Transmission loss is important when the source and receiver are in different rooms.



Turret punches and presses generate a lot of noise, curved structures as pictured can amplify and direct the noise. Lining the structure with Whisper® from AM Services can help to absorb noise indoors, and reduce noise transmission through walls and ceilings.



Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Rw
Whisper® 50mm	6.6	5.6	7.5	5.9	7.6	9	11.70	14.1	13.4	12.3	11.1	10.9	13.3	13.6	14.6	19.7	26.5	35.2	13.8
25 mm Plywood + Whisper® 50	25.1	25.6	24.5	24.2	24.8	29.7	29.7	37.0	40.7	41.6	38.1	37.4	37.1	40.0	44.8	49.4	53.3	58.3	37.0
10 mm Fibre cement + Whisper® 50 mm	22.0	26.1	26.1	26.8	27	28.9	33.6	41.3	46.0	47.5	45.8	46.3	46.5	43.6	45.6	51.1	56.3	59.3	41.0
1 mm Corten Sheet + Whisper® 50 mm	15.6	18.7	19.6	19.4	19.8	23.0	27.7	35.4	42.1	42.8	41.5	42.3	45.3	50.1	54.4	59.7	65.4	66.6	35.0
3 mm Aluminium Plate + Whisper® 50 mm	16.2	18.7	20.5	19.6	20.6	23.1	28.1	35.4	41.8	43.3	41.7	42.5	44.9	48.6	52.0	55.7	54.3	57.5	35.0
0.4mm Painted Steel Sheet + Whisper® 50 mm	11.8	13.1	14.1	14	13.5	15.9	19.7	26.9	33.7	33.4	30.4	32.0	35.9	40.9	45.2	45.2	57.2	64.9	28.0

Whisper® installed facing noise source, edges and joints sealed.  
Disclaimer: As every installation is unique, we cannot guarantee the repeat occurrence of these test results. We recommend employing an acoustic consultant and using an accredited test lab prior to purchasing product.

Testing of Whisper® under ISO10140-2 was conducted by Ecoscan bvba, Belgium. [www.ecoscan.be](http://www.ecoscan.be)

Whisper® 50mm Airflow Resistace Test Method UNI/EN 29053:1994 2,785,000 Pa.S/m<sup>3</sup> = Rayls/m<sup>2</sup>



# TRANSMISSION LOSS 100MM

Whisper® 100mm Sound Reduction Index R, according to ISO 10140-2, in combination with common barrier materials

Whisper® 100mm has an Rw of 18  
– according to ISO 717-1

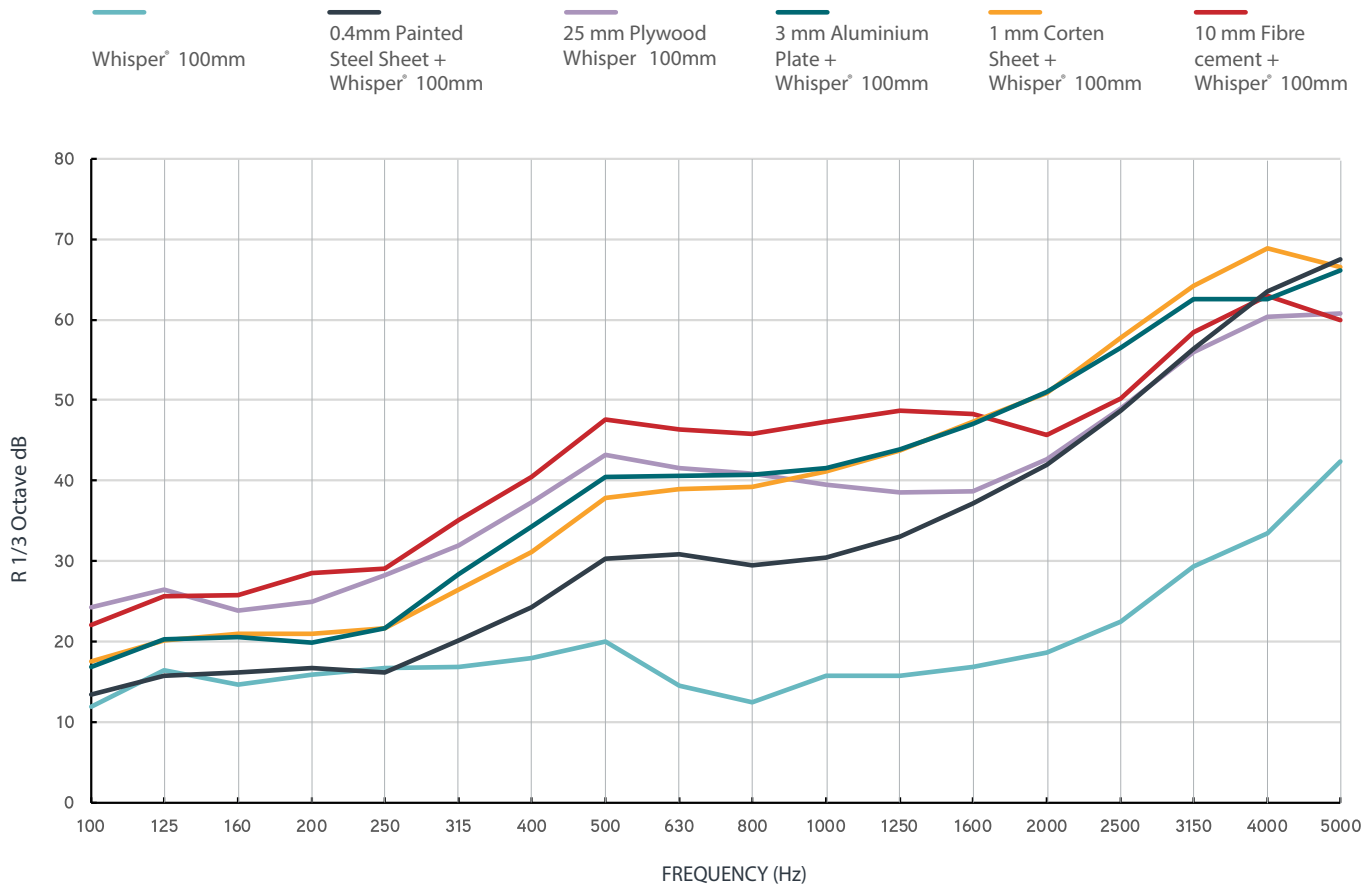


Transmission loss is important when the source and receiver are in different rooms.



The CALMA-TEC HG-C system was approved by the German Federal Railway Authority for speeds up to 300 km/h. The lightweight high performance system enables rapid installation times .

Arch. DI Wolfgang Brunbauer (System-Design)



Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	Rw
Whisper® 100mm	12	16	15	16	17	17	18	20	15	13	16	16	17	18.6	22.5	29	33.5	42.4	18
25 mm Plywood + Whisper® 100	24	27	24	25	28	32	37	43	42	41	40	39	39	42.6	49	56	60.4	60.7	39
10 mm Fibre cement + Whisper® 100 mm	22	26	25	29	29	35	41	48	46	46	47	49	48	45.7	50.2	58	63	59.9	43
1 mm Corten Sheet + Whisper® 100 mm	18	20	21	22	22	27	31	38	39	39	41	44	47	50.9	57.7	64	68.8	66.6	37
3 mm Aluminium Plate + Whisper® 100 mm	17	20	21	22	22	28	34	40	41	41	42	44	47	51	56.5	63	62.5	66.1	37
0.4mm Painted Steel Sheet + Whisper® 100 mm	13	16	16	16	16	20	24	30	31	30	31	33	37	41.9	48.7	56	63.5	67.5	30

Whisper® installed facing noise source, edges and joints sealed.  
Disclaimer: As every installation is unique, we cannot guarantee the repeat occurrence of these test results. We recommend employing an acoustic consultant and using an accredited test lab prior to purchasing product.

Testing of Whisper® under ISO10140-2 was conducted by Ecoscan bvba, Belgium. [www.ecoscan.be](http://www.ecoscan.be)



# THE SAFE CHOICE

The safe way to improve your acoustic healthcare, is to use Whisper®.

We focus on minimising the precious resources used, in return for a high performing durable acoustic solution. Whisper® has few substitutes with equivalent absorption and mass due to it's unique structure and composition. Whisper® UV is durable outdoors, being tested to 2000 hours accelerated aging, independently assessed as equivalent to 20 years of outdoor life in Spain.

Whisper® is a durable acoustic solution in particular where environmental humidity cannot be efficiently controlled with heating, ventilation and air conditioning. All variants of Whisper® are unaffected by degradation or delamination from moisture damage. Whisper® does not contain, and does not break down into food sources. This means that it does not tend to suffer from attack from mould and vermin.

Whisper® is free of Formaldehyde, has low volatile organic compounds (VOC's), low particle emissions, is fibre-free, and has zero ozone depleting substances. Whisper® goes one step further in indoor environmental performance with museum archival grade Oddy testing to prove that Whisper® does not emit corrosive gasses. Independently proving that it does not affect delicate metals or electronics.

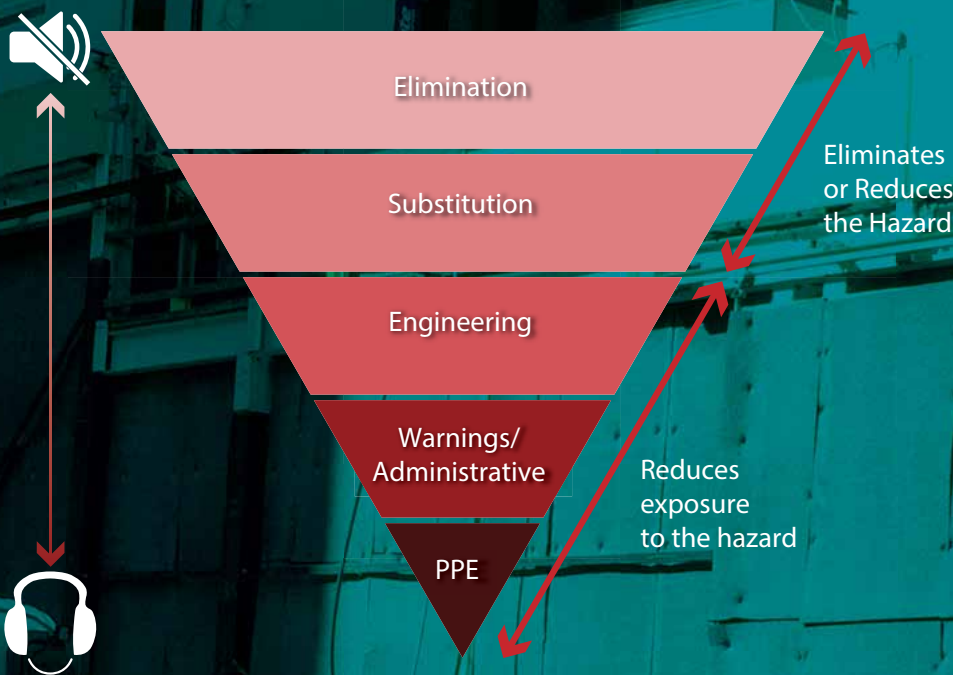
Whisper® passes the rigorous Danish test of indoor climate, and is free of any irritating fibres, the handling requirements for gloves, barriers, and breathing masks are eliminated. Compliance costs can be minimised, and installation efficiency can be maximised.

Where robust, reliable acoustic materials are required, Whisper® delivers. Whisper® is washable, so it's resistant to hydro-alcohol, detergents, quaternary ammonia compounds, and accelerated hydrogen peroxides used as hospital grade virucides.

Whisper® is proven on projects all over the world, from houses in Sydney to school classrooms in Dubai, swimming pools in New Zealand, Generators in Tasmania, mines in Mongolia and high-speed rail noise barrier walls in Germany. Choose Whisper for your next noise reduction solution.

## HIERARCHY OF CONTROLS

This hierarchy is intended to provide a systematic approach to control hazards. They are ranked by effectiveness. The controls are less effective as they progress to the bottom of the page. It is common to combine controls. The hazard type, consequence severity, and the risk to workers must be considered when identifying which control(s) should be used. As the risk increases so should the control method.



dB	Actual Sound Pressure Level (SPL) Reduction	Perceived Volume Reduction
3	50.00%	18.77%
6	75.00%	34.02%
9	87.50%	46.41%
12	93.75%	56.47%
15	96.88%	64.64%
18	98.44%	71.28%
21	99.22%	76.67%
24	99.61%	81.05%
27	99.80%	84.61%
30	99.90%	87.50%
33	99.95%	89.85%
36	99.98%	91.75%
39	99.99%	93.30%
42	99.99%	94.56%
45	100.00%	95.58%



A small dB reduction can be a good reduction in energy .



A 3dB reduction can actually halve the noise energy , and can double the available exposure times



It takes around a **10dB difference** for most people to physically hear half or double the sound .



# RIGOROUS APPLICATIONS

Superior noise control  
Resistant to water and humidity  
Flame retardant  
Does not support fungal growth  
Non-conductive  
Non-corrosive

Low dust adhesion  
No need for moisture barriers  
Perforated facings not required  
Fast installation  
Operating Temperature -40 - +80



Wollondilly Community Leisure Centre,  
NSW, Australia



Highway, Budapest, Hungary



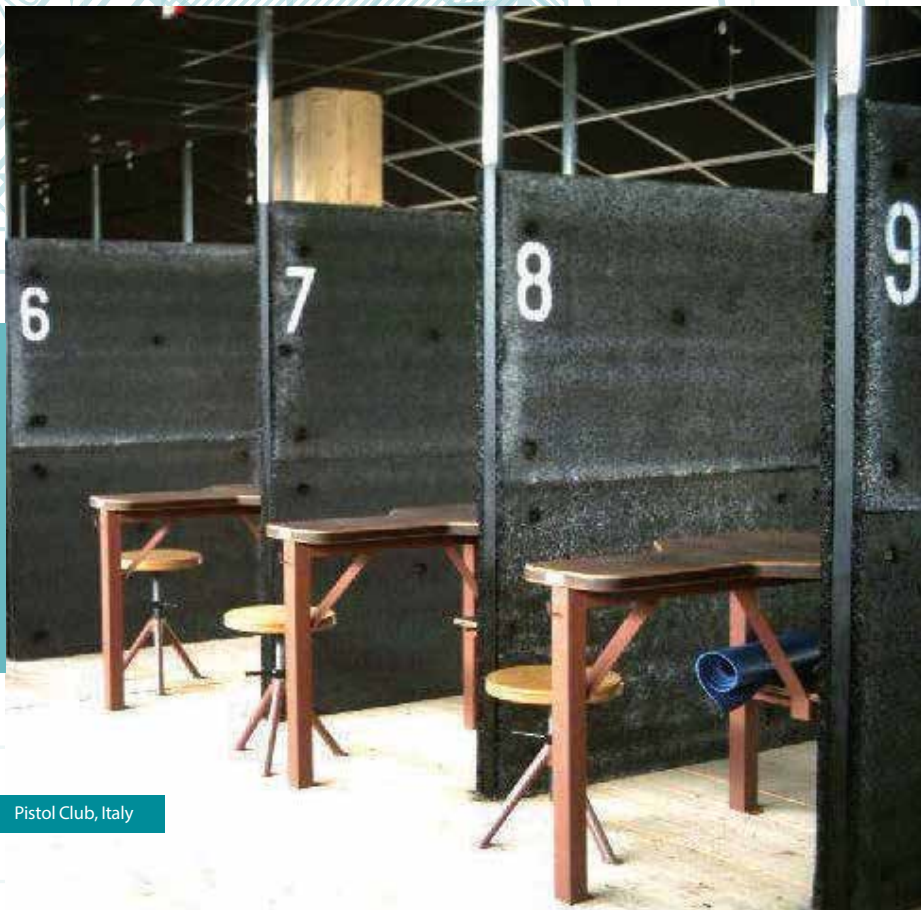
Arrosticini Divini restaurant at L'Aquila, Italy



Badajoz municipal band practice room,  
Badajoz, Spain

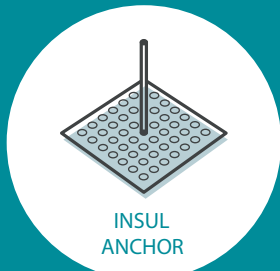


Aercel SPA, Italy



Pistol Club, Italy

# INSTALLATION



INSUL  
ANCHOR



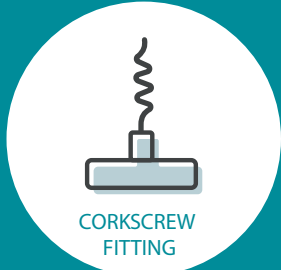
ADHESIVE



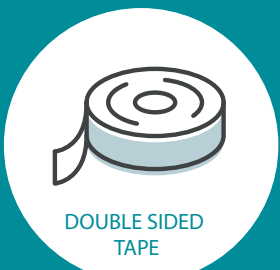
SCREWS &  
WASHERS



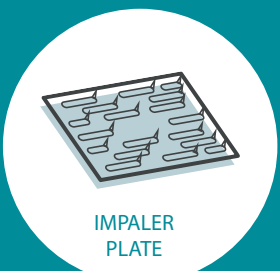
INSULFAST™



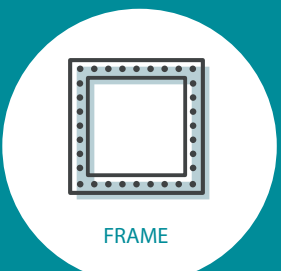
CORKSCREW  
FITTING



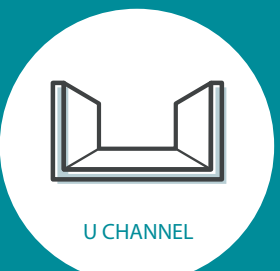
DOUBLE SIDED  
TAPE



IMPALER  
PLATE



FRAME



U CHANNEL

REFER TO  
YOUR SALES  
CONTACT AT  
AM SERVICES  
FOR A COPY  
OF OUR  
INSTALLATION  
GUIDE



FRONT COVER IMAGE

Project name | LINEA & TYPO – MAXXI MUSEUM

Location | Rome

Date | 2017

Client | Consorzio Stabile Seaman

Design | Andrea Lupacchini architect

Craftsmanship | Devoto Design

Image by | Nicolò Sardo, courtesy of Andrea  
Lupacchini architect



# Get in touch

Am Services (wy) Ltd  
Unit 12B  
RCM Business  
Centre, Sandbeds  
Trading Est  
Ossett  
West Yorkshire  
WF5 9ND

T: +44 1924262952  
E: [info@amserviceswy.com](mailto:info@amserviceswy.com)  
[www.amserviceswy.com](http://www.amserviceswy.com)

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