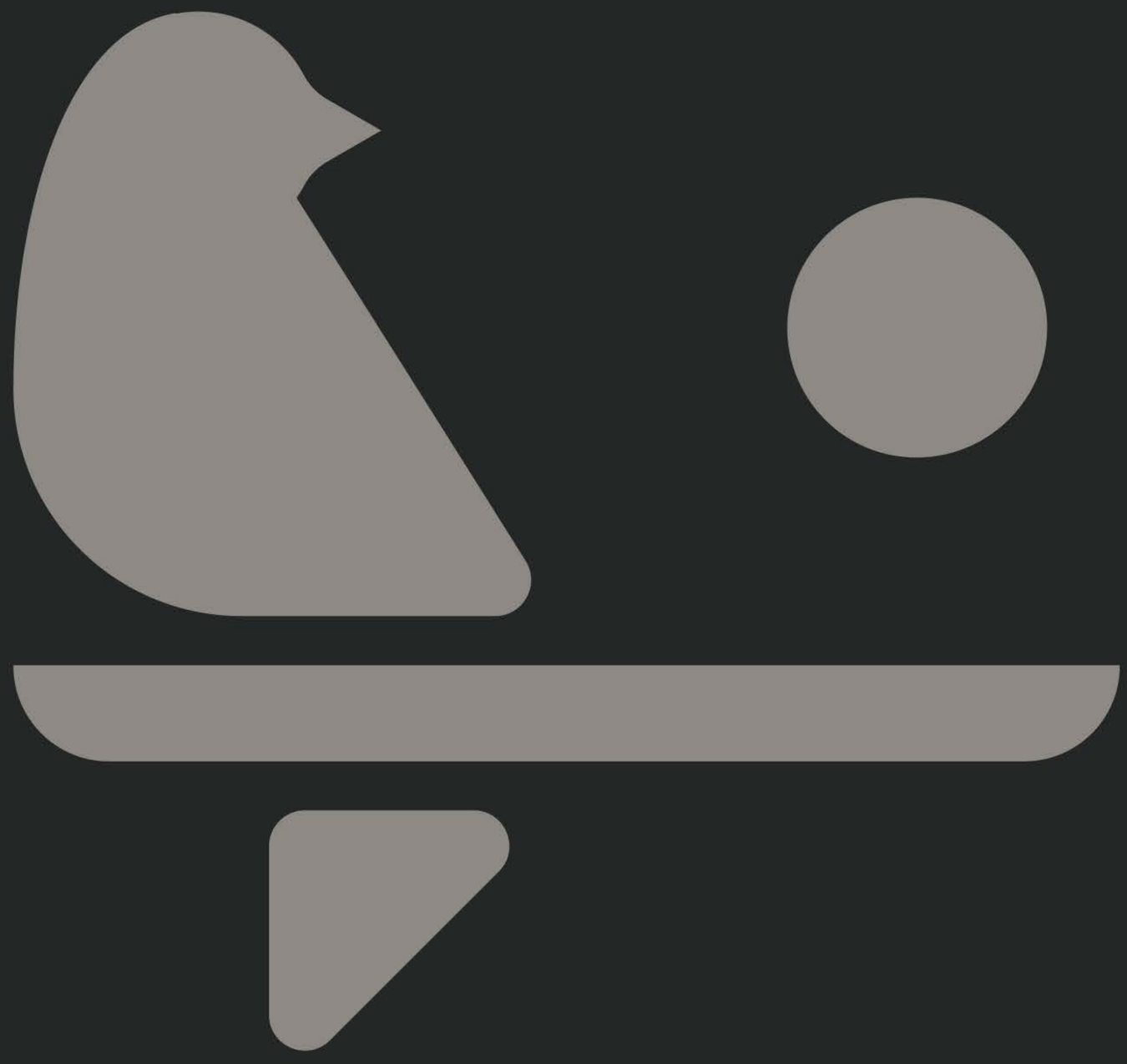


inmind

thinking
about project


Sound
OFFECCT

What is sound?

Since the day man stood upright, most of our time on planet earth has been spent outdoors. It is only in the last one hundred years that we have started to spend most of our days indoors. From this, we should learn that evolution has adjusted our hearing for what was important in outdoor environments. Room acoustics should therefore adapt a building to mimic the acoustic conditions that exist outside.

Sound is physically described as periodical fluctuations in density propagating through a media - in most cases the fluctuations of air pressure in the air surrounding us. We experience sound when these fluctuations are transmitted to our ears and from there are transferred as nerve signals to our brains. These facts have been a foundation in our product development process at Offecct.

We have been working with acoustics for a long time, and we were the first furniture company to launch designed acoustic wall panels. We constantly work with the development of acoustic products that not only absorb but also efficiently diffuse and block sound in order to create possibilities for the best possible indoor environment, i.e. Sound Balance.

THE ORIGINAL ACOUSTIC PANELS

It all started with Soundwave® Swell, designed by Teppo Asikainen in 1999. Since then we have constantly developed our knowledge of acoustics and its importance to our well-being.

Successful acoustic design requires both a good understanding of the unique properties of each panel type as well as a correct analysis of the specific acoustic needs of an interior. The panels in the Soundwave® series, are designed for a specific purpose. The panels can be combined in different ways to meet the needs of almost any room or environment.

Our acoustic panels combine functionality and aesthetics, and are specifically designed to enhance the acoustic properties of any interior used for communication and social interaction

SOUNDWAVE® ANDO

Soundwave® Ando is designed by Daniel Svahn. To give a material a new use with a different meaning and function creates excitement. With its look and sound absorbing material, the eye will experience Soundwave® Ando as a concrete block.

"The concrete block has been transformed from a hard material with sound reflecting properties to a soft sound absorbing surface. Playing with surfaces like this creates interesting environments for meetings to take place in", says Daniel Svahn.

Ando is a broadband absorber with extended efficiency in the frequency range of 150 Hz-500 Hz. These panels is very efficient at reducing the reverberation time in a room, so disturbing background noise is reduced and voice intelligibility is greatly improved.

Daniel Svahn graduated from Beckmans College of Design in Stockholm in 2009, with a BFA in Product Design. Just the following year Daniel Svahn's explorative attitude towards design earned him the prestigious Estrid Ericsson grant 2010. Shortly after graduation Daniel set up his own company, Daniel Svahn Studio, which has received attention for its innovative and playful use of natural materials in different contexts.

SOUNDWAVE® BELLA

In the process of designing the Bella Sky Hotel in Copenhagen, Danish 3XN asked Offecct to develop a completely new acoustic panel consistent with the architectural project in its entirety. Bella Sky´s two towers stand close to each other like a dancing couple in movement, adding an urban atmosphere to the neighbourhood.

"When we designed Soundwave® Bella we were inspired by the very sharp character of the building itself with its absence of right angles. The flexibility of the Soundwave® system allowed us to give each conference room a separate identity by having one square on each wall in a unique colour in order to distinguish the different rooms", says Kim Herforth Nielsen, founder of 3XN.

Bella is designed to be used as a broadband sound absorber in the frequency range of 500 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

3XN is a Danish architectural office which was founded as Nielsen, Nielsen and Nielsen in Aarhus in 1986 by the architects Kim Herforth Nielsen, Lars Frank Nielsen (partner until 2002) and Hans Peter Svendler Nielsen (partner until 1992). The studio quickly became internationally known for their preference for social and humane architecture, and for projects which demand a high level of detail and workmanship of the highest quality.

Soundwave® Bella was designed for the Bella Center in Copenhagen.

Bella is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® BOTANIC

The inspiration behind Soundwave® Botanic is the Scandinavian forests. The structures can be experienced differently depending on whether the panels are placed vertically or horizontally.

"I appreciate how the forest is everywhere in Scandinavia. The forest's presence is so significant, that when I was commissioned to design a acoustic panel that would be a part of the Soundwave® collection, I was inspired by tree branches. This is what lies behind the final form; abstract and structural movements inspired by natural vegetation", says Mario Ruiz.

Botanic is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Mario Ruiz is a graduate in Industrial Design from the Elisava School of Design in Barcelona. He started his independent professional career in 1995. During those first years and up until 2003 his activity focused primarily on the fields of technology and office furniture design. Currently Mario Ruiz works for internationally renowned firms on a wide range of products such as lighting, furniture, office equipment and applied graphics.

Botanic is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® FLO

When creating Soundwave® Flo, Karim Rashid was inspired by sound waves and digital data. Rashid believes that people today live in a very digital world mentally. We need to catch up with experimental design in the physical world to create a balance.

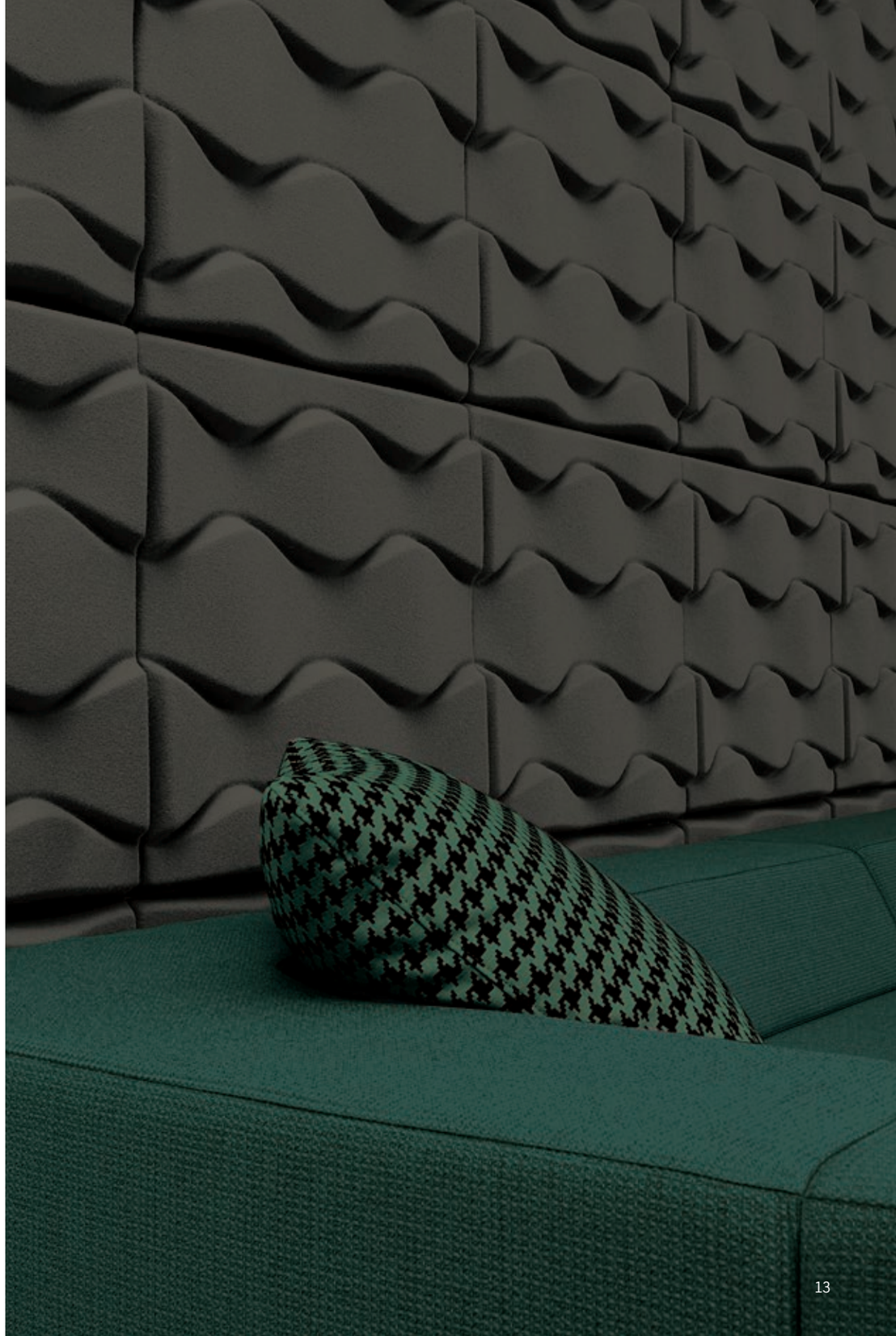
"Through dimension, material, colour, code, pattern, texture, line, solid, plane composition I can manifest the digits of binary notation and sound waves to communicate a new itinerant form of super-functional decoration that is current and aesthetic within our new sensual world – let your world Flo", says Karim Rashid about the design process.

The Flo panels can be set continuously or broken up in different ways. Placed horizontally the pattern conveys a sense of water and vertically it could be described as light waves.

Flo is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Karim Rashid was born in Egypt, raised in England, educated in Canada, and worked in Italy for a few years before opening his own studio in New York in 1993. Rashid has over 3000 designs in production, has won over 300 awards and is working in over 40 countries.

Flo is certified in accordance with the Nordic Ecolabel and Möbelfakta.



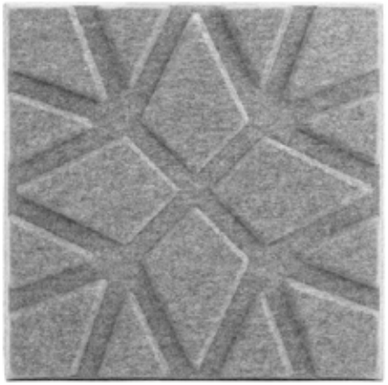
SOUNDWAVE® GEO

When Ineke Hans designed Soundwave® Geo she viewed the panel as a three-dimensional wall decoration similar to the ones which people have always created around the world. The difference is that Geo has a clear function due to its sound absorbing purpose.

"People have always wanted to decorate their walls – everywhere and in every era. But we designers have a tendency to pare away the decorative aspect. I wanted to combine Offecct's sound panels made of felt with a geometric pattern that is decorative but can also function on a large scale with many panels in rows without looking too cluttered. Quite simply, a combination of tradition and modern design", says Ineke Hans.

Geo is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Ineke Hans was born 1966 and studied at the Royal College of Art in London. Hans has had her own design studio in the city of Arnhem in Holland since 1998 where she works with a wide range of projects such as furniture, product design and jewellery. Hans has worked with her own collection of furniture and design items since the start, as well as carrying out projects for different international design producers.



Geo is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® LUNA

Soundwave® Luna is one of the first acoustic panels in the successful Soundwave® series. When designing the acoustic panel Teppo Asikainen got his inspiration from the landscape of the moon, the first Luna panels were made in grey felt to further emphasize the landscape. This together with the acoustic properties required resulted in the design of Soundwave® Luna.

Luna is a heavyweight broadband absorber with extended efficiency in the low frequency range of 150 Hz-500 Hz. This panel is very efficient at reducing the reverberation time in a room. Disturbing background noise will be reduced and voice intelligibility will be greatly improved.

Teppo Asikainen was born in 1968 in Finland and is today one of the partners of Valvomo, an architecture and design office based in Helsinki, Finland, and founded in 1993. The studio works in all areas of design, from architecture to products.

SOUNDWAVE® PIX

Soundwave® Pix provides the possibility to create unique rooms by offering the option to combine colours and forms in different ways. Soundwave® Pix complements the sound absorbing function with the potential for aesthetic variation in terms of the colour and form options.

The design of Pix in itself is a reminder of keys on a keyboard, and radiates a sense of recognition that also surprises.

"Soundwave® Pix offers architects the possibility to combine many different parts that together create a whole and I look forward to seeing architects and interior designers throughout the world use Pix to create innovative interiors", says Jean-Marie Massaud.

Pix is designed to be used as a broadband sound absorber in the frequency range of 150-500 Hz. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc. In addition, the three dimensional pattern helps to scatter the sound which is not absorbed.

Jean-Marie Massaud was born in 1966 and graduated from the ENSCI in 1990. In 2000 he founded Studio Massaud. His design is based on a well-developed design philosophy. From industrial design to architecture and technological innovation, he is a man of change. He prefers questioning the existing, in order to achieve progress and eventually propose answers to contemporary problems.

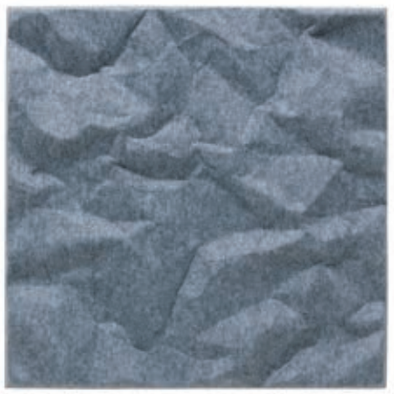
Pix is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® SCRUNCH

Soundwave® Scrunch was one of the first panels in the successful Soundwave® series. In contrast to Soundwave® Luna Scrunch had the landscape of earth, together with its acoustic properties, as inspiration during the design process. The scrunched surface resembles a mountain landscape from above. In the early days the grey colour resembled the mountain landscape, while the off-white version was inspired by snow covered mountains. Today Soundwave® Scrunch is available in several colours.

Scrunch is a broadband sound absorber in the upper frequency range of 500 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Teppo Asikainen was born in 1968 in Finland and is today one of the partners of Valvomo, an architecture and design office based in Helsinki, Finland, and founded in 1993. The studio works in all areas of design, from architecture to products.



Scrunch is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® SKYLINE

Marre Moerel was inspired by the outline of buildings in cities when designing Soundwave® Skyline. The pattern can also be seen as an abstraction of nature. The panels have a regular, rectangular form. When placed horizontally, a straight line is formed at the top which is then broken into slightly angled horizontal lines. The pattern reflects New York's grid of streets and can also be seen as an enormous mountain range from a bird's-eye view. Vertically the pattern is transformed into skyscrapers or primeval rock formations.

"I have spent a lot of time in New York, and in cities like that everything is about sound and noise and about how the inhabitants can reach through that barrier of sound. That is why I felt so motivated to start developing a personally designed panel when Offecct gave me the possibility", says Marre Morel.

Skyline is a broadband sound absorber in the upper frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Marre Moerel was born in Breda in the Netherlands. She studied fashion design, sculpture and furniture design at the Royal College of Art in London and graduated with a Master's Degree in 1991. Between 1993 and 2002 Moerel lived in New York. Moerel has taught furniture design at Parsons School of Design and has been based in Madrid, Spain, since 2003.

Skyline is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® STRIPES

When designing Soundwave® Stripes, Richard Hutten aimed to add something different to the collection. The design is characterized by flexibility, with flexibility meaning that the panels can be combined in many different ways. This in turn means that each interior where Stripes is used can become unique. The diversity Stripes offers thereby becomes a useful tool to create interesting and varied interiors.

"What I did is not just a pattern which repeats itself on the wall, but actually a pattern which can create various other patterns like stripes, arrows or squares. This design is a tool for architects when they have to make a new interior design", says Richard Hutten.

Stripes is designed to be used as a broadband sound absorber in the upper frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Richard Hutten is an internationally renowned Dutch designer with a degree in Industrial Design from the Design Academy in Eindhoven. Hutten is an important part of a highly influential generation of designers that emerged in Holland from the 1990s and onwards. In 1991 Hutten started his own design studio, working on a variety of projects with furniture, product, interior and exhibition design.

Stripes is certified in accordance with the Nordic Ecolabel and Möbelfakta.

SOUNDWAVE® SWELL

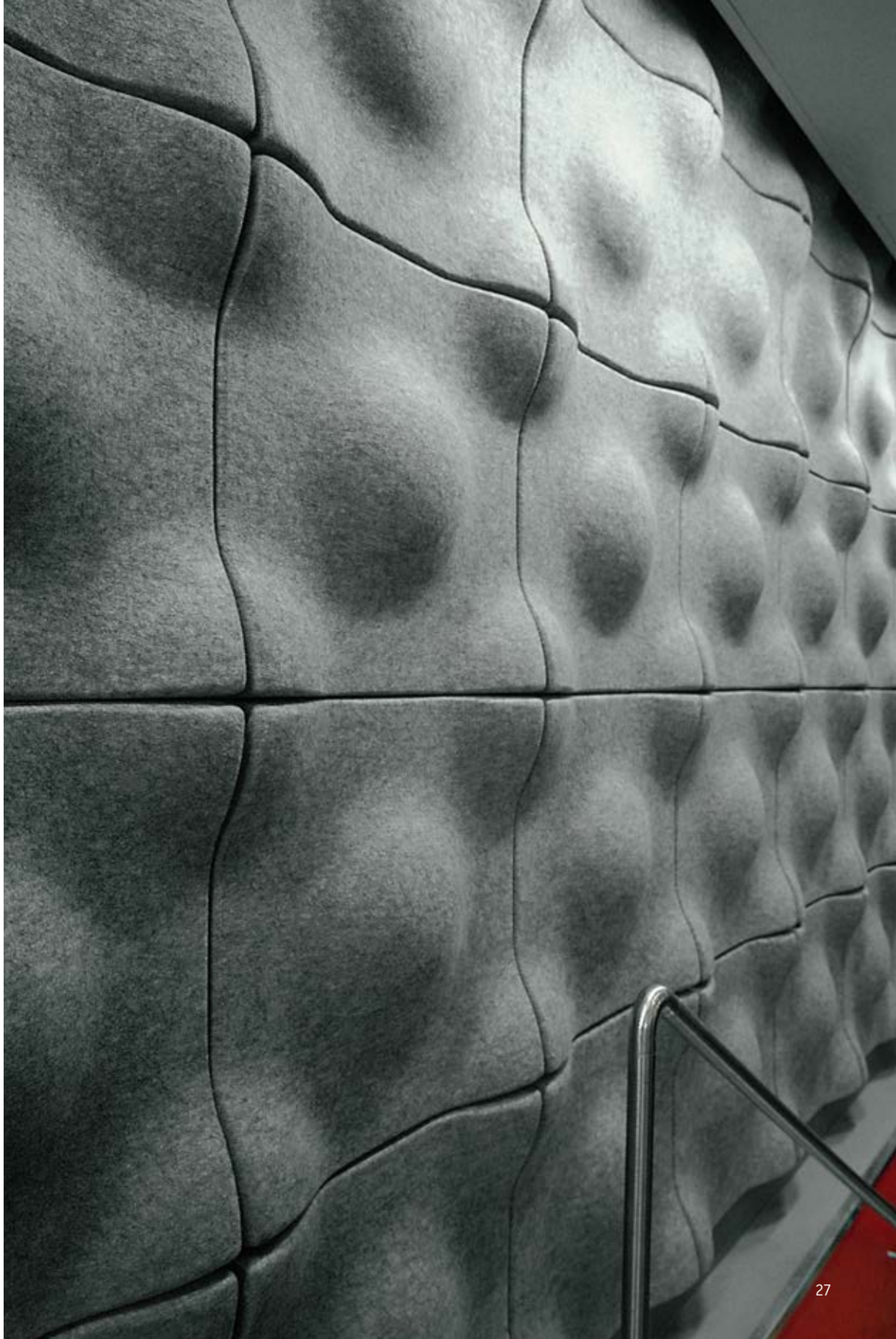
Soundwave® Swell was one of the first panels in the Soundwave® series. The panel was originally designed in 1999 for the Pravda restaurant located in Helsinki. To find a designed wall decoration with high acoustic properties was the challenge and Soundwave® Swell was the result.

Its core value lies in its functionality, and Teppo Asikainen refused to compromise on its looks. The piece has a very strong personality and acts as a kind of 3D wallpaper giving the room the right aesthetic and acoustic feeling at the same time. Due to the 3D shape, Swell also diffuses sound. This is a very important property when used in rooms where the width is small in comparison to the ceiling height.

Swell is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Teppo Asikainen was born in 1968 in Finland and is today one of the partners of Valvomo, an architecture and design office based in Helsinki, Finland, and founded in 1993. The studio works in all areas of design, from architecture to products.

Swell is certified in accordance with the Nordic Ecolabel and Möbelfakta.



SOUNDWAVE® SWELL DIFFUSER

Soundwave® Swell Diffuser is a version of Soundwave® Swell. The panel provides sound diffusion rather than absorption. Correctly positioned, the diffuser panels will improve speech intelligibility and even improve privacy in open spaces as the speaker does not need to talk loudly in order to be heard.

For some types of interior spaces such as auditoriums or home theatres, sound energy should be directed to reach an audience. Swell Diffuser offers this property as well as a unique and harmonic design. As our outdoor environment consists of both hard and soft surfaces, Swell Diffuser in combination with Swell absorber creates a comfortable interior acoustic, pleasant to human ears.

Teppo Asikainen was born in 1968 in Finland and is today one of the partners of Valvomo, an architecture and design office based in Helsinki, Finland, and founded in 1993. The studio works in all areas of design, from architecture to products.

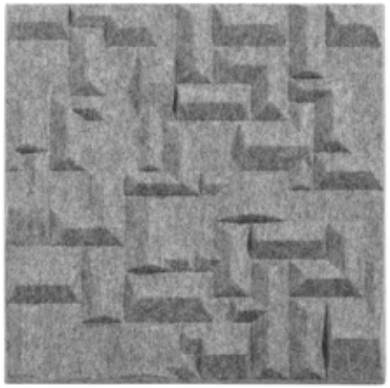
SOUNDWAVE® VILLAGE

Soundwave® Village is a successful pairing of architecture and design. It has a complex geometry, where the sound absorbent properties have determined the pattern. The pattern can be experienced as abstract– the observer does not have to perceive the building pattern. The panels can be used individually or combined to form a whole wall.

"The facets and trapezoid shapes make the sound rebound at a 45-degree angle. After we had worked on the pattern for a while, we realized it looked like the roofs on a lot of small buildings. To get the right feeling, we looked at aerial photographs of very dense urban areas. The Forbidden City in Beijing, where the spaces between buildings can be extremely narrow, was one source of inspiration", says Eero Koivisto.

Village is designed to be used as a broadband sound absorber in the upper frequency range of 500 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Claesson Koivisto Rune is an internationally acclaimed Swedish architect and design studio. It was founded by Mårten Claesson, Eero Koivisto and Ola Rune in 1995. Amongst more than 60 awards, they have received Designer of the Year twice in Italy, by Elle Décor in 2014 and 2011, Red Dot Design Award – Best of the Best 2014, making them the first office to hold a Red Dot in five different product categories.



Village is certified in accordance with the Nordic Ecolabel and Möbelfakta.

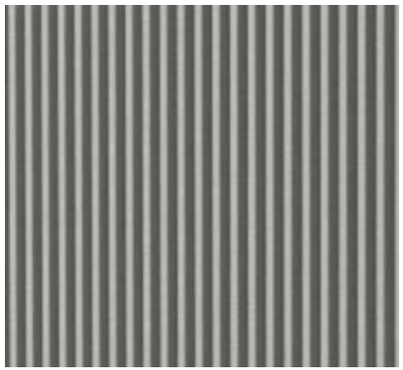
SOUNDWAVE® WALL

Soundwave® Wall is the largest acoustic panel made by Offecct to date and is built upon the existing standard measures set by Offecct's successful acoustic panel collection Soundwave®.

"Soundwave® Wall stretches from floor to ceiling, it's a panel that is a part of the architecture in a building, like a pre-fabricated partition wall. I drew my inspiration from the way some interiors are made in Japanese homes, with walls constructed by long wooden sticks put in a row. In these constructions the contrast between light and shadow forms a beautiful continuous wave which makes the wall naturally substantial", explains Christophe Pillet.

Wall is designed to be used as a broadband sound absorber in the upper frequency range of 250 Hz and above. These panels help reduce disturbing reflections of environmental noise such as voices, telephones etc.

Christophe Pillet was educated at the Decorative Arts School in Nice and the Domus Academy in Milan. He works with everything from product and furniture design to interior and set design. Pillet created his own agency in 1993.

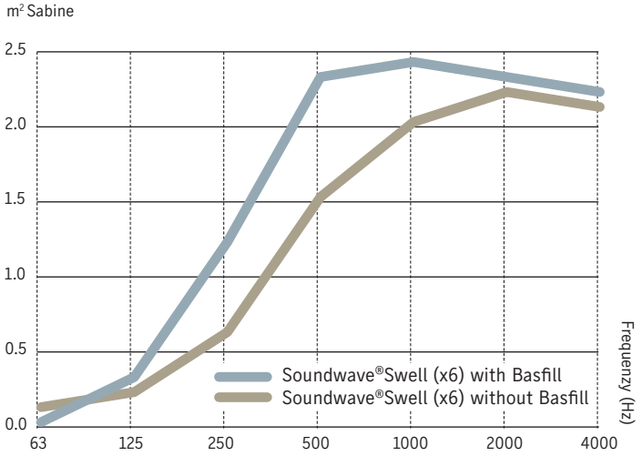


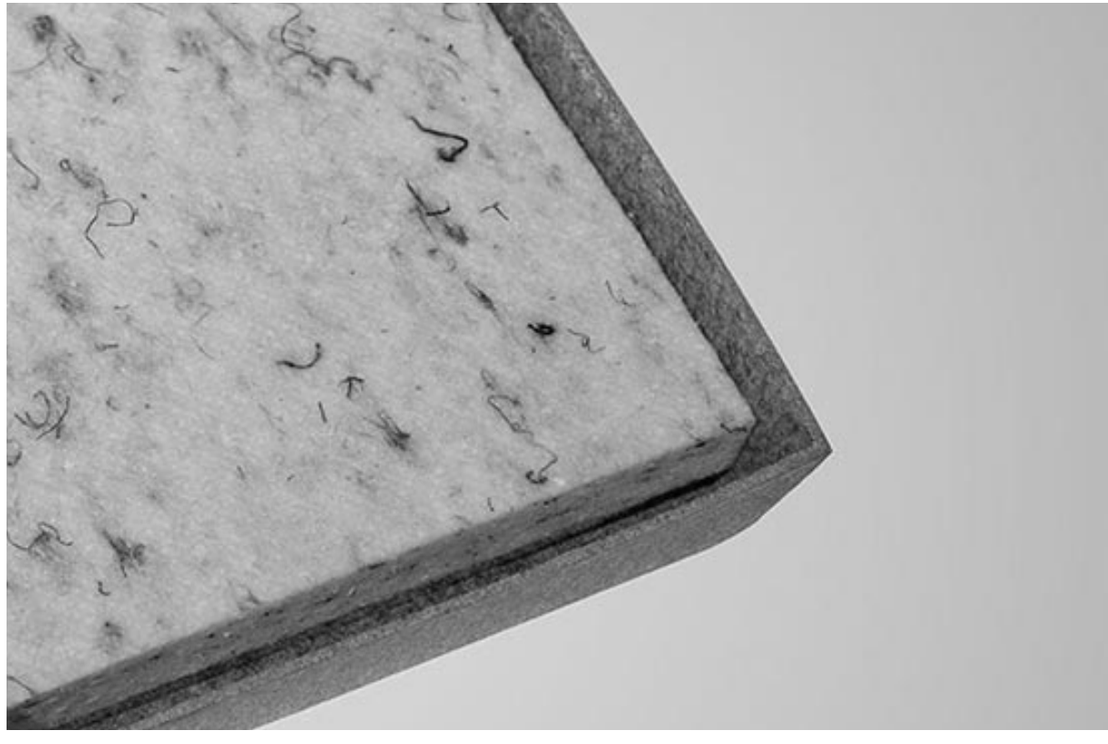
BASFILL

Basfill is an optional addition to our Soundwave® panels. Basfill is a filling material that when put inside the acoustic panel, adds sound absorbing qualities in the lower frequency range of 150 Hz-500 Hz. Sounds in the lower frequencies are bass tones which often are experienced as tiring, such as traffic and ventilation sounds. Reducing low frequency noise in your environment will offer better conditions to focus and speech intelligibility will improve, making it easier to communicate with others around you.

Basfill is an environmentally friendly product made out of 40% reused textile and 20% reused PET. The other 40 % of the material is new fibre, working as a binder of the materials. Basfill is easy to mount and creates more flexibility to adjust Soundwave® panels to different needs.

Equivalent sound absorption area, Aobj





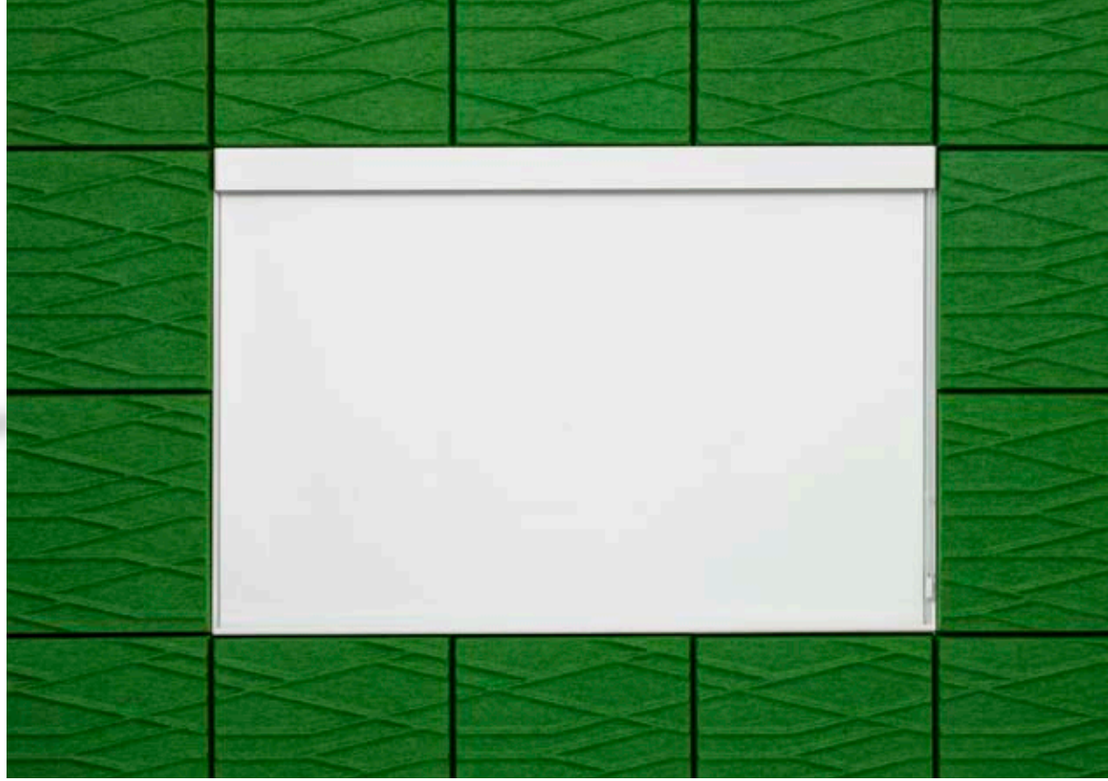
COMPLEMENTARY

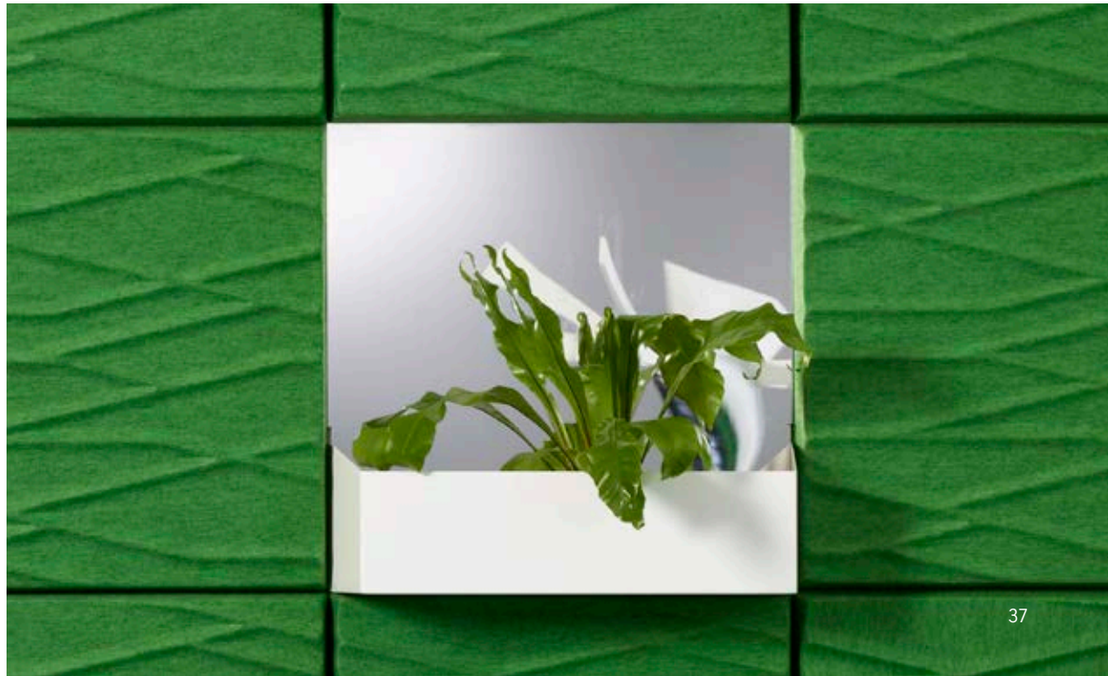
To increase the possibility to use Soundwave® in different interiors, complementary products are available for integration with the Soundwave® system.

Soundwave® Stand By Richard Hutten
Soundwave® Stand is a tool that consists of a frame onto which Offecct's acoustic panels in the Soundwave® series can be fixed. The device fits discretely into all environments without being seen – instead it accentuates the panels used. Soundwave® Stand can be used standing on the floor or hanging from the ceiling.

Soundwave® Screen By Mario Ruiz
Soundwave® Screen, a white, magnetic glass board which also includes a manual projection screen. By integrating Screen in the Soundwave® system the usefulness in contemporary interiors is increased.

Soundwave® Planter By Mario Ruiz
Soundwave® Planter is a product from the O_2asis collection, a flower box that provides opportunity to add greenery to public and private environments.





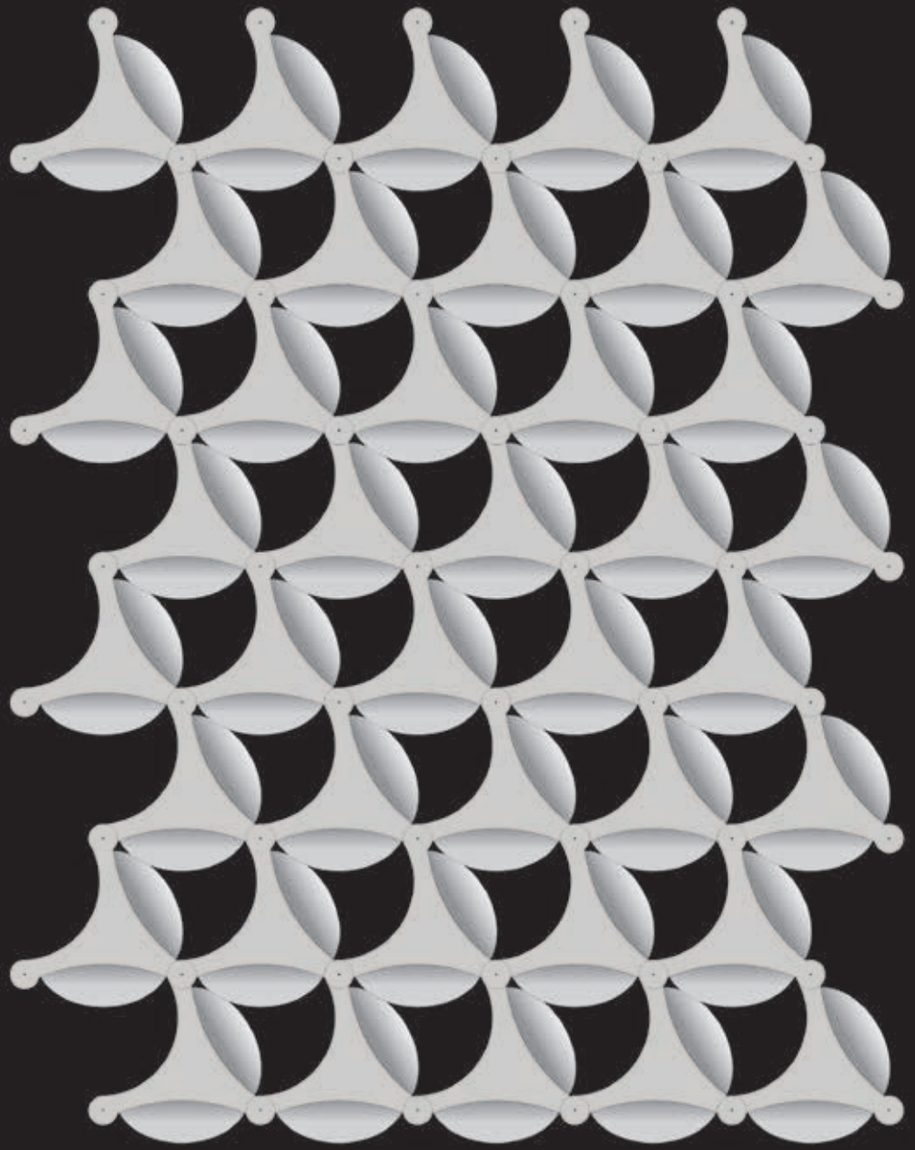
MEMBRANE

A membrane is a delicate thing which we do not think about on a regular basis but immediately notice if it is broken or missing. When used for acoustics, a membrane scatters sound waves and makes the sound in a room balanced. Together with New Zealand based designer David Trubridge, we have created a membrane for indoor use with inspiring features and a truly sustainable construction.

"Membrane works as a sound reducing system. By overlapping modular components and locking them together, the user can build a number of different patterns. The complexity of the pattern creates an attractive and functional hanging screen which improves acoustics as well as divides spaces", says David Trubridge.

Membrane adds a new quality to Offecct's acoustic products. Inspired by nature as our original environment we searched for a product that could mimic the qualities of leaves in a forest. Like leaves, Membrane scatters sound at the same time as it partly lets the light shine through.

David Trubridge graduated in 1972 from Newcastle University in England with a degree in Naval Architecture. David's studio, showroom and workshop is situated in Whakatu, New Zealand, and runs on 100% renewable electricity.



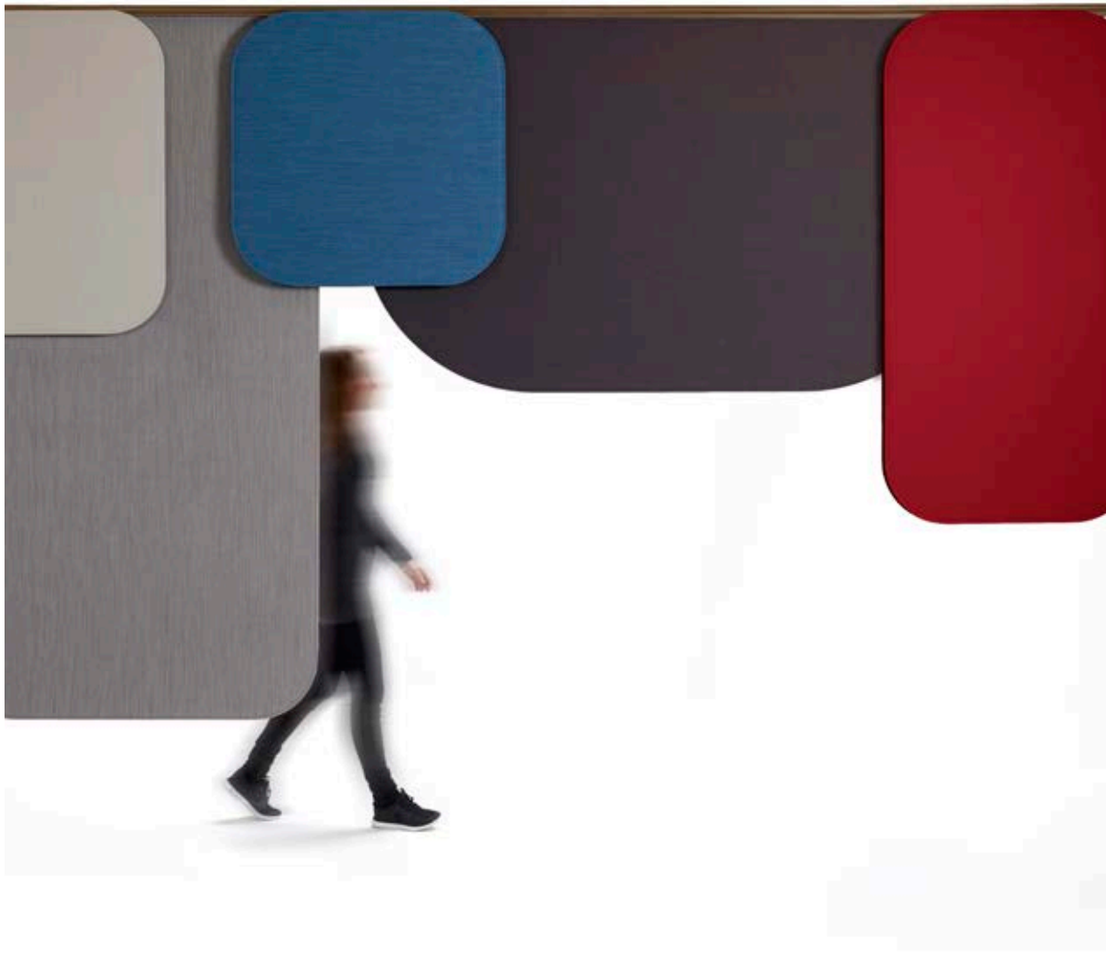
NOTES

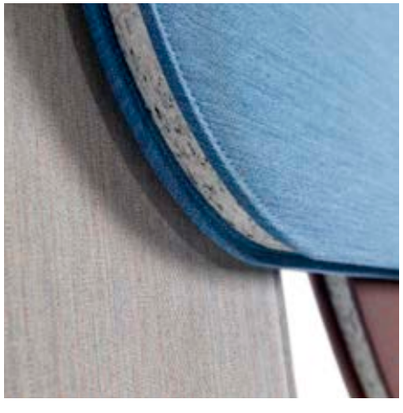
Notes consists of five different shapes that can be upholstered in a fabric of your choice. These shapes can then be rearranged by moving them sideways. Notes not only absorb sound, but also help divide space in a new and exciting way. So instead of building and tearing down walls to construct new spaces, the user can be creative and easily rearrange Notes in different ways to meet their specific needs.

"I'm from Venice in Italy, where a common way of drying laundry is by throwing them over any available cable that you find hanging between houses. When kids play football on the street, the clothes hanging over the lines muffle the sound of the bouncing football and screaming kids. So I used that as inspiration and tried to transfer it to an industrial product", says Luca Nichetto.

Notes is made of a highly absorbent material, made from textile waste from Offecct's production. Through using the possibility to partly overlap the panels, the absorption is maximized.

Luca Nichetto is an Italian designer. After studies in industrial design at the IUAV in Venice, he began his professional career in 1999 by designing his first projects in Murano glass for Salviati. In 2006 he launched his own design firm, Nichetto&Partners, which specializes in industrial design and offers its services as a design consultancy.





NOTES hanging system makes it possible to arrange in different environments.

Why do we need to regulate sound in environments where we meet and socialize?

First of all humans feel better when we are in a well balanced acoustic environment where we can make ourselves understood without having to shout.

We are affected by all our senses and well balanced sound relaxes the brain. Normally the brain has to work hard to shut out and filter unwanted noises which causes fatigue.

The following pages introduce some of the products in the Offecct collection that work both as interior products and also absorb or block unwanted noise.

BOND

Bond is a collection of products containing chairs, easy chairs as well as a table series. The name Bond refers to the possibility to concatenate and create a friendship bond with someone. Its simple and soft form invites people to meet. The elegant, modern cut and the clean form are modest yet have a self-evident attitude. With its timeless design it is made to last for a long time.

Bond seating furniture has a construction of laminated material in the seat and back, resulting in a chair that follows the movement of the body, which together with the cupped seat provides a very good level of comfort. Bond seating furniture absorbs sound in an environment why it can be used to achieve an improved sound balance but also as a complement to other products.

Jean-Marie Massaud was born in 1966 and graduated from the ENSCI in 1990. In 2000 he founded Studio Massaud. His design is based on a well-developed design philosophy. From industrial design to architecture and technological innovation; he is a man of change. He prefers questioning the existing, in order to achieve progress and eventually propose answers to contemporary problems.

Bond is certified in accordance with the Nordic Ecolabel and Möbelfakta, depending on performance.

Material: Frame in laminated wood covered with high resilient foam. Upholstered in fabric or leather. Standard leather Elmo Soft, piquet on the inside and standard on the outside. Swivel base in chrome or lacquer with ABS glides. Armrest in chrome or lacquer.

CARRY ON

Carry On is a portable seating solution that works perfectly by itself Carry On is designed by Mattias Stenberg who has a strong belief in the need for flexible working places in the public space. Today we work more on projects and need environments that can be easily adapted to different needs. Carry On is not only physically flexible; it also signals to the user how it should be used by the handle on top. The round but simple form of Carry On combines traditional materials and craftsmanship with contemporary design and functions. It gives a tailored impression with stitching that communicates good craftsmanship. It is easy to stack Carry On, which means that it does not have to be stored elsewhere when not used.

The construction and materials in Carry On provides the stool with sound absorbing properties even at low frequencies.

Mattias Stenberg, born 1975, is a Swedish designer with a degree from the Royal Institute of Technology in Stockholm. In 2010 he founded his studio Vision A&D that focuses on contemporary architecture and design. Stenberg's design philosophy stands on three pillars: clarity in concept, form and material. Stenberg's architectural work affects the way he works with furniture and lighting, and he himself describes his furniture as "mini architecture."

Material: Frame in wood with high resilient foam. Floor plate in lacquered, coloured MDF. Upholstered in fabric or leather. Standard leather Elmo Soft. Laminated wood handle stained in white pigmented oak, casted fitting in zinc.

FLOAT HIGH LARGE

Claesson Koivisto Rune uses an architectural approach to create low key furniture with a strong sense of presence - something that is very obvious in Float High Large. The design was prompted by Eero Koivisto's own needs, which involved a lot of travelling and many meetings in public settings. The higher back and sides create a secluded sphere where you can sit on your own or in a group.

Float High and Float High Large are constructed to have both sound blocking as well as sound absorbing properties. By using these products in interiors an improved sound balance is achieved.

Due to its construction, Float High Large adds a large amount of low frequency absorption. This makes a significant improvement to the sound environment.

Claesson Koivisto Rune is an internationally acclaimed Swedish architect and design studio and was founded by Mårten Claesson, Eero Koivisto and Ola Rune in 1995. Amongst more than 60 awards, they have received Designer of the Year twice in Italy, by Elle Décor in 2014 and 2011, Red Dot Design Award – Best of the Best 2014, making them the first office to hold a Red Dot in five different product categories.

Float High Large is certified in accordance with Möbelfakta depending on performance.

Material: Wooden frame with Nozag spring system. Seat and back in high resilient foam with flameproof fibre. Fixed upholstery in fabric or leather. Standard leather Elmo Nordic. Base in black stained MDF with ABS glides.

KING

King creates an atmosphere of home environment rather than a restaurant environment, even though it was developed for Melker Andersson's restaurant Kungsholmen in Stockholm. Restaurants are sensitive to sound. King has a rather uncommon design for a restaurant environment, but the design is perfect for absorbing, blocking and reducing sound.

Offecct has been an innovative market leader in the field of designed acoustic wall panels for a long time, but integrating sound absorbing features into furniture was something completely new when King was developed.

"Restaurant environments are extra sensitive to sound. Melker Andersson is extremely detail-oriented, and knows exactly what he wants for his restaurants – he wants recreation, conversation, music and a good ambience. Bad acoustics could ruin the whole experience. With that starting point, I designed King", says Thomas Sandell.

Thomas Sandell is a Swedish architect and designer, renowned for furniture design, interiors and several major buildings. He graduated from the Royal Institute of Technology in Stockholm in 1990 in architecture. That was also the year he started his own company, Thomas Sandell Arkitektkontor. In 1995 he started sandellsandberg together with Ulf Sandberg and Joakim Uebel.

Material: Wooden frame. Upholstered seat in high resilient foam with flameproof fibre. King is upholstered in a two-part cover, fabric or leather with a zip at the back. Standard leather Elmo Nordic. ABS glides.

PALMA MEETING

Palma Meeting is a development of the Palma easy chair. Palma Meeting is a graceful, playful chair, developed with both the conference room and the home environment in mind. Palma Meeting is inspired by the cupped palm of a hand, symbolically cradling the body that sits in it. The chair's elegant form is captured in the seat, backrest and armrests as a single graceful movement. With its curved frame of moulded birch veneer, Palma features an extremely elegant design.

"Palma is a chair to investigate and enjoy. When a child crawls up into the chair, it's entirely different from when an adult gets into it. Children throw their feet up and cling to it in a way we adults do not", says designer Khodi Feiz.

The construction and material choices of Palma Meeting provides the seating furniture with its sound absorbing qualities that can improve the sound balance in a room.

Khodi Feiz was born in Iran and has a degree in Industrial Design from Syracuse University in the USA. In 1990 Khodi Feiz moved to Holland and started to work for Philips Design until 1998, when he founded his own design bureau with his wife, Anneko Feiz van Dorssen. The company is based in Amsterdam and works primarily with product and furniture design as well as graphic and strategic design.

Palma Meeting is certified in accordance with the Nordic Ecolabel and Möbelfakta, depending on performance.

Material: Frame in laminated wood with high resilient foam. Upholstered in fabric or leather, Standard leather Elmo Soft, piquet on the inside and standard on the outside. Legs, swivel frame or swivel frame with five castors in chrome, ABS glides.

SMALLROOM

Smallroom sofa system can be used together in different modules or be used alone. The design of Smallroom is characterized by a "box" on the side which can be used for placing plants or as a working surface with optional power devices.
The back of the sofa can be compared to a high wall that creates the impression of a smaller room. However, the height of the back does not compromise with the volume of the surrounding room. Smallroom is offered with different back and side heights, which provide the architect with the possibility to create environments that evoke interest, through the help of different dimensions.

Smallroom sofa system offers both sound absorbing qualities and blocks unwanted noise. The sofa system can be used to improve the sound balance in a room.

The high walls and the body of the seat makes Smallroom an ideal choice for low frequency absorption.

Ineke Hans was born 1966 and studied at the Royal College of Art in London. Since 1998, Hans has her own design studio in the city of Arnhem in Holland where she works with a wide range of projects such as furniture, product design and jewellery. Hans has worked with her own collection of furniture and design items since the beginning, as well as carrying out projects for different international design producers.

Smallroom is certified in accordance with Möbelfakta, depending on performance.

Material: Frame in wood. High resilient foam wrapped with flameproof fibre. Fixed upholstery in fabric or leather. Standard leather Elmo Soft. Legs in chrome with ABS glides.

FOCUS DIVIDER

Tengbom was founded in 1906, making it Sweden's oldest firm of architects. Tengbom is one of the leading architectural firms in Sweden and the Nordic region, with around 550 employees at twelve offices in Sweden, Finland and Cambodia. Since Tengbom, has combined innovative and holistic design for present and future generations.

When walls disappear and office spaces are opened up, the need to be able to create a room within a room increases. Focus Divider is a piece of furniture that enables this. It is a temporary resort for undisturbed and focused work.

"The thought was to create a space in the office that would offer you peace and quiet for uninterrupted work. Focus Divider is a natural complement to the rest of the office interior and signals at the same time that you want to work in peace", says Kristina Jonasson, Tengbom.

The design of Focus Divider offers the user peace and quiet when needed. At the same time it blocks sound as well as works as a sound absorber in an interior.

Focus Divider is certified in accordance with Möbelfakta, depending on performance.

Material: Frame in moulded veneer and MDF. Upholstered in laminated textile, Soul from Gabriel alt. quilted fabric. Available in divided upholstery. Legs and buttons in silver lacquer.

Facts and instructions

INTRODUCTION TO SOUND BALANCE

To achieve the optimal sound balance for a room, the purpose of the room first needs to be mapped out.
We recommend that you follow this order when working with room acoustic solutions:
Can the noise sources be reduced?
Can the sound be blocked?
Can the sound be absorbed?
Is there sufficient diffusion?

It is usually most effective to start with the sound sources. Chairs and tables can, for instance, use soft glides or felt glides in order to minimize the sound sources.

Blocking sound prevents sound from spreading. In order to block effectively, relatively high and solid walls are required. That is not always an option, which is why a combination of blocking and absorbing can be used. An excellent example is to build locations for communication using sofa systems with high backs and armrests. To absorb sound is to prevent the sound from spreading by bouncing on hard surfaces.

Bouncing sound gets a delay, and the sound environment is perceived as being exhausting. This is partly because the sound energy is left longer in the room, and partly because it becomes more difficult to perceive the surroundings. Humans are created to live outdoors, where fewer reflective sources exist in comparison to indoors, where we spend most of our time nowadays.
Absorption can be achieved by the use of wall panels, but also by using upholstered furniture. How much absorption is needed can be estimated by measuring the reverberation time and comparing it with what is recommended for different types of rooms.

An absorber that the sound never reaches will not help. By using diffusing products that scatter sound in multiple directions, more absorbents can work effectively. A diffuser can also be used to distribute sound energy evenly throughout the room without absorbing the sound energy, for example in an auditorium or in a movie theatre.

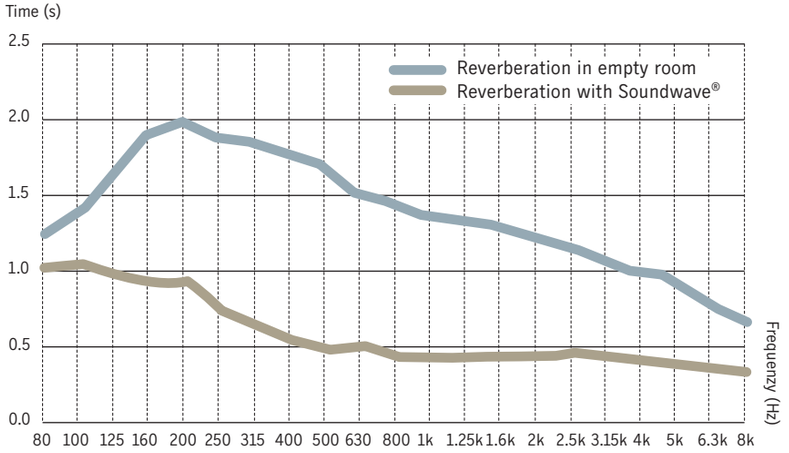
HIGH AND LOW FREQUENCIES

When sound is generated a variety of sound waves are sent out. Sound frequency is related to the sound waves length. Our hearing can only perceive some of the frequencies that surround us. When trying to find the room's sound balance the frequencies that are desired and disturbing depending on the room's function needs to be taken into account.
The most important activity in the public environment is communication. Our speech includes frequencies that our auditory organ detects and forwards through the nerves in our brain, where the frequencies are decoded so that we understand what is being said.
When we speak, we use vowels and consonants. The vowels are lower in frequency and higher in sound level than consonants. Consonants, which include higher frequencies, are also the more important for us to understand the message of the speech.
In some rooms, such as conference rooms, auditoriums and classrooms, speech and communication are the centre of the room's function. It is important to keep the consonants and push down the vowels. It is especially important for people with hearing loss. Speech clarity is achieved by increasing the absorption in the lower frequencies of 125-500Hz.
In other rooms it may be very disturbing if you hear conversations around, while a relatively high content of dissolved murmur can be acceptable. An example is the office. In these rooms, it may be enough to absorb some higher frequencies of 500-8000 Hz.

SOUNDWAVE®
ACOUSTIC DEMONSTRATION

This case study is to demonstrate how Soundwave® can be used to improve the sound balance in a conference room.

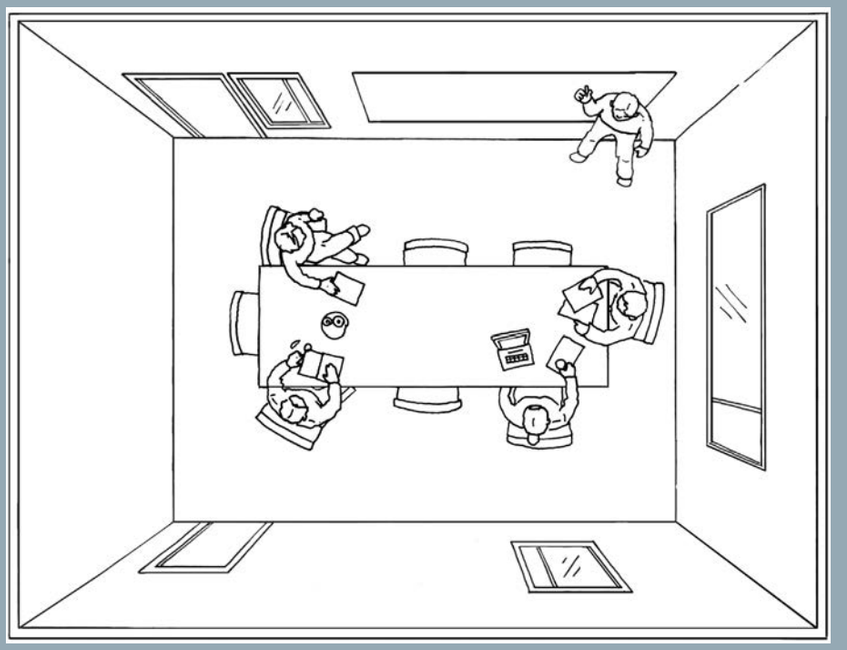
For the demonstration a fairly typical meeting room is used, approx. 30 sq. metres, the hard surfaces (floor, white board, conference table etc.) and lack of soft furnishings contributes to the poor acoustics.
The room was tested in its original state and then retested with 41 Soundwave® Swell panels and 40 Soundwave® Luna panels grouped on the walls. The Soundwave® panels helped to considerably reduce the reverberation time, a major factor in eliminating fatigue related to high background noises in meeting rooms and workspaces.



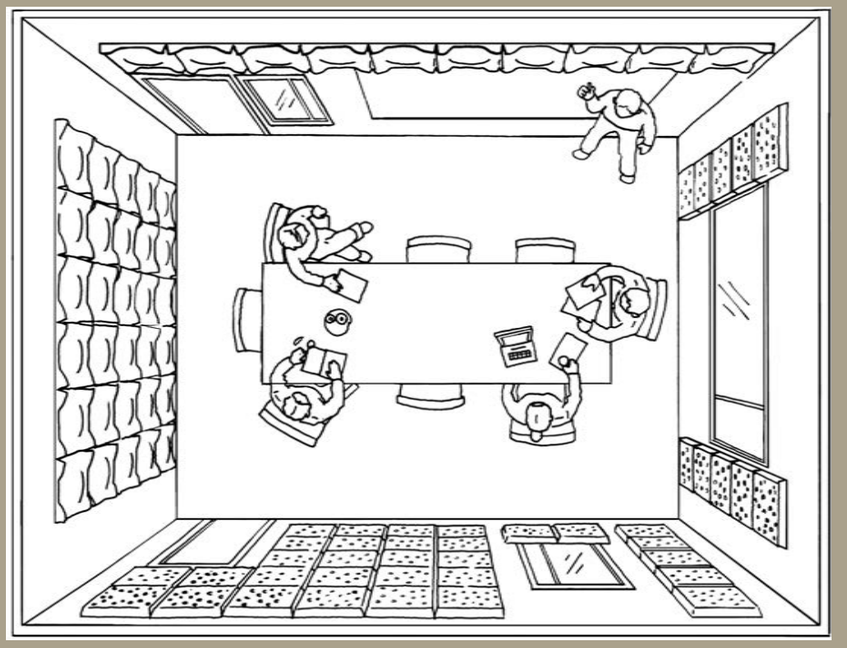
REVERBERATION TIME CURVE
The diagram shows the reverberation time between 80Hz-8kHz in the room with and without acoustic panels. The blue curve shows the room without panels, the beige curve shows the room with all 81 panels in place.

The measurements were made according to ISO standards. This means that an omnidirectional sound source (a special speaker) was placed in the room and noise was played at a specified level. After some time the sound was suddenly stopped. The break activates a measuring device which records the process of the sound ''ringing out'' in the room - the reverberation. The data for the reverberation time curves was extruded from this recording.

The horizontal axis represents the sound spectrum with low bass sounds on the left and high treble sounds on the right end. The vertical axis represents the time needed for the reverberation tail of a sound to ''fade out''.
A curve plotted at a high position on this axis means that the time needed for a sound to fade out was quite long, in other words the reverberation time was long.



Conference room without acoustic insulation.



Conference room with acoustic insulation.

SOUND BALANCE

OFFECCT SOUND BALANCE APPLICATION
Being indoors affects us all, both at home and at work. Today it's well known that the acoustic environment causes health issues such as stress and headaches.

Suitable interior acoustics improves all persons' productivity, well-being and health. It is thus vital to achieve good interior acoustics in virtually all rooms. The final interior acoustics in a room are dependent on both the acoustic characteristics of the room and on the furniture. To only set requirements on the room itself is not sufficient, more work is needed.

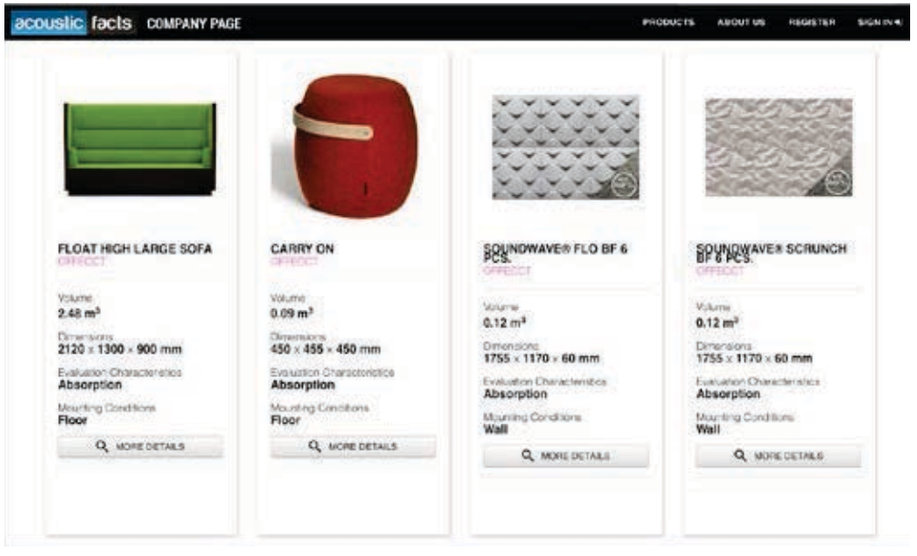
In order to find the optimal sound balance in a room the acoustic needs to be adapted to how the room is intended to be used. To find the sound alance, the disturbing noise sources should be reduced and screened, the reflected sound should be absorbed.

The reverberation time is an essential measurement to find and analyze, to be able to work with the acoustics in a room. By using different acoustic tools; sound absorbing materials, furniture to block or materials to reduce the source of the sound an optimal sound balance can be achieved.

Offecct´s application Sound Balance contains a sophisticated measurement tool to measure the room's reverberation time. It also gives you guidance when choosing the reverberation time which is convenient to reach for your type of room.

The result of the measurement can easily be used in for example Acoustic Facts (See next page).

ACOUSTIC FACTS



THE SOUND ENVIRONMENT
Acoustic data evaluated and published on acousticfacts.com gives credibility for the use of the products listed on the site.

Acoustic Facts is a website that offers manufacturers a third party evaluation of the interior products. Architects and designers can use Acoustic Facts to calculate the need of a certain product to improve the acoustics in an environment, and also to compare the sound-absorbing qualities between different types of products.

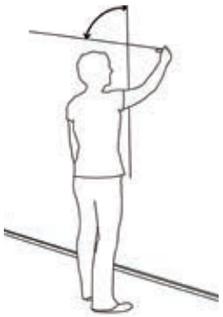
By using the result from the Offecct Sound Balance application and then following the instructions on Acoustic Facts, different proposals of products can be evaluated in finding the optimal sound balance of the room.

King was the first upholstered furniture in Offecct's collection designed to optimize sound balance in an environment.

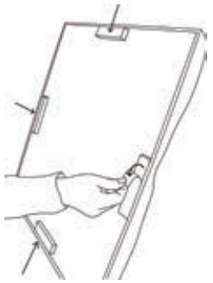
SOUNDWAVE® INSTALLATION

IMPORTANT INFORMATION BEFORE INSTALLATION:

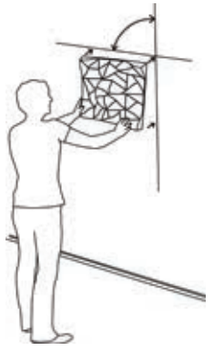
- All walls must be dry (wait at least 1 week after painting) and clean before attaching the Velcro.
- Outside facing walls are not recommended if wet or cold.
- Walls affected by nicotine from cigarettes have to be carefully cleaned or repainted before installation.
- The glue on the Velcro will be damaged by silicon products such as hand lotion etc. Do not touch the glue while assembling the panels.
- It helps a lot to paint the wall in the same colour as the panels. This makes the gaps between the panel joints much less visible.
- Avoid high temperatures from lights or the heating system; this can cause the glue to melt.
- For brick/concrete or other uneven walls, a flat surface material must be attached before assembly.
- If needed, a staple gun can be used. Staple the Velcro onto the wall, using two staples on each piece of Velcro.
- Soundwave panels are not developed to be attached to ceilings.



Before starting to attach the panels to the wall, plan the placement of the panels, to avoid having to remove the Velcro and restart as this will damage the glue. Make sure the wall is clean and dry.

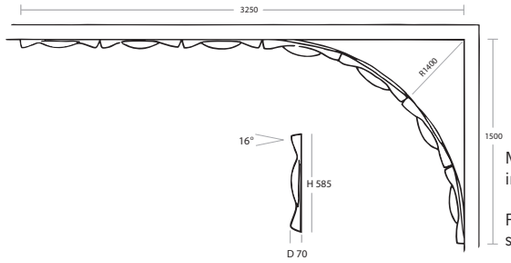


Each panel has four Velcro attachments. For an optimal result, attach the Velcro separately on the wall and press each stripe for a minimum of 10 sec. before attaching the panel.



Start by putting the first panel on the centre of a horizontal line (a laser level is recommended for best results).

After placing all panels on the wall, make sure that all Velcro attachments stick to the wall. If needed, press each point further.



Minimum radius is R 1400. A flat surface is required for installation.

For a rounded corner we suggest you make a simple construction with strips of 585 x 5 mm plywood.

SOUNDWAVE®
FIRE SAFETY

Swedish Conclusions
The acoustic panel meets the requirements for materials which are difficult to ignite according to Boverket's regulations (Boverkets riktlinjer för godkännande, Brandskydd, Allmänna råd 1993:2, utgåva 2). The Soundwave panel emits gas concentrations below the accepted levels and all gas concentrations are below limits in IMO FTP Code Resolution MSC. 61 (&/), chapter 1, Annex 1, Part 2.

UK Conclusions
The acoustic panel has achieved a BS 476 part 7 Class 2 rating.
The test data should be presented to the relevant building control authorities when requested, to support the application for the material use.

French Conclusions
The acoustic panel has achieved a M3 rating according NF P 92 501 and NF P 92 507. The panel meets the NF P 92 505 criteria for dripping.

SOUNDWAVE® ANDO by Daniel Svahn

Ando is designed to be used as a broadband absorber with extended efficiency in the frequency range of 150 Hz-500 Hz.

Material: Recyclable moulded polyester fibre with filling made of recycled textile and PET
Colour: Grey RAL 7040
Size: H 1170 B 585 D 55

SOUNDWAVE® BELLA by 3XN

Bella is designed to be used as broadband sound absorber in the upper frequency range of 500 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey, anthracite, and with upholstery in Gabriel Europost
Size: H 585 B 585 D 60

SOUNDWAVE® BOTANIC by Mario Ruiz

Botanic is designed to be used as broadband sound absorber in the frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey, anthracite, green and with upholstery in Gabriel Europost
Size: H 585 B 585 D 62

SOUNDWAVE® FLO by Karim Rashid

Flo is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey, anthracite, fuchsia and with upholstery in Gabriel Europost
Size: H 585 B 585 D 60

SOUNDWAVE® GEO by Ineke Hans

Geo is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey and anthracite
Size: H 585 B 585 D 60

SOUNDWAVE® LUNA by Teppo Asikainen

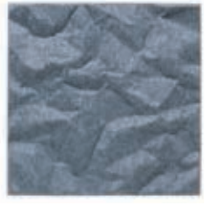
Luna is designed to be used as a heavyweight broadband absorber with extended efficiency in the low frequency range of 150 Hz-500 Hz.

Material: Recyclable moulded polyester fibre, back plate in PET.
Colour:
Offwhite and grey
Size: H 585 B 585 D 80

SOUNDWAVE® PIX by Jean-Marie Massaud

Pix is designed to be used as a broadband sound absorber with extended efficiency in the frequency range of 150 Hz-500 Hz.

Material: Recyclable moulded polyester fibre
Colour: Upholstery in Gabriel Europost
Size: H 290 B 145/290 D 60



SOUNDWAVE® SCRUNCH by Teppo Asikainen

Scrunch is designed to be used as broadband sound absorber in the upper frequency range of 500 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey, anthracite, and with upholstery in Gabriel Europost
Size: H 585 B 585 D 60

SOUNDWAVE® SKYLINE by Marre Moerel

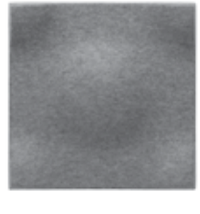
Skyline is designed to be used as broadband sound absorber in the frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey, anthracite
Size: H 585 B 585 D 60

SOUNDWAVE® STRIPES by Richard Hutten

Stripes is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey, anthracite, brown
Size: H 585 B 585 D 55



SOUNDWAVE® SWELL by Teppo Asikainen

Swell is designed to be used as a broadband sound absorber in the frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey and anthracite and with upholstery in Gabriel Europost
Size: H 585 B 585 D 90

SOUNDWAVE® SWELL DIFFUSER by Teppo Asikainen

Swell Diffuser is designed to provide sound diffusion rather than absorption. A diffuser helps spreading the sound energy evenly within rooms.

Material: 100% PET
Colour: Semi-transparent white
Size: H 585 B 585 D 80

SOUNDWAVE® VILLAGE by Claesson Koivisto Rune

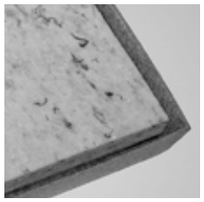
Village is designed to be used as a broadband sound absorber in the upper frequency range of 500 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey and anthracite
Size: H 585 B 585 D 60

SOUNDWAVE® WALL by Christophe Pillet

Wall is designed to be used as a broadband sound absorber in the upper frequency range of 250 Hz and above.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey and anthracite
Size: H 2340 B 585 D 50



BASFILL by Offecct Design Studio

Basfill is a filling material that when put inside the acoustic panel, adds sound absorbing qualities in the lower frequency range 150 Hz-500 Hz.

Material: 40% reused textile, 20% reused PET and 40 % PET
Colour: Grey
Size: H 550 B 550 D 20

MEMBRANE by David Trubridge

Membrane provides a partly transparent pattern that scatters sound.

Material: Recyclable moulded polyester fibre
Colour: Offwhite, grey and anthracite
Size: H 360 B 360 D 120 Triangular CC 300

NOTES by Luca Nichetto

Notes panels are designed as movable broadband absorbers to tailor acoustics to different needs.

Material: Textile waste from the Offecct production. Standandard upholstery in Hush from Gabriel.

Rails: RAL 9016 incl. connecting fittings, excl. suspension components.

Size:	H 850	W 850	D 45
	H 1200	W 1000	D 45
	H 1600	W 800	D 45
	H 2100	W 1150	D 45
	H 1170	W 1950	D 45

SOUND ABSORPTION PROPERTIES

Equivalent sound absorption area, Aobj

Unit [m²Sabine]
Tested according to EN-ISO 354 and evaluated according to SS 25269
Note: used for furniture, single objects and less than 10 m² panels

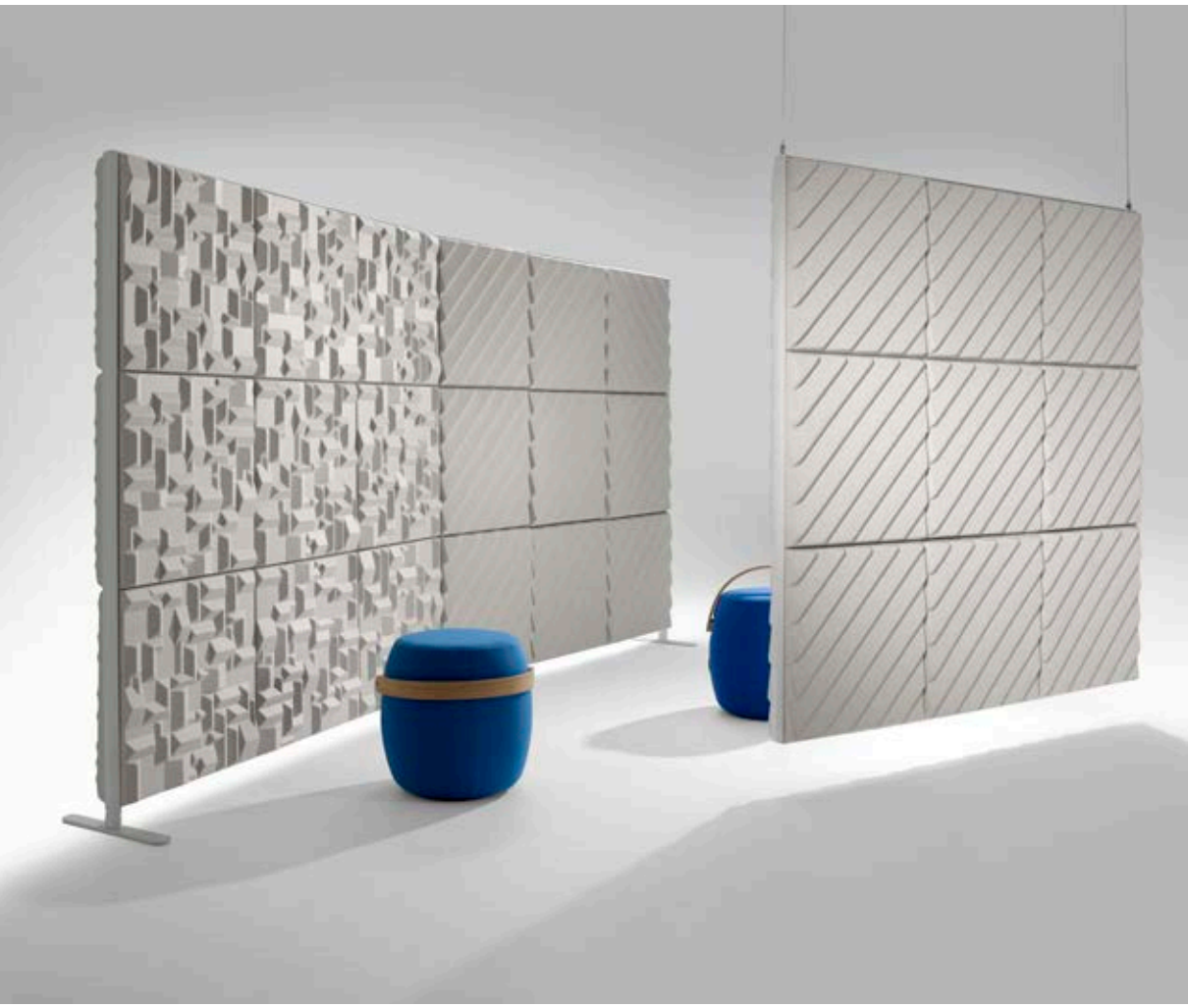
TESTED IN GROUPS OF 6 PANELS	63 HZ	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	QTY
Soundwave® Bella	0	0,2	0,8	1,3	1,6	1,8	1,9	6
Soundwave® Bella incl. Basfill	0	0,3	1,2	2	2,1	2	2	6
Soundwave® Botanic	0,1	0,4	1	1,6	2,1	2	1,9	6
Soundwave® Botanic incl. Basfill	0,1	0,5	1,4	2,2	2,3	2,1	2,1	6
Soundwave® Flo	0,1	0,3	0,7	1,5	2,2	2,3	2,1	6
Soundwave® Flo incl. Basfill	0,1	0,4	1,2	2,3	2,5	2,4	2,3	6
Soundwave® Geo	0,1	0,3	0,9	1,6	2,2	2,2	2	6
Soundwave® Geo incl. Basfill	0,1	0,4	1,3	2,1	2,4	2,3	2,1	6
Soundwave® Luna	0,2	0,7	1,3	2,2	2,5	2,5	2,4	6
Soundwave® Pix	0,1	0,4	1,6	1,5	1,4	1,4	1,4	6
Soundwave® Scrunch	0	0,2	0,6	1,4	1,8	2,1	2,1	6
Soundwave® Scrunch incl. Basfill	0,1	0,3	1,2	2,2	2,2	2,2	2	6
Soundwave® Skyline	0	0,2	0,6	1,5	2	2,2	2,1	6
Soundwave® Skyline incl. Basfill	0	0,3	1,2	2,3	2,4	2,3	2,2	6
Soundwave® Stripes	0,1	0,2	0,6	1,4	2	2,3	2,1	6
Soundwave® Stripes incl. Basfill	0,1	0,3	1	2,2	2,5	2,4	2,3	6
Soundwave® Swell	0,1	0,2	0,8	1,5	2	2,1	2	6
Soundwave® Swell incl. Basfill	0,1	0,4	1,3	2,2	2,3	2,2	2,1	6
Soundwave® Village	0	0,2	0,5	1,3	1,9	2,1	2	6
Soundwave® Village incl. Basfill	0	0,3	1,2	2,1	2,2	2,2	2,1	6
Soundwave® Stand with Botanic incl. Basfill	0,4	1,5	3	4,6	5,4	5,4	5,5	1
Soundwave® Stand with Stripes	0,3	1,1	2,1	3,3	4,8	5,7	5,6	1
Soundwave® Stand with Swell incl. Basfill	0,4	1,3	2,9	4,6	5,4	5,4	5,4	1

OTHER TESTED PRODUCTS	63 HZ	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	QTY
Bond, chair	0	0,1	0,3	0,5	0,6	0,8	0,9	1
Carry On, stool	0,1	0,2	0,4	0,8	0,8	0,8	0,8	1
Float High Large, sofa	2	3,2	3,9	4,7	5,8	7,4	8,6	1
King, easy chair	0,3	0,6	0,6	0,7	0,8	1,1	1,3	1
King, sofa	1,1	1,6	1,7	2	2,1	2,5	3	1
Palma meeting, chair	0	0,1	0,1	0,2	0,4	0,6	0,8	1
Smallroom, sofa	1	2	2	2,3	2,6	3,3	4,2	1

Practical absorption factor, αp

Unit [-]
Tested according to ISO 354 and evaluated according to ISO 11654
Note: used for 10 m² panels or more

63 HZ	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	TESTED AREA (M²)
0	0,1	0,35	0,65	0,8	0,85	0,85	10,3
0	0,15	0,6	0,95	0,95	0,85	0,9	
0,05	0,15	0,5	0,8	1	0,95	0,9	10,3
0,05	0,2	0,65	1	1	0,95	0,95	10,3
0,05	0,15	0,35	0,7	0,95	1	0,9	10,2
0,05	0,15	0,6	1	1	1	1	10,3
0	0,15	0,45	0,75	0,95	0,95	0,85	10,2
0,05	0,2	0,65	1	1	0,95	0,95	10,3
0,1	0,3	0,65	1	1	1	1	10,2
0,05	0,2	0,7	0,65	0,65	0,65	0,6	10,3
0,05	0,1	0,3	0,65	0,9	0,9	0,9	10,3
0,05	0,15	0,55	1	1	0,95	0,95	10,3
0	0,1	0,3	0,7	0,95	0,95	0,9	10,2
0,05	0,15	0,55	1	1	1	1	10,3
0,05	0,1	0,3	0,65	0,95	1	0,95	10,3
0,05	0,15	0,5	1	1	1	1	10,3
0,05	0,1	0,4	0,75	0,9	0,95	0,95	10,3
0,05	0,15	0,6	1	1	0,95	0,95	10,3
0	0,1	0,3	0,6	0,85	0,9	0,85	10,3
0	0,15	0,55	1	1	0,95	0,95	10,3



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