

# Sealed Air®

## Whisper®

Acoustic Panels

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

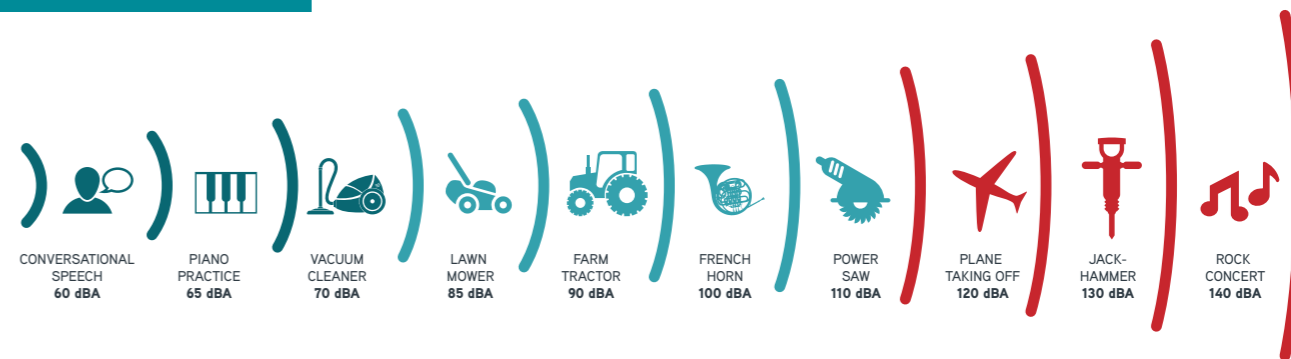
Whisper® Acoustic Panels are a honeycomb-like matrix of networked closed cells which efficiently absorb noise. This durable material remains acoustically 'soft' eliminating the problem of hard reflective surfaces that contribute to reverberation and echo.

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

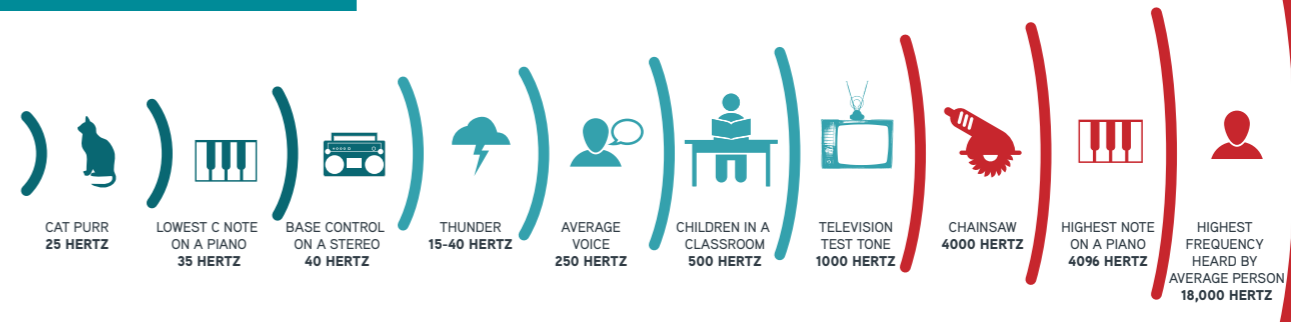
Whisper® Acoustic Panels are easy to fabricate, light weight, quick to install, and retains its structure in humid environments. Its superior noise reduction qualities are proven in some of the most rigorous applications, such as road and rail traffic and industrial machinery.

Whisper® Acoustic 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

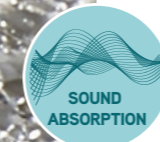
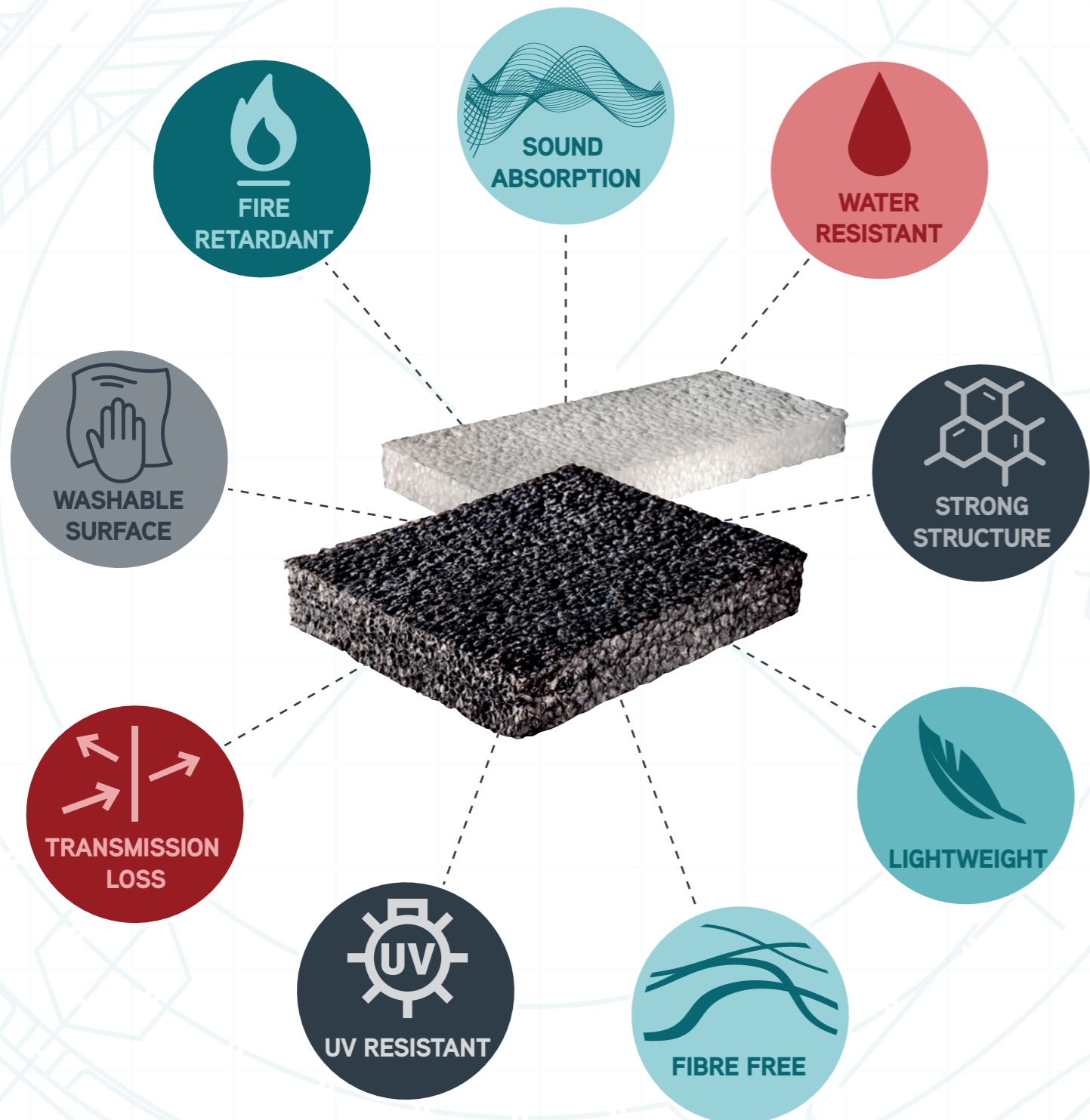


### FREQUENCY CHART



# WHY CHOOSE WHISPER® ACOUSTIC PANELS?

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



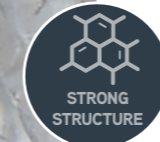
## SOUND ABSORPTION

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



## WATER RESISTANT

The acoustic properties of Whisper® are maintained following exposure to water & moisture. Whisper® passes the rigorous EN 12088 28-day condensing humidity test. In a simulated 'one in 50-year storm' including water at 3 l/min and wind speeds up to 16 m/sec, Whisper® retains 100% of its acoustic performance after draining, with no need for a water barrier, protective film, or perforated metal facing.



## STRONG STRUCTURE

With its semi-rigid self-supporting structure, Whisper® Acoustic Panels are easy to cut and easy to install on site



## LIGHT WEIGHT

Whisper® Acoustic Panels are 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® Acoustic Panels have no fibrous materials, low VOC and zero ODP. Whisper® Acoustic Panels do 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® Acoustic Panels 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 & Whisper® NBO have both been independently tested to exceed 50 years outdoor life in testing to EN 14388. Panels were exposed to UV, heat, water, and road salt. Even when encrusted with salt, Whisper® maintained similar acoustic absorption to new material. Whisper UV, and NBO are tested to fire standard EN 1794-2 Class 1.



## 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® Acoustic Panels have 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® Acoustic Panels don't just absorb sound, it also contributes measurably to the transmission loss you might expect in wall or enclosure applications.



# SOUND ABSORPTION

Reverberation Room testing according to EN ISO 354

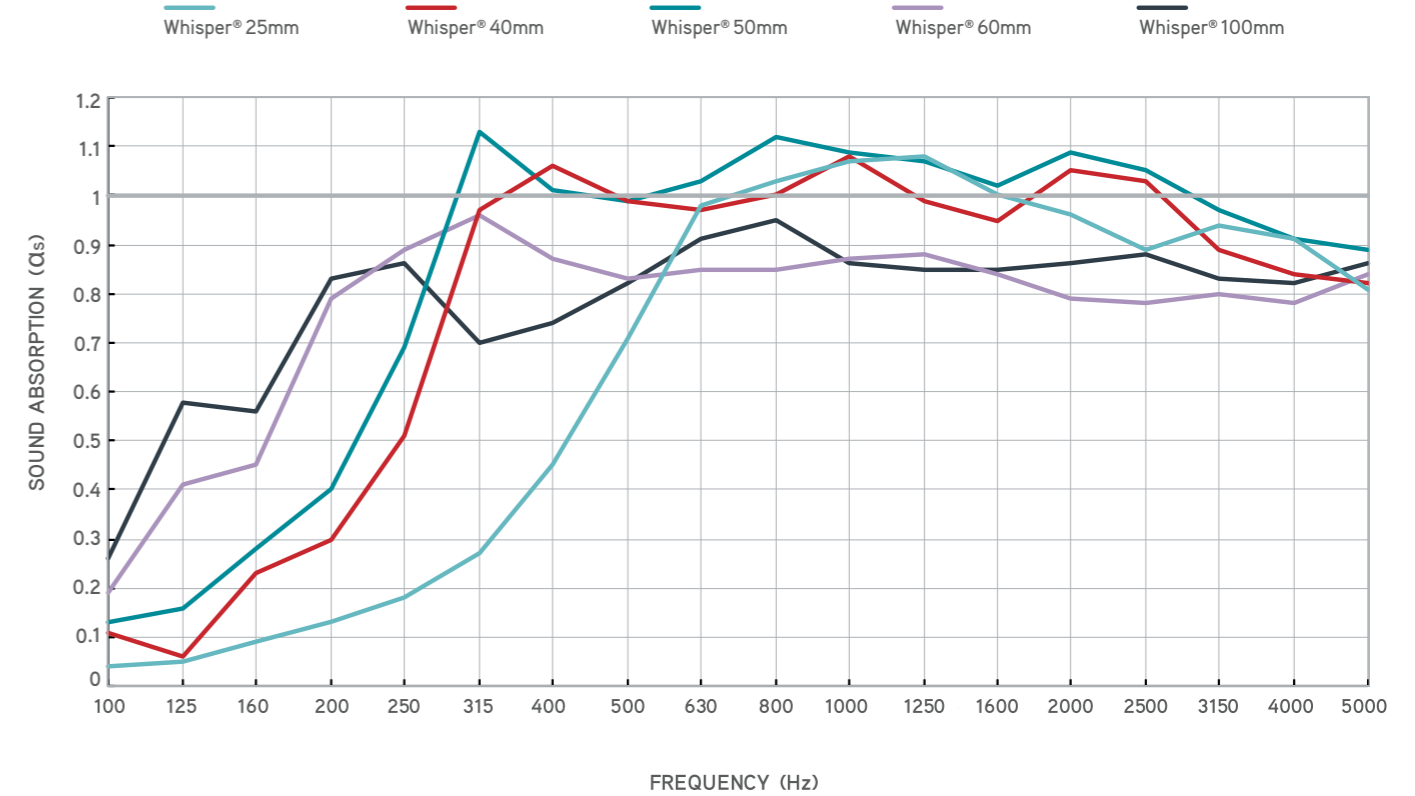
Whisper® 40 & 50mm are classified as high absorbent – according to EN ISO 11654 – Class A.



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

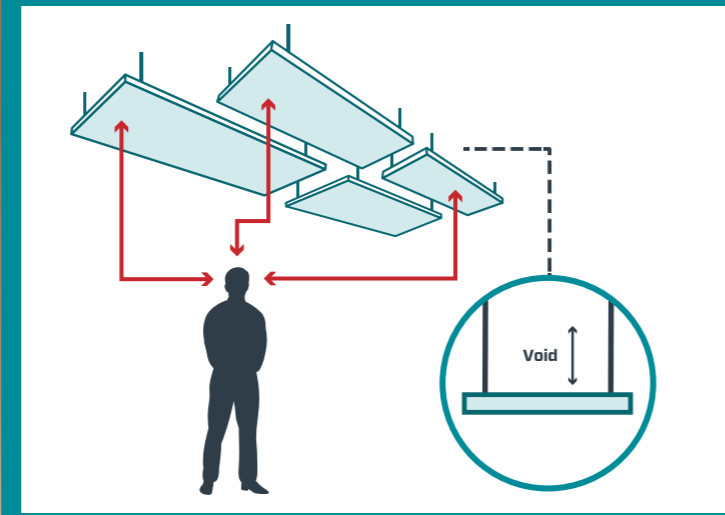


Whisper® Acoustic Panels



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® 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® 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® 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® 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® 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® Acoustic Panels was carried out in accredited laboratories.

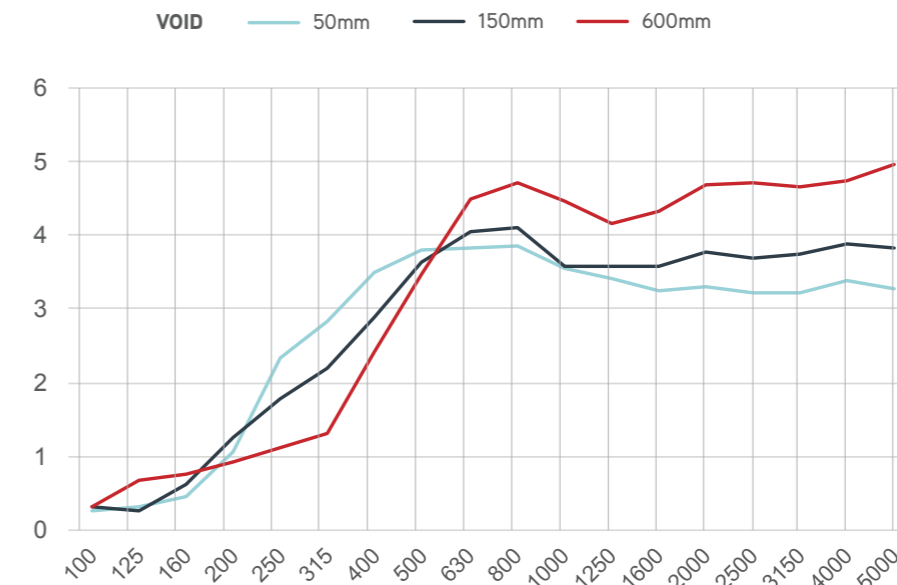


# CEILING RAFTS

Hanging panels are an economic method of applying acoustic absorption to an interior space. Whisper® Acoustic Panels absorb 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



Kindergarten Bolzano, Italy

## MAXIMUM CREATIVITY

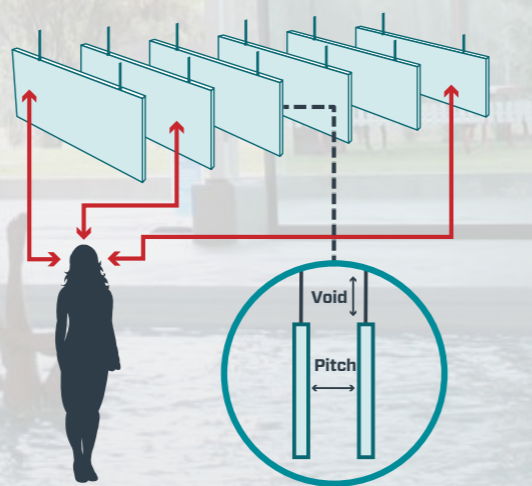
For advice on alternative baffle sizes, layouts and shapes contact your Whisper® Acoustic Panels distributor.

“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® Acoustic Panels absorb 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.



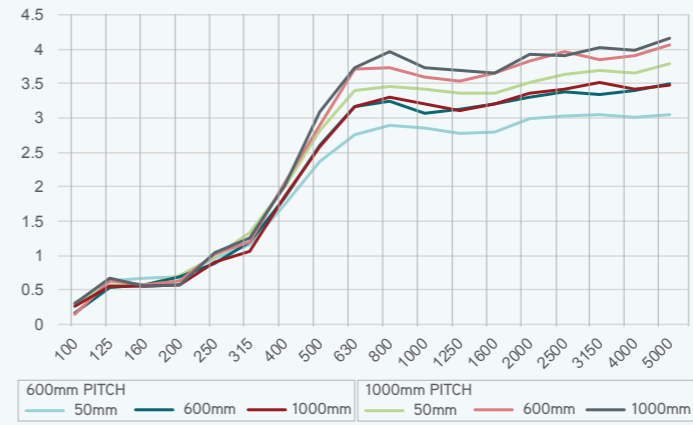
### MAXIMUM CREATIVITY

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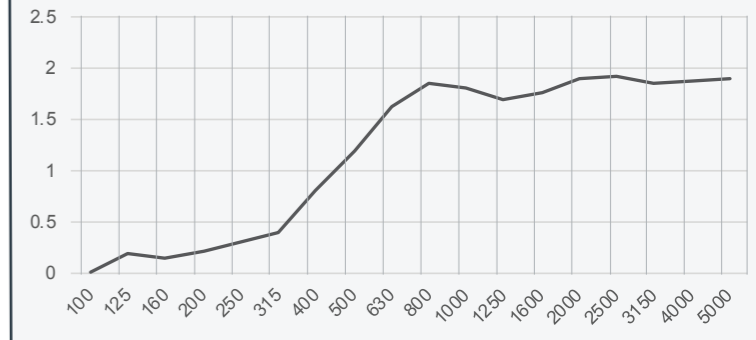
# MINIMUM MATERIAL, MAXIMUM PERFORMANCE

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

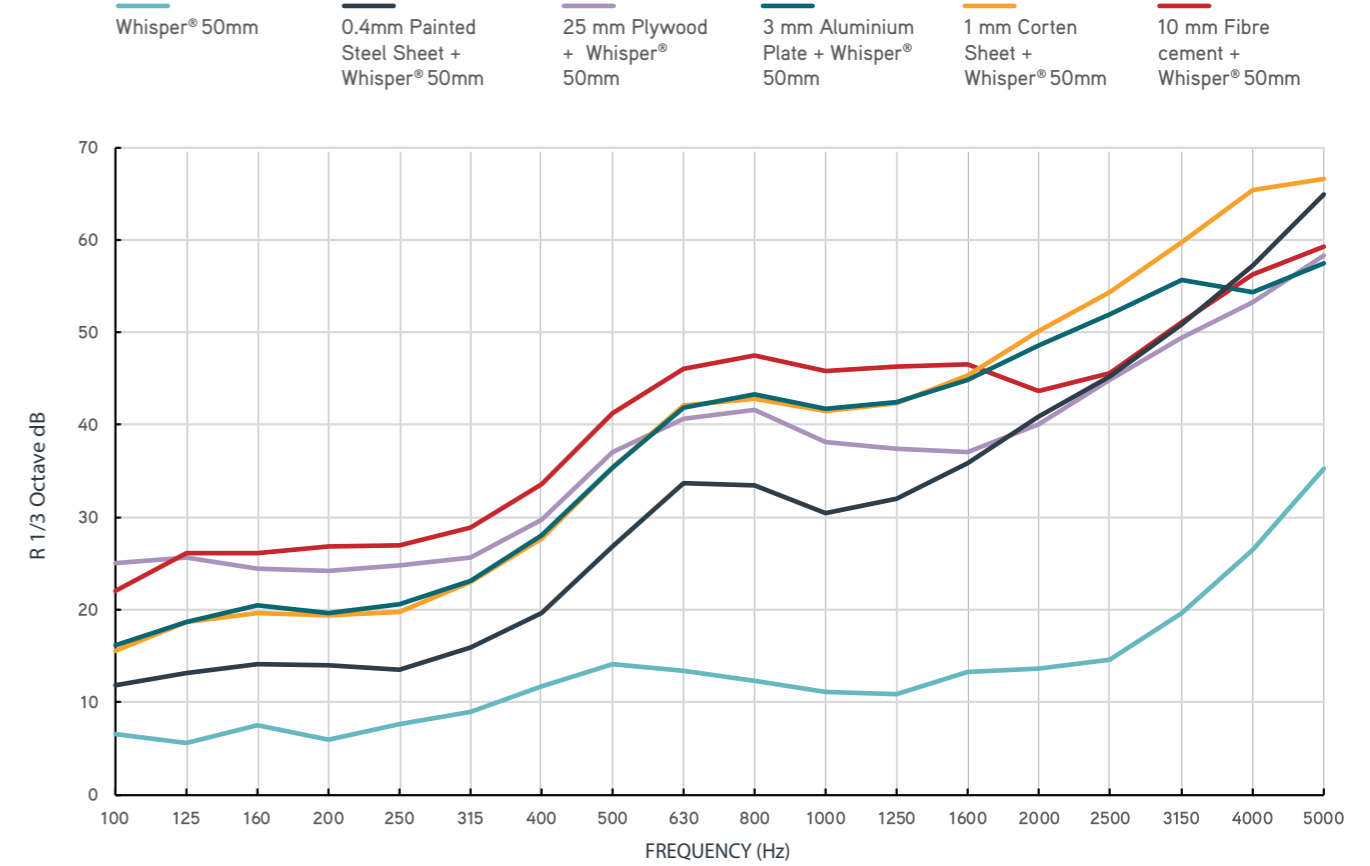
Whisper® 50mm has an Rw of 13.8 – according to ISO 717-1



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® 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® Acoustic Panels 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® Acoustic Panels has been performed in accredited laboratories.

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

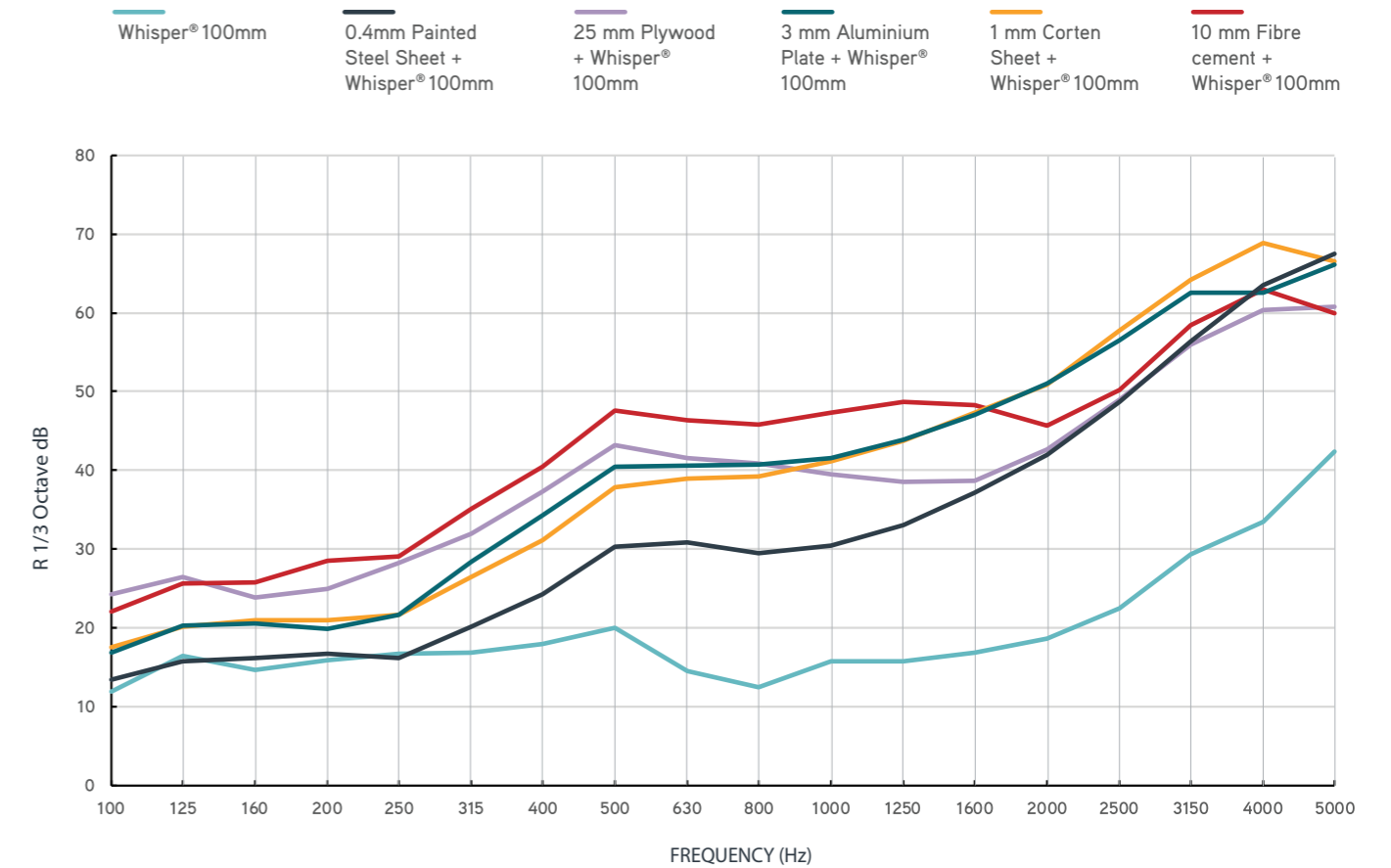
# TRANSMISSION LOSS 100MM

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.



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® Acoustic Panels installed facing noise source, edges and joints sealed.  
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“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)



# THE SAFE CHOICE

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

We focus on minimising the precious resources used, in return for a high performing durable acoustic solution. Whisper® Acoustic Panels have few substitutes with equivalent absorption and mass due to their unique structure and composition.

Whisper® UV & Whisper® NBO have both been independently tested to exceed 50 years outdoor life in testing to EN 14388. Panels were exposed to UV, heat, water, and road salt as well as pendulum and hammer impacts.

Whisper® Acoustic Panels are a durable acoustic solution in particular where environmental humidity cannot be efficiently controlled with heating, ventilation and air conditioning. All variants of Whisper® Acoustic Panels are unaffected by degradation or delamination from moisture damage.

Whisper® Acoustic Panels do not contain, and do not break down into food sources, and therefore do not tend to suffer from attack from mould and vermin.

Whisper® Acoustic Panels are free of Formaldehyde, have low volatile organic compounds (VOC's), low particle emissions, are fibre-free, and have zero ozone depleting substances. Whisper® Acoustic Panels go one step further in indoor environmental performance with museum archival grade Oddy testing to prove that Whisper® Acoustic Panels do not emit corrosive gasses, independently proving that they do not affect delicate metals or electronics.

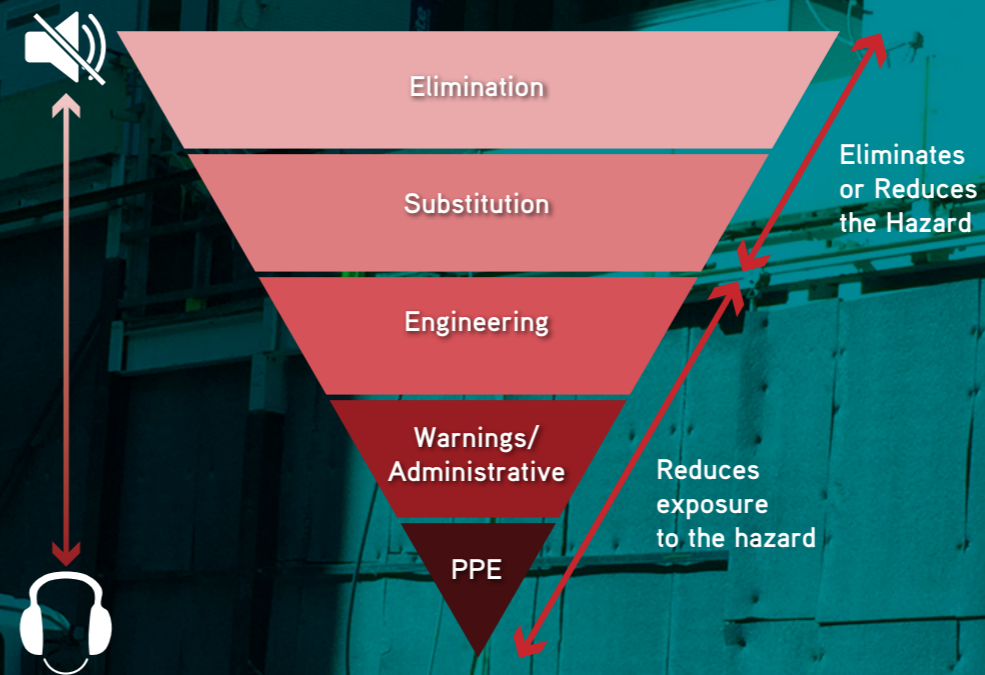
Whisper® Acoustic Panels pass the rigorous Danish test of indoor climate, and are free of any irritating fibres, so the handling requirements for gloves, barriers, and breathing masks are eliminated. Compliance costs can be minimised, and installation efficiency can be maximised.

Where robust, reliable acoustic materials are required, Whisper® Acoustic Panels deliver: they are washable, and resistant to hydro-alcohol, detergents, quaternary ammonia compounds, accelerated hydrogen peroxides, calcium hypochlorite, or treated pool water.

Whisper® Acoustic Panels are 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® Acoustic Panels 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.



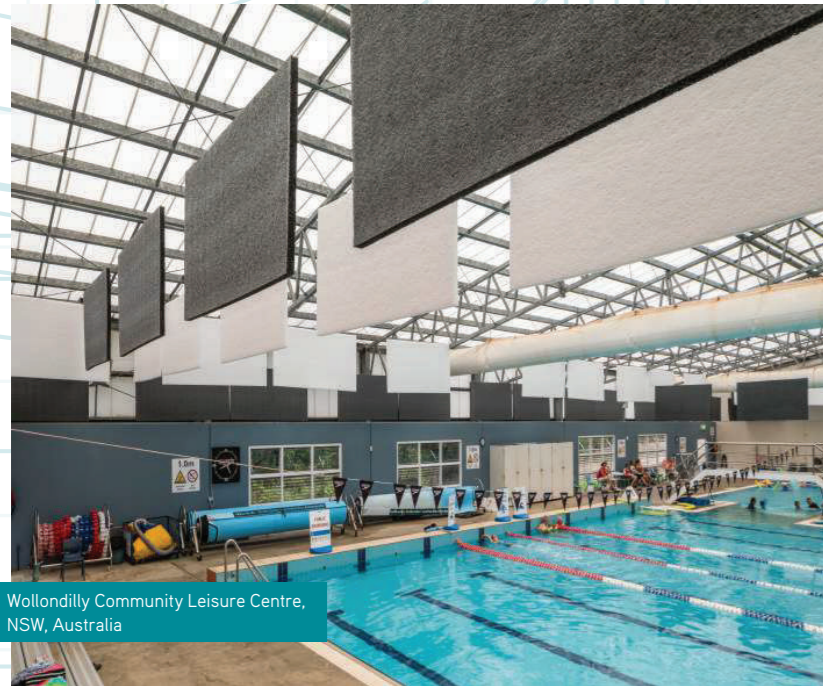
A 3dB reduction can actually halve the noise energy, and can double the available exposure times



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



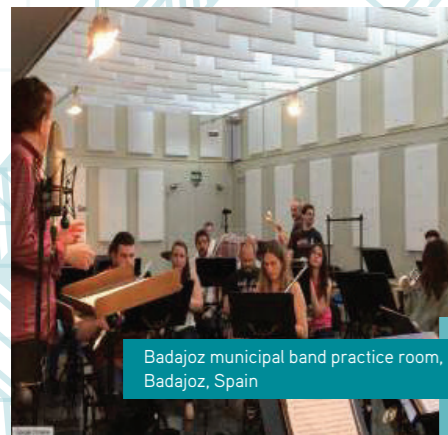
Wollondilly Community Leisure Centre, NSW, Australia



Highway, Budapest, Hungary



Arrosticini Divini restaurant at L'Aquila, Italy



Badajoz municipal band practice room, Badajoz, Spain



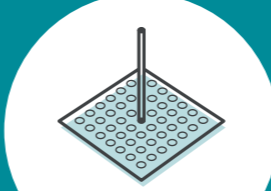

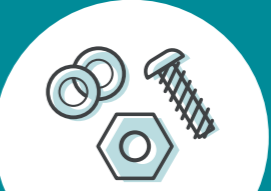



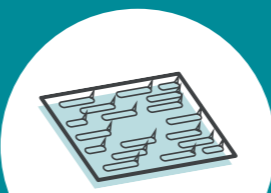
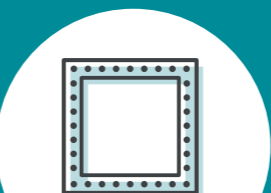

Aercol SPA, Italy



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 FOR A COPY OF OUR INSTALLATION GUIDE

**FRONT COVER IMAGE**

Project name | LINEA & TYPO – MAXXI MUSEUM

Location | Rome

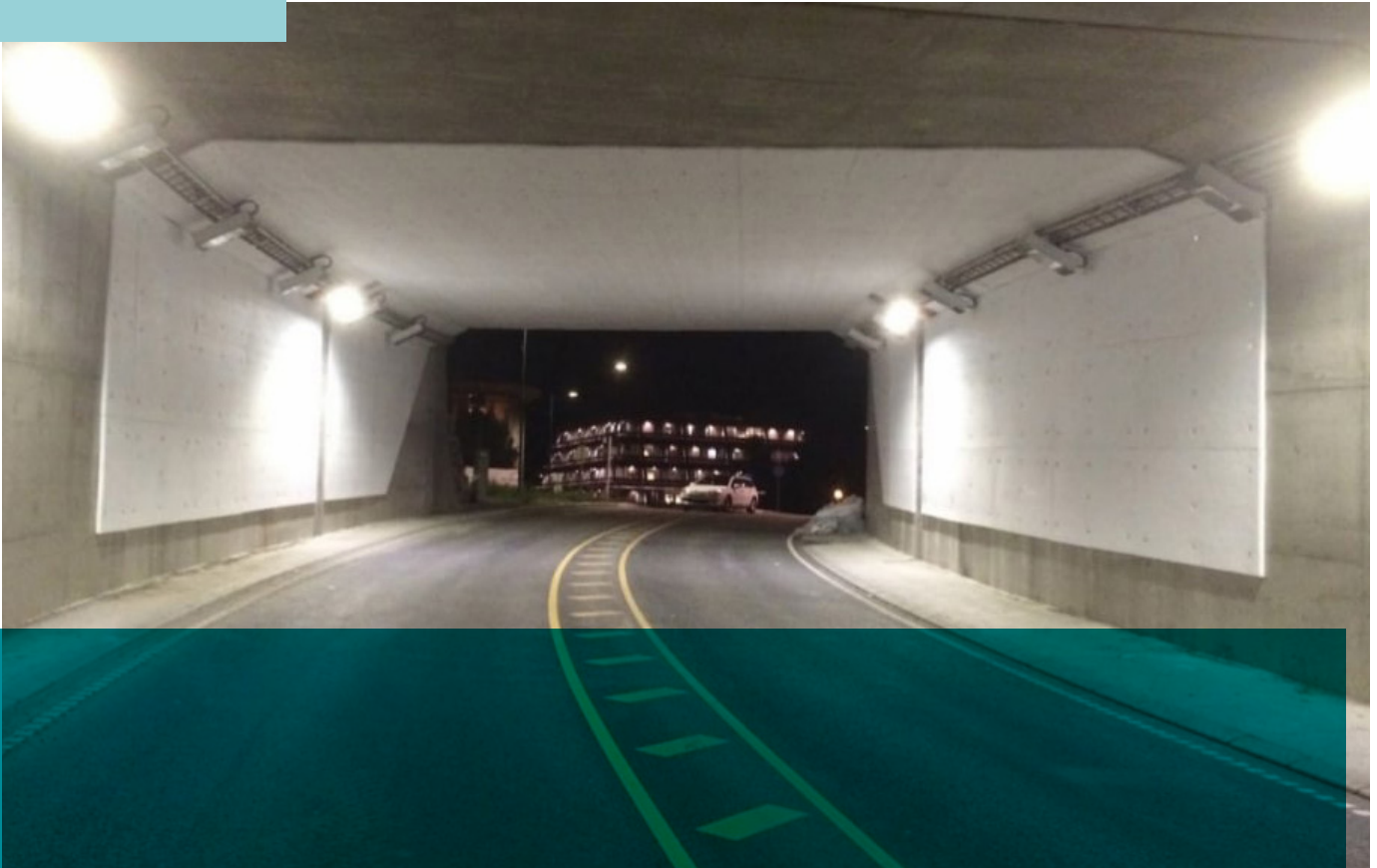
Date | 2017

Client | Consorzio Stabile Seaman

Design | Andrea Lupacchini architect

Craftsmanship | Devoto Design

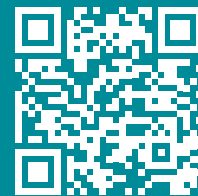
Image by | Nicolò Sardo, courtesy of Andrea  
Lupacchini architect



# Get in touch

For more information please visit:

<https://pages.sealedair.com/uk-whisper>



# Sealed Air<sup>®</sup>

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