

StoSilent

Acoustic systems

Acoustics



StoSilent offers four different systems and a wide range of materials and surfaces to choose from. Here, you'll find solutions for suspended panel systems, direct systems, acoustic plasters, as well as variable ceiling and wall elements.

Cover photo reference:

Wesley Methodist Church, Singapore

Design: Arc Studio Architecture & Urbanism Pte Ltd, SG

Execution: LLOYD & Andrew Builders Pte Ltd, SG

Sto expertise: StoSilent Distance with StoSilent Decor coating system

It should be noted that the details, illustrations, general technical information, and drawings contained in this brochure are only general proposals and details which merely describe basic functions schematically. They are not dimensionally accurate. The applicator/customer is independently responsible for determining the suitability and completeness for the construction project in question. Neighbouring works are described only schematically. All specifications and information must be adjusted or agreed in the light of local conditions and do not constitute work, detail, or installation plans. The technical specifications and product information included in the Technical Data Sheets and system descriptions/ approvals must be observed.

Contents

Editorial

4 Building with conscience.



Customer support

6 Advice and service



System solutions

8 Interview with an architect

10 StoSilent Distance

12 StoSilent Direct

14 Interview with building physicists

16 StoSilent Modular

22 StoSilent Compact

24 Interview with an applicator

26 Surface decoration

28 Interview with a product manager

30 System overview



Acoustic solutions

Building with conscience means helping to shape the world responsibly. How a room is perceived by its users is largely decided by its acoustics. Therefore, a key question to ask yourself during the planning stage is: what means can I use to positively influence the ambient sound?

We at Sto have been researching this topic for over 35 years – always with the same goal – to provide all the means and materials that are needed to design acoustically perfect rooms.

Design has never been as free

Requirements on reverberation time, sound distribution, or speech intelligibility change depending on how a room is used. Whereas cushioned silence is valued in offices or lobbies, in a concert hall every sound, no matter how soft, must be heard. Acoustics are influenced by various factors: the composition of floors, walls, ceilings, the type of furniture, and the number of people in the room. Our many years of research, experience gained from many successful projects of almost all types, and our cooperation with leading architects, tradesmen, and acoustics experts have resulted in systems that take these factors into account, optimise the acoustics of any room, and therefore create “feel-good” spaces.

Four systems for every acoustics requirement

Our four systems offer more than just the technical conditions for the best sound properties in rooms. The interaction of StoSilent with highly varied finishes and the 800 colours of the StoColor System also provide you with the freedom of design that you like.

StoSilent Distance

The panel system allows the seamless and sound-absorbing design of walls and ceilings which have to be suspended, for example to reduce the room height. The room concept is thus retained with good acoustics included.

StoSilent Direct

The direct system does completely without a sub-construction and is suitable for walls and ceilings which can be directly coated. Sto thus offers a highly absorbent solution that is especially advisable for a small construction height.

StoSilent Modular

The use of acoustic modules is recommended wherever suspended or directly mounted systems are not possible, or where the acoustics need to be optimised when the room is already in use. Play with colours and shapes as you wish. StoSilent Modular provides you with all the options.

StoSilent Compact

Many structural factors do not allow mounted acoustic systems – for example, listed buildings or sacred buildings. We have developed acoustic plasters for such cases: The acoustic plaster systems are as easy to apply as classical plasters, but in addition, they positively influence room acoustics and provide a special textured appearance.

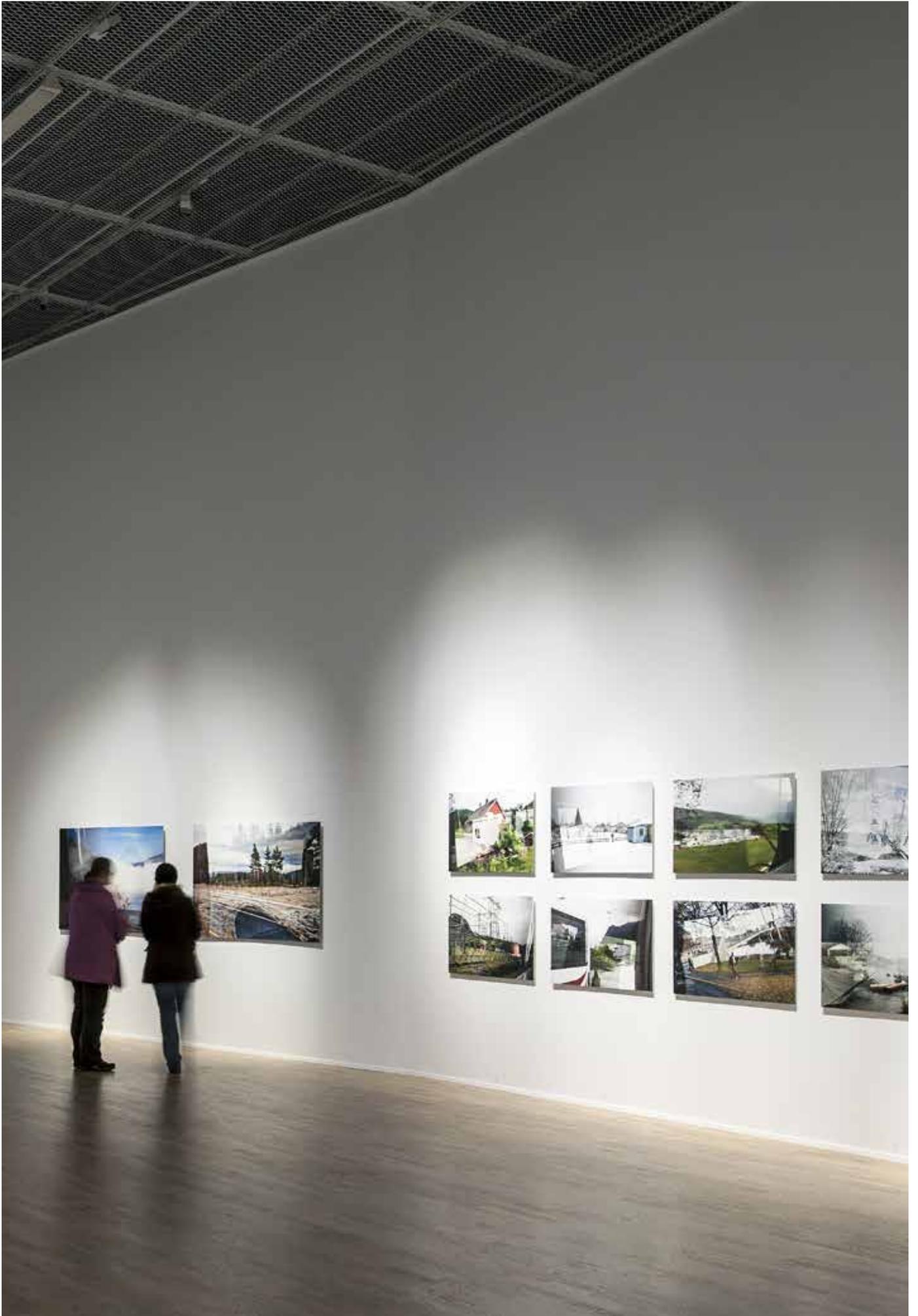
Sogn og Fjordane Art Museum, Førde, NO

Design: C.F. Møller AS, Oslo, NO

Execution: Åsen & Øvreliid AS, Førde, NO

Sto expertise: StoSilent A-Tec panel, StoSilent Board 115

Photo: Jiri Havran, NO





Because expert advice is part and parcel of good service

We are your contact for the entire acoustics portfolio. Our technicians are on hand to support you from the initial concept to the finished project and can also help with all the details. Here you can find an overview of our advisory and support services.

Our services

- Planner and applicator consultation, particularly for custom solutions
- Visits to construction sites (upon consultation)
- Layout drawings
- Training

Advice for every project phase

Comprehensive advice is a key component of our service portfolio. This is why more than 200 advisors in over 90 locations in Germany alone are working to ensure that no questions remain unanswered. We also have project managers for investors and planners and our acoustics specialists on hand to help you. We offer you expert advice quickly during every stage of the project – about planning, how to best coordinate different processes, how to apply our products correctly, right up to detailed questions about your project.

Service for your queries

Should you have any questions about StoSilent, simply contact either our technicians at **+49 7744 57-1073** or your local Sto partner. A list of worldwide Sto branches can be found at: **www.sto.com**

Our employees can also advise you on points of detail and can show you a variety of solutions.



General services

Detail drawings

Do you want to find out about construction details for StoSilent systems? We are happy to send you CAD drawings and BIM projects. Please send your request to: infoservice.export@sto.com

References

You can view the latest international architectural applications of Sto products and systems such as StoSilent, sorted according to country and building type, at: www.sto.com/en/references/reference-list-map

Contact

Global presence. Local knowledge. Don't hesitate to contact us. www.sto.com/en/contact/contact



Considering acoustics from the outset

The prehistoric monument Stonehenge is one of England's most famous tourist attractions. Around a million visitors flock to the mysterious stone circle every year. The new, award-winning visitor centre provides an insight into its history and research. It was designed by Angela Dapper, architect and senior partner at Denton Corker Marshall in London. In this interview, she describes the challenges she faced when planning the room acoustics.

Ms Dapper, you've largely opted for materials such as concrete and glass for the Stonehenge Visitor Centre. Wasn't this rather a challenge from an acoustic point of view?

A. Dapper: Absolutely – there is a high noise level in the visitor centre every single day. The finish also has a lot to withstand from the sheer volume of visitors. This is exactly why we decided to combine different materials for the different areas within the

“The acoustic solution is part of the building fabric and shouldn't be overlooked”.

centre. The café and souvenir shop, for example, have hard surfaces such as polished concrete floors and glazing, so we used acoustic ceilings. In contrast, we lined the chestnut-wood wall cladding with acoustic felt.

How did you decide on this mixture of different materials? What type of acoustic ambience were you hoping to create?

A. Dapper: The visitor centre needs to cater for both busy and quiet days. We planned the acoustic materials in such a way as to be suitable for both scenarios. For this to happen, the acoustic solution has to be thought of as being an integral component of the building substance. We ultimately

decided on the StoSilent Distance A2 system (formerly known as StoSilent A-Tec panel).

What made you opt for this particular solution?

A. Dapper: Well, the monolithic, seamless design allows the system to absorb an incredible amount of sound. This means that the increased noise levels created by the open spaces and hard surfaces can

“The sound-absorbing materials meet a wide range of environmental requirements.”

be offset by the special acoustic ceiling and acoustic felt behind the wall covering. The exhibition areas, on the other hand, are less open and have more partitions which are connected to the special acoustic ceiling. This helps to reduce noise transfer.

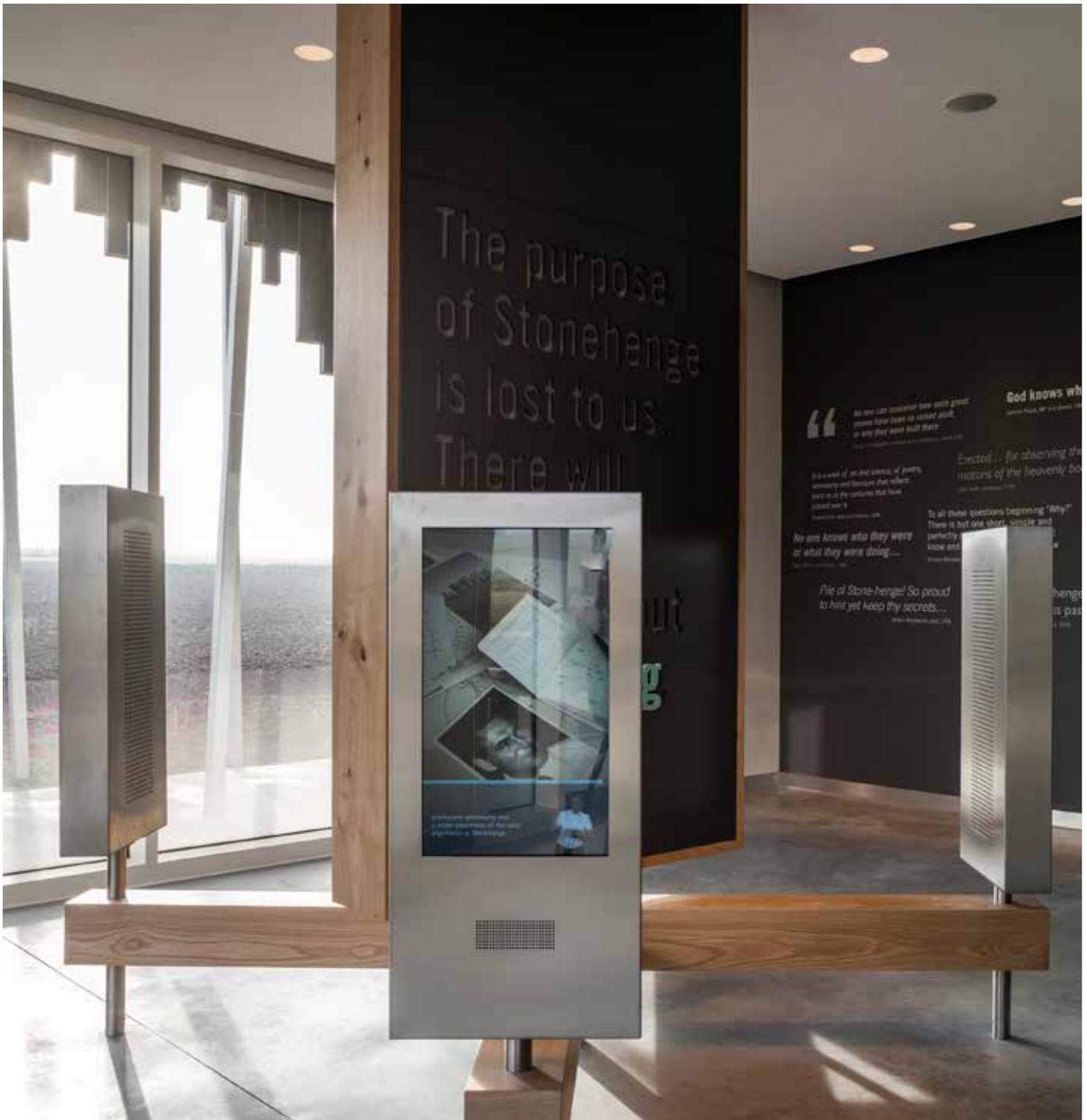
Image on right:
Stonehenge Visitor Centre, Amesbury, GB

Photo: Peter Cook

Angela Dapper
Architect, senior associate at Denton Corker Marshall, London, GB

Photo: Colin Thomas





At what point of the construction process did you start planning the acoustic solution?

A. Dapper: For this particular project, the acoustic ceiling was already included in planning very early on. That way we could be sure that the ceiling would be able to balance out the sound reflected by the hard and robust materials used for the walls and floors.

How did you approach the acoustics planning process?

A. Dapper: First of all, an acoustic consultant determined the appropriate sound levels and separation between the individual areas. We based our acoustic designs on this information and worked together with Sto

and manufacturers of other acoustic materials to develop the ideal solutions.

And how did you handle the actual design?

A. Dapper: It was particularly important to us to find products which worked in harmony with the simple, subtle range of materials in use throughout the entire building. The StoSilent Decor M coating allowed us to achieve a light, textured surface in natural white, which perfectly complements the building's unobtrusive aesthetic appeal.

Read the interview in full at:
www.stosilent.com



StoSilent Distance

Seamless acoustics

The StoSilent Distance system can be installed as a suspended ceiling or wall covering with a cavity behind it. The sub-construction is made of metal profiles and the acoustic panel consists of expanded glass granulate. The advantages of this material: it is light, absorbs sound, and can be adjusted to any shape of room to form a homogeneous, seamless surface.

Benefits

- Low weight
- Also suitable for curved surfaces and vaults
- Depending on the system variant, also suitable for rooms exposed to moisture
- Conceals the mains utilities

Surface design

- 1 StoSilent Top Basic: acoustic plaster with smooth surface and fine graining, limited tintability
- 2 StoSilent Top Finish: acoustic plaster with smooth surface and finest possible graining, limited tintability
- 3 StoSilent Decor M: acoustic stipple with textured surface and fine graining, limited tintability
- 4 StoSilent Decor MF: acoustic stipple with textured surface and fine graining, fully tintable

You can read more about the possible surfaces and colours on page 27.

Image on right:

MAXXI Museum, Rome, IT

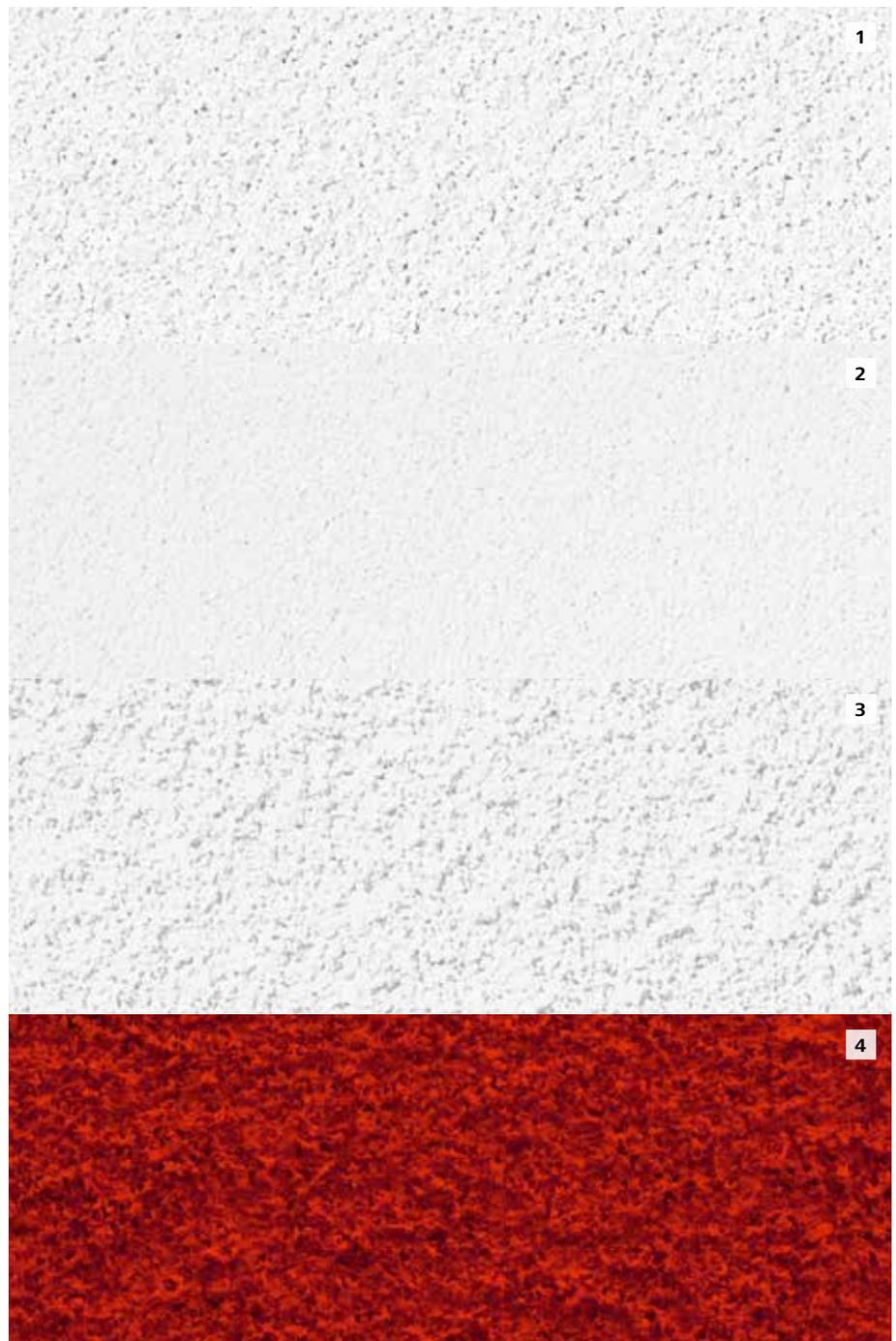
Design: Zaha Hadid Architects, London, UK

Execution: Bazzea, Viverano, IT

Sto expertise: StoSilent Distance with

StoSilent Top

Photo: Andrea Jemolo, IT





System

System versions

StoSilent Distance

- Standard system with a wide range of applications; depending on the acoustic panel and the suspension height, there are different sound absorption values, from $\alpha_w = 0.45$ for a board thickness of 15 mm to $\alpha_w = 0.60$ for a board thickness of 25 mm; reaction to fire (class) B-s1, d0 in accordance with EN 13501-1
- StoSilent Decor finish or StoSilent Top

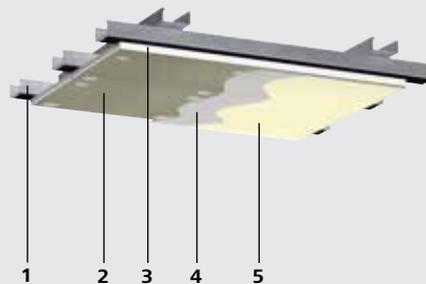
StoSilent Distance A2

- The level up from StoSilent Distance, reaches sound absorption values up to a maximum of $\alpha_w = 0.80$; reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1
- StoSilent Decor finish or StoSilent Top

StoSilent Distance Flex

- Flexible ceiling system, flexible with a minimum radius of 5 metres, sound absorption values up to $\alpha_w = 0.45$; reaction to fire (class) B-s1, d0 in accordance with EN 13501-1
- StoSilent Decor finish

Build-up: StoSilent Distance with StoSilent Top



- 1 — Sub-construction
- 2 — Acoustic panel
- 3 — Bonding
- 4 — Intermediate coat
- 5 — Finish

StoSilent Direct

Impulse generator for large surfaces

The specialist for particularly large surfaces is based on a sandwich consisting of expanded glass granulate and stone wool, which is excellent at absorbing sound. Since it does not require a sub-construction, the system only minimally reduces the room height. The corresponding finish means you can even design seamless surfaces of up to 700 m².

Benefits

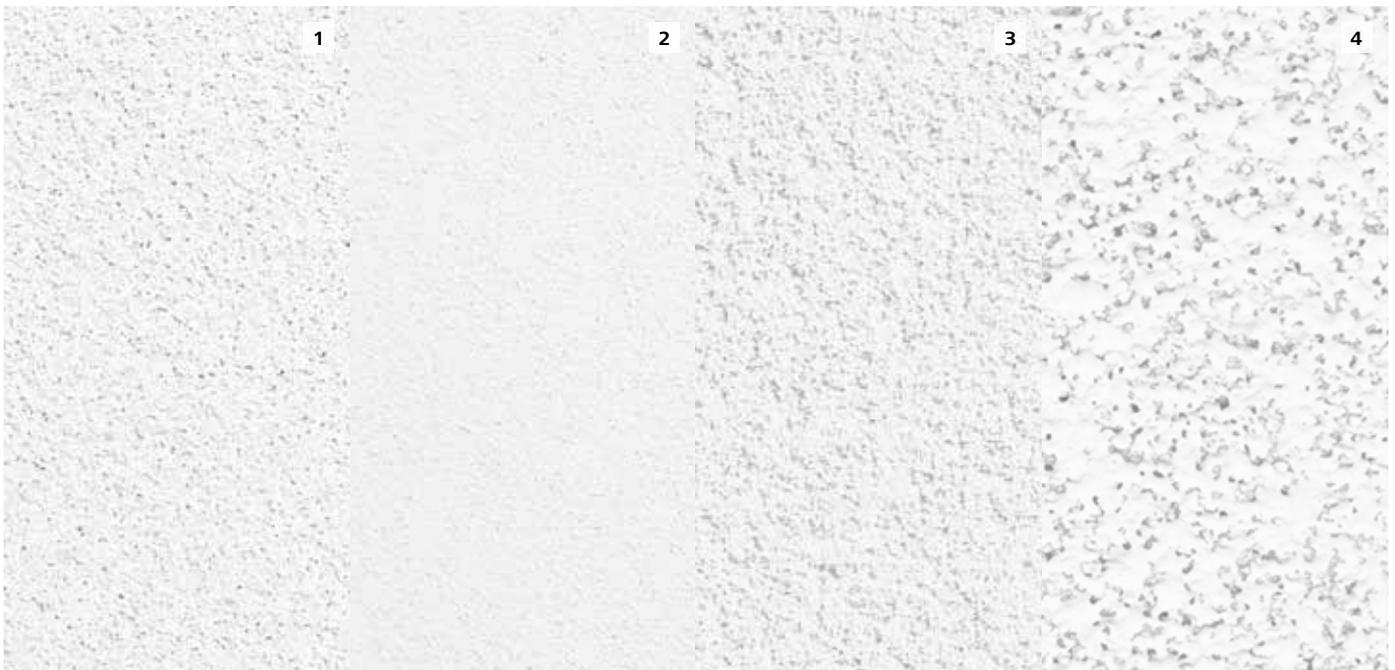
- Direct bonding onto walls/ceilings
- High sound absorption due to a porous texture and sandwich structure
- Simple application
- Suitable for solid building elements and gypsum plasterboard suspended ceilings
- System thicknesses 40/50/70 mm
- For outdoor areas, see StoSilent planning manual
- For smooth surfaces and curved surfaces (convex, concave, not spherical)

Surface design

Without finish, grey-white granulate surface

- 1 StoSilent Top Basic: acoustic plaster with smooth surface and fine graining
- 2 StoSilent Top Finish: acoustic plaster with smooth surface and finest possible graining
- 3 StoSilent Decor M: acoustic stipple with textured surface and fine graining
- 4 StoColor Climasan: dead-matt emulsion paint, degrades organic harmful substances and odours; alternatively StoColor Silent: organic, porous interior paint

Either seamless or with visible joints, depending on the finish. You can read more about the possible surfaces and colours on page 27.





Sto Logistics Centre Weizen, DE
Sto expertise: StoSilent Direct with StoSilent Decor M
 Photo: Martin Baitinger, DE

System

System versions

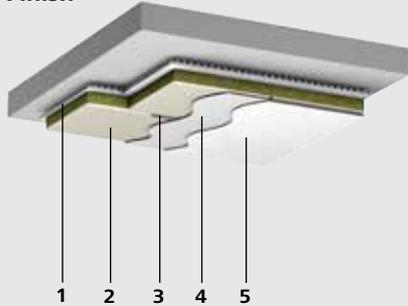
Seamless

- StoSilent Top Finish: seamless design up to 200 m², sound absorption up to $\alpha_w = 0.65$; reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1
- StoSilent Top Basic: seamless design up to 200 m², sound absorption up to $\alpha_w = 0.65$ depending on the thickness; reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1
- StoSilent Decor: seamless design up to 700 m². Sound absorption up to $\alpha_w = 0.80$ depending on the thickness. Reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1

With visible joints

- StoSilent Decor: up to 700 m² in one surface, sound absorption up to $\alpha_w = 1.00$ depending on the thickness; reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1
- StoColor Climasan, StoColor Silent: without surface area limitation, sound absorption up to a maximum of $\alpha_w = 0.95$ depending on the thickness and coating; reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1
- Without finish: without surface area limitation, sound absorption up to a maximum of $\alpha_w = 1.00$ depending on the thickness and coating; reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1

Build-up: StoSilent Direct, seamless with StoSilent Top Finish



- 1 — Bonding
- 2 — StoSilent Board MW 100 acoustic panel
- 3 — Filler and levelling coat
- 4 — Intermediate coat
- 5 — Finish



What do we expect from rooms?

Decibels and reverberation time are almost obsolete when it comes to determining perfect room acoustics. Interestingly, this statement comes from two experts at the Fraunhofer Institute for Building Physics. In this interview, building physicist Dr.-Ing. Horst Drotleff and psychologist Dr. phil. Andreas Liebl explain why architects and suppliers of acoustic systems should listen more to the users. The experts use psychoacoustic findings to develop innovative acoustic systems.

Dr Drotleff, Dr Liebl – you conduct research and development in the field of room acoustics. To broach an exciting aspect of your work right away: you use psychological findings for this. What do acoustics have to do with our psyche?

A. Liebl: A whole lot. Here at the Fraunhofer Institute, we develop solutions which configure

“Subjective psychological auditory impressions are fundamental for acoustics.”

acoustics according to how the room is used. This is fundamental for acoustics: you have to first know how the room is used before you can acoustically optimise it in a suitable way – namely, in line with the subjective psychological auditory impressions.

H. Drotleff: There are different expectations for a restaurant compared to a classroom, for example. Discretion is important in one, speech intelligibility in the other. Consider the foyer of an insurance group: a large hall, lots of wood, lots of natural stone – but the acoustics do not reverberate, they are elegantly discreet. The objective is to meet the right expectations for the rooms.

Can expectations actually be measured objectively?

A. Liebl: Of course. With different psychological

“A signal with the same measured value is assessed differently by different people.”

methods, like surveys or experiments. In order to obtain a user opinion, we regard people as measuring instruments. A signal with the same measured value is assessed differently by different people.

Many different people have to work together in open plan offices. Is there something like a happy medium?

A. Liebl: Definitely. There is no arbitrary individuality in the perception of sound. There are patterns which apply to certain groups of people. We define general acoustic conditions accordingly. Our analyses show, for example, that additional sound

Dr. phil. Andreas Liebl
(Bottom left)
Dr.-Ing. Horst Drotleff
(Bottom right)





introduced into offices is perceived as quieter by test subjects because speech intelligibility decreases.

So “the quieter, the better” does not apply?

A. Liebl: No. People are still thinking too much in terms of levels and the minimisation principle. We have to develop concepts and components for different requirements.

Modern architecture uses a lot of concrete and glass. Both materials are acoustically difficult. Do architects have to sacrifice their designs for the sake of acoustics?

H. Drotleff: Not at all. This is where the suppliers in particular come in. Functionality and design are

only seemingly contradictory. Systems such as StoSilent show that the architectural ideal of seamless surfaces is possible. In the end, we are a support for architects – not an obstacle. When an architect plans a building with a lot of concrete and glass, for example, we just have to develop the concrete to be absorbent and design the glass surfaces so that they, too, absorb sound and provide suitable room acoustics.

Read the interview in full at:
www.stosilent.com



StoSilent Modular

A good option for any location

We deliver the StoSilent Modular systems as finished acoustic elements, including the load-bearing construction, carrier profiles, and finish. StoSilent Modular 300 meets special design requirements: the slim absorbing board combined with a thick aluminium edge, measuring only three millimetres, gives the system an elegant appearance.

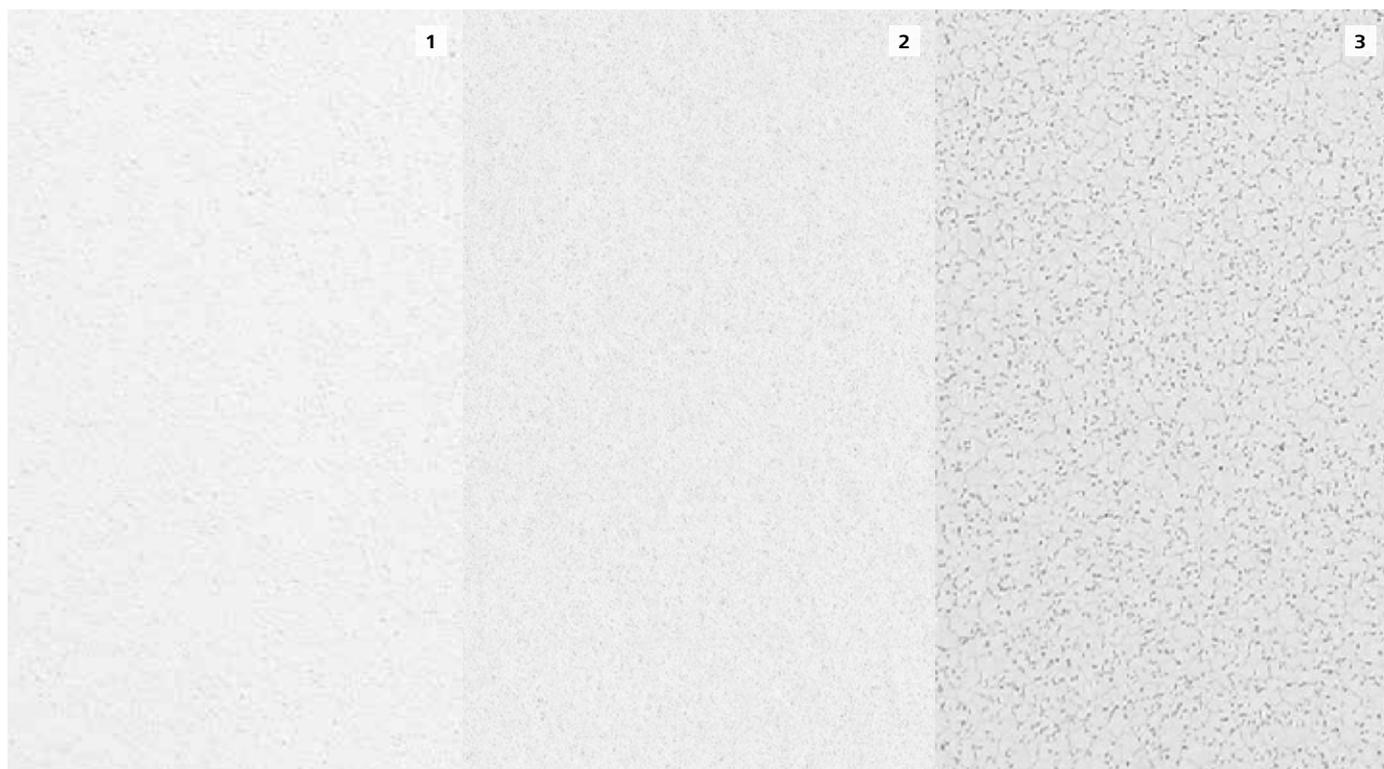
Benefits

- Adjusted reverberation time depending on how the room is used
- Higher speech intelligibility and lower noise level
- Function of thermally activated building elements is retained
- Special formats according to customer requirements
- Wide range of surfaces and colour design
- Quick to install and remove

Surface design

- 1 Nonwoven surface PET fibres: fine, unidirectional fibre structure, white
- 2 Nonwoven surface polyester fibres: fine, multi-directional fibre structure, colours according to current collection
- 3 Fine-textured colour coating: fully tintable

You can read more about the possible surfaces and colours on page 27.





Casino Milupa, Fulda, DE
 Execution: Klüber Putz GmbH, Künzell, DE
 Sto expertise: StoSilent Modular 100
 Photo: Gerhard Hagen, DE

StoSilent Modular 100

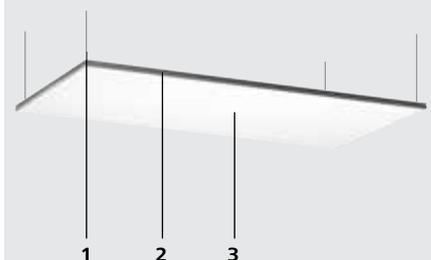
System

- Economical solution with an aluminium frame and PET nonwoven fibre
- Reaction to fire (class) B-s1, d0 in accordance with EN 13501-1 (PET fibres)
- Oeko-Tex® standard 100 (PET nonwoven fibre)

The economical system consists of PET nonwoven fibre panels with anodised aluminium frames, which are primarily used to regulate reverberations and reduce noise in buildings. StoSilent Modular 100 does more than just meet the customary market requirements for technical sound insulation. Thanks to the appealing surface and the high-quality frame, the solution sets standards in design.

The sound absorption varies depending on the system variant, format, and suspension height. You can read more about the system products and colours on page 27.

Build-up: StoSilent Modular 100



- 1 — Hangers
 2 — Aluminium frame
 3 — PET nonwoven fibre panel



Reitmayer GmbH, Adelsried, DE
Sto expertise: StoSilent Modular 230
Photo: Martin Duckek, DE

StoSilent Modular 230

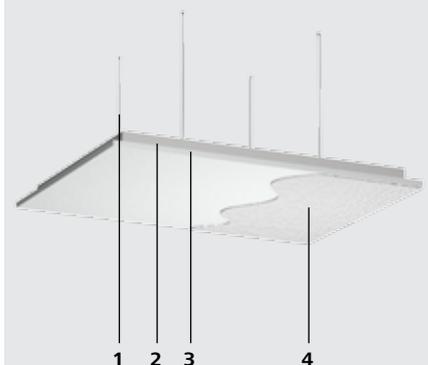
System

- Ceiling element made of expanded glass granulate with a fine-textured colour coating
- Reaction to fire (class) A2-s1, d0 (carrier board with coating), C-s3, d0 (PET fibre board layer) in accordance with EN 13501-1

The acoustic solution made of expanded glass granulate boards is available with a fine-textured colour coating. Almost any shape and colour can be realised up to formats of 2.40 m x 1.20 m. Due to the balanced sound absorption, from low to high frequencies, the ceiling element offers excellent possibilities for adjusting the acoustics of rooms.

The sound absorption varies depending on the system variant, format, and suspension height. You can read more about the system products and colours on page 27.

Build-up: StoSilent Modular 230



- 1 — Hangers
- 2 — Sub-construction made of galvanised steel sheet
- 3 — Carrier board with a layer of PET fibre
- 4 — Finish



Application example: open workspace
 Sto expertise: StoSilent Modular 300

StoSilent Modular 300

System

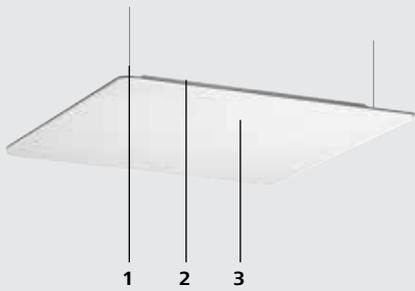
- System with an ultra-thin polyester fibre board for special design requirements
- Reaction to fire (class) in accordance with EN 13501-1 depending on colour

The slim, polyester fibre board, measuring just eight millimetres, has a high-quality haptic surface, is highly absorbent and is recommended for rooms with high demands, such as executive offices or conference rooms, but also for restaurants. Thanks to the special construction of the aluminium carrier frame, the element can be fixed to walls or ceilings. A three-millimetre, thin, visible profile edge elegantly completes the element.

The sound absorption varies depending on the system variant, format, and suspension height. You can read more about the system products and colours on page 29.



Build-up: StoSilent Modular 300



- 1 — Hangers
- 2 — Aluminium frame
- 3 — Polyester fibre board



Image on left:
MPI Max-Planck-Institut, Seewiesen, DE
Design: adam architekten GbR, Munich, DE
Sto expertise: StoSilent Modular 400 with
StoSilent Decor MF

Image on right:
Schöpf residential building, Mieming, AT
Design: driendl*architects zt Ges.m.b.H., Vienna,
AT
Sto expertise: StoSilent Modular 400 with
StoSilent Decor M in special format
Photo: Christian Schellander, AT

StoSilent Modular 400

System

- Individual solution for freely designable ceiling elements with StoSilent Decor or StoSilent Top as finish
- Reaction to fire (class) in accordance with EN 13501-1 depending on carrier board and finish

StoSilent Modular 400 offers an unlimited range of shapes: the system can be custom-made on the construction site according to customer requirements in practically any size. The StoSilent Board carrier boards from the StoSilent Distance system are used for this purpose, coated with StoSilent Top or StoSilent Decor, mounted on a sub-construction of metal profiles in accordance with EN 13964. The applicator's craftsmanship transforms the architect's creative vision into the customer's wishes. Unique designs are created with StoSilent Modular 400.

The sound absorption varies depending on the system variant, format, and suspension height. You can read more about the system products and colours on page 27.

Build-up: StoSilent Modular 400



Custom variants



StoSilent Compact

Audibly renders the architecture smarter

StoSilent Compact enables seamless, homogeneous surfaces to be quickly realised. The StoSilent Compact Miral and StoSilent Compact Sil plaster systems both also make ideal absorber solutions for multi-dimensional, curved surfaces. This means that only a minimum amount of room height is lost - highly recommended for low ceiling heights.

Benefits

- Good room damping
- Coating on curves and spherical surfaces possible
- Suitable for nearly all types of room
- Alternative to suspended or mounted system (e.g., listed buildings)

Surface design

- 1 StoSilent Miral AP: acoustic stipple with rough surface and coarse graining, limited tintability; limited tintability to fully tintable with optional StoColor Climasan or StoColor Silent colour coating
- 2 StoSilent Sil AP with StoSilent Decor M or MF finish: acoustic plaster with textured surface and fine graining, limited tintability to fully tintable depending on the finish

You can read more about the possible surfaces and colours on page 27.

Image on right:

Municipal pool, Viersen, DE

Design: Architect Inge Breidenbach and
Dipl.-Ing. Architect Martin Breidenbach, Viersen, DE

Sto expertise: StoSilent Compact Sil and StoSilent
Distance with StoSilentDecor M

Photo: Thomas Götz, DE





System

System versions

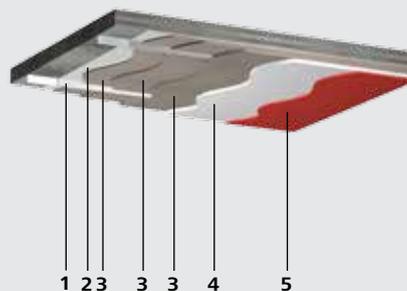
StoSilent Compact Miral

- For even surfaces through to spherical domes and vaults
- Sound absorption up to $\alpha_w = 0.30$ (H) at a thickness of 15 mm and 0.25 (MH) at a thickness of 25 mm
- Reaction to fire (class) A2-s1, d0 in accordance with EN 13501-1
- Standard colour shade: white
- StoSilent Miral AP finish
- Optional colour coating with StoColor Climasan or StoColor Silent

StoSilent Compact Sil

- For even surfaces and barrel vaults
- Sound absorption up to $\alpha_w = 0.45$ (MH)
- Reaction to fire (class) C-s1, d0 in accordance with EN 13501-1
- Standard colour shade: white
- StoSilent Sil AP finish with StoSilent Decor M or MF

Build-up: StoSilent Compact Sil



- 1 — System profile
- 2 — Primer
- 3 — Intermediate coat
- 4 — Intermediate coat
- 5 — Finish



When it comes to acoustics, looks matter as well

Dutch tradesman Ton Pennings specialises in the application of acoustic systems. In this interview, he describes the procedure for their planning and installation.

Mr Pennings, what constitutes a well-designed acoustic system?

T. Pennings: First of all, the physical appearance of an acoustic system has a key role to play. Whatever the solution, it should look clean and elegant in all lighting conditions, however the light falls. Just take the seamless systems from Sto, for example: if they are correctly installed, the distance between the boards is no more than 0.2 millimetres. At most! Then we know for sure that they've been fitted

“A good acoustic system takes all the architectural requirements into account.”

absolutely flat and evenly - that is to say, seamlessly. And on top of this, the systems have a whole host of performance requirements to fulfil. These are agreed with the client in advance.

Do architects take a lot of convincing when it comes to acoustic systems?

T. Pennings: They often prefer a smooth ceiling surface area and disregard the acoustics at first. But that's understandable, of course, as acoustic systems certainly shouldn't compromise the positive overall impression of a room. That said, the solutions available today – such as the acoustic systems from Sto – provide a functional alternative with exceptional aesthetic appeal. Our task as planners and tradesmen is clear: we provide two different calculations by drawing up one option without acoustic measures and another with these in place. This calculation allows us to highlight the

added value that an acoustic system can offer. The client can then make an informed decision on this basis. The calculation often speaks for itself.

What does good acoustic consultation involve?

T. Pennings: It all comes down to providing a comprehensive concept. Acoustics consultants start by discussing acoustic performance with the client as well as the expectations of the room as a whole. Next on the agenda for finding the ideal system is calculating the reverberation level. Additional services are available on top of the standard package, such as the installation of voltage rails, LED lighting, and a complete extraction system. In a nutshell, a good acoustic system doesn't just come down to acoustic properties, it also takes into account all interior architectural requirements, from lighting to heating and cooling.

Read the interview in full at: www.stosilent.com

Image top right:
Sparkasse bank Kufstein, Kufstein, AT
Design: Arch. Dipl-Ing. Peter Mayrhofer, Innsbruck, AT
Execution: Fiku Trockenbau, Kufstein, AT
Sto expertise: StoSilent Distance with StoSilent Top Finish
Photo: Christian Schellander, AT

Image bottom right:
Drents Museum, Assen, NL
Design: Erick van Egeraat, Rotterdam, NL
Sto expertise: StoSilent Distance with StoSilent Decor M

Image on left:
Ton Pennings, Penningsgroep, NL





Because colour is just as important as sound

What would an architectonic design be without an extensive colour range? We offer the matching coatings in a wide range of colours for all our acoustic solutions. That not only means always having the right room acoustics solution for the room to be designed, but also something that is especially important in architecture: freedom.

The entire colour range is combined in the StoColor System. This system is based on human visual perception. This direct reference to the emotional aspect of colour is key to the StoColor System and

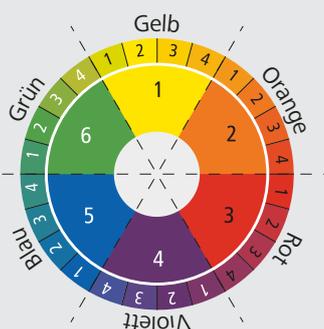
to its intuitive application. The entire colour range of StoSilent can be found at: www.stosilent.com

Image on right:
Fachakademie für Sozialpädagogik (specialised academy), Gunzenhausen, DE
Building owner: Motherhouse Hensoltshöhe of the DGD e. V. (German diaconal association), Gunzenhausen, DE
Design: Planbau, Gunzenhausen, DE
Execution: DTB-Donau-Trocken-Bau GmbH, Rennertshofen, DE
Sto expertise: StoSilent Modular 230
Photo: Martin Duckek, DE

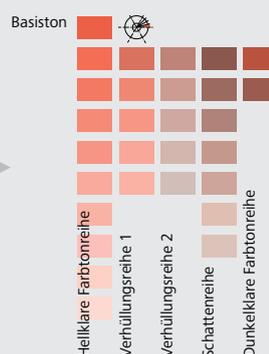
Build-up: StoColor System



The human perception of colour primarily distinguishes between yellow, orange, red, violet, blue, and green. This perception scheme forms the starting point of the StoColor System.



The six primary perception ranges are mixed into four further colour shade levels. The result is a 24-part colour wheel, which forms the basis for the StoColor System.



Each basic tone has five colour rows that are tinted according to the principle of the same-colour triangle.



StoSilent coatings

StoSilent Decor

Porous, thin-layer stipple for matt, textured surfaces with fine graining. Depending on the system, StoSilent Decor enables seamless surfaces of up to 700 m².

- **StoSilent Decor M:** silicate-bound finish, low-emission, eco-certified (natureplus® and TÜV), limited tintability in accordance with the StoColor System
- **StoSilent Decor MF:** finish on a dispersion base, fully tintable in accordance with the StoColor System

StoSilent Top

This porous finish on an dispersion base makes for the finest possible matt surfaces. Depending on the system, StoSilent Top enables seamless surfaces of up to 200 m² to be applied by hand.

- **StoSilent Top Basic:** intermediate coat and finish with a smooth surface and fine graining, limited tintability in accordance with the StoColor System
- **StoSilent Top Finish:** finish with a smooth surface and finest possible graining, limited tintability in accordance with the StoColor System

StoSilent Miral AP

Thanks to its coarse graining, the multi-layer, porous mineral acoustic stipple enables the creation of eye-catching rough surfaces.

- Unlimited seamless application
- Not tintable, but can be coloured with StoTint Aqua and/or when using the StoColor Silent finish which can be tinted in accordance with the StoColor System

StoSilent Sil AP

• Thanks to its coarse graining, the multi-layer, porous mineral acoustic stipple enables the creation of eye-catching rough surfaces.

- Unlimited seamless application
- Not tintable, colouring in accordance with the StoColor System is applied with the StoSilent Decor finish.

StoColor Silent

The dead-matt, open-pored renovation paint on a dispersion base was developed specifically for the porous StoSilent acoustic systems and is fully tintable in accordance with the StoColor System.

StoColor Climasan

The dead-matt interior emulsion paint has been tested for harmful substances and degrades organic odours and harmful substances. It is the only interior paint that manages this without UV light. Conventional interior lighting is sufficient to activate the catalyst in the interior paint.

- Low-emission, tested for harmful substances (TÜV)
- Noticeably better air, even in rooms under a lot of stress
- Tintable in pastel colour shades from the StoColor System

StoSilent Modular surfaces

- PET fibre nonwoven surface: fine, unidirectional fibre structure, white
- Nonwoven surface polyester fibres: fine, multi-directional fibre structure, colours according to current collection
- Fine-textured colour coating: fully tintable



Years of research go into our products

An interview with Alexander Schauerl, Head of Interiors Business Field, Sto Ges.m.b.H. Austria

Acoustics systems with impressive functionality which also allow complete freedom of design visually. According to Alexander Schauerl, Head of Interiors Business Field at Sto Austria, that doesn't have to be a contradiction in terms for system suppliers these days. He knows from his daily interaction with architects, building physics specialists, and private building owners just how important individual design possibilities are for customers.

Mr Schauerl, how important do you think the topic of acoustics is for your customers? Are acoustics considered early on in the construction process nowadays, or do you still have to do a lot of convincing?

A. Schauerl: The desire for healthy interiors that improve quality of life is stronger than ever before. Architects, planners, building owners, and we as the system supplier have to work together closely to meet this requirement. That is why acoustics are becoming increasingly important in today's construction process. I am seeing this issue play an ever greater role for everyone involved in the building process. You see, architecture is sometimes characterised by clear, minimalist structures, sound-reflecting walls, open plan rooms, and large glazed surfaces. These factors have an enormous influence on sound. And perfect room acoustics are fundamental to creating comfortable living spaces. That is the challenge we are facing. Our acoustic solutions often provide the crucial contribution for creating the planned "feel-good" rooms.

In what respect? Which aspects are especially important to your customers when it comes to acoustics?

A. Schauerl: Architects and building owners are looking for an acoustically brilliant solution at an attractive price. And of course it has to fit in with the overall concept as well.

Perfect acoustics that are also visually attractive – isn't that very expensive? How does Sto manage to combine price, quality, and appearance?

A. Schauerl: Of course that is not an easy task for us. Acoustics are an important element that has a substantial influence on people's moods, even if we are not always aware of it. Our company has been looking into this issue for decades. Our company has been looking into this issue across all depart-

"Perfect room acoustics are fundamental to creating comfortable living spaces."

ments within the Group for several decades. This intensive research and project work helps us greatly with developing innovative products. This is the only way to do justice to this complex issue.

Image on right:
London Metropolitan University, London, GB

Design: Studio Libeskind, Zurich, CH
Sto expertise: StoSilent Distance with StoSilent Decor

Image on left:
Alexander Schauerl
Sto Ges.m.b.H. Austria





How do you ensure the quality and system assurance of Sto acoustic systems?

A. Schauperl: I think our customers always associate Sto with quality. However, we use years of research in the laboratory and compelling sound references to substantiate the system assurance of the solutions. Years of experience go into our products. Only this allows us to offer a product portfolio that goes far beyond other types on the market. Because StoSilent includes solutions for any structural requirement while also opening up new scope for design.

What exactly does that mean?

A. Schauperl: Our customers get everything from one single source. Our offer does not only include individual but also system solutions. We are currently the only manufacturer to offer solution expertise for acoustic systems as well as for acoustic coatings.

Do you see any trends in room acoustics?

A. Schauperl: Trends often also mean change, but they primarily reveal movements within society. In construction there is a very clear development towards eco-friendly, sustainable systems and therefore also towards acoustic systems. After all, they promote the feeling of well-being in interiors. The individual surface and colour design of ceiling systems is sure to become increasingly important in this regard. The challenge is to combine acoustic functionality with the planned design and application. Acoustic systems such as StoSilent, with the corresponding technical efficiency, attractive appearance, large design variety, and the required economic efficiency, increase the added value of buildings and will be a clear priority in the future.

Read the interview in full at:
www.stosilent.com

The StoSilent acoustic systems at a glance

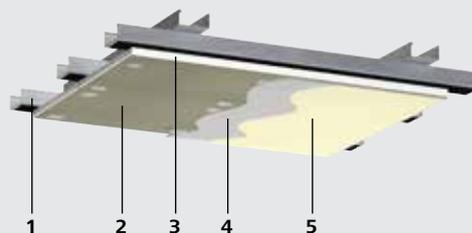
System description

System

StoSilent Distance

System build-up (for example: StoSilent Board 300)

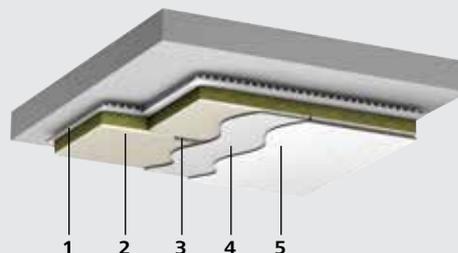
- 1 — Sub-construction with StoSilent Profile Tape
- 2 — StoSilent Board 300 acoustic panel
- 3 — Bonding with StoSilent Fix
- 4 — StoSilent Top Basic intermediate coat
- 5 — StoSilent Top Finish finish



StoSilent Direct

System build-up (for example: seamless with StoSilent Top)

- 1 — Bonding with StoSilent Coll MW
- 2 — StoSilent Board MW 100 acoustic panel
- 3 — StoSilent Filler filler and levelling coat
- 4 — StoSilent Top Basic intermediate coat
- 5 — StoSilent Top Finish finish



StoSilent Modular

System build-up (for example: StoSilent Modular 230)

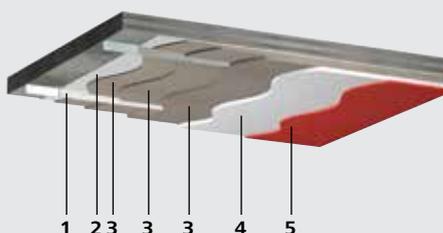
- 1 — Height-adjustable wire cable suspension
- 2 — Sub-construction made of galvanised steel sheet
- 3 — Acoustically effective carrier board (with additional absorber layer)
- 4 — Factory-made colour coating



StoSilent Compact

System build-up (for example: StoSilent Compact Sil)

- 1 — StoSilent Profile PL system profile
- 2 — StoSilent Prep Quarz primer
- 3 — StoSilent Sil AP intermediate coat
- 4 — StoSilent Sil AP intermediate coat
- 5 — StoSilent Decor finish



■ Very good ■ Good □ To a limited extent

Seamless or variable, fine or rough, coloured or brilliant white: with StoSilent you can give colour and shape to room acoustics. Here you can see at a glance which is the right system for your project. Find out more about StoSilent at: www.stosilent.com

| Version | Acoustic panel | Coating/surface | Maximum sound absorption α_w | Reaction to fire (class) | Area of application | | Formability |
|----------------------------------|---|--------------------------------------|--|---|---------------------|------------|-------------|
| | | | | | Ceiling | Wall | |
| StoSilent Distance | StoSilent Board 300 | StoSilent Top | 0.45–0.60 | B-s1, d0 | ■ ■ | ■ ■ | ■ |
| | StoSilent Board 310 | StoSilent Decor | 0.45–0.55 | B-s1, d0 | ■ ■ | ■ | ■ |
| StoSilent Distance A2 | StoSilent Board 100 | StoSilent Top | 0.80 | A2-s1, d0 | ■ ■ | ■ | |
| | StoSilent Board 110 | StoSilent Decor | 0.80 | A2-s1, d0 | ■ ■ | ■ | |
| | StoSilent Board 200 | StoSilent Top | 0.55 | A2-s1, d0 | ■ ■ | ■ | |
| | StoSilent Board 210 | StoSilent Decor | 0.55 | A2-s1, d0 | ■ ■ | ■ | |
| StoSilent Distance Flex | StoSilent Board 310 F | StoSilent Decor | 0.45 | B-s1, d0 | ■ ■ | ■ | ■ ■ |
| StoSilent Direct, seamless | StoSilent Board MW 100 | StoSilent Top Finish | 0.65 | A2-s1, d0 | ■ ■ | ■ ■ | ■ |
| | | StoSilent Top Basic | 0.65 | A2-s1, d0 | ■ ■ | ■ ■ | ■ |
| | | StoSilent Decor | 0.80 | A2-s1, d0 | ■ ■ | ■ | ■ ■ |
| StoSilent Direct, visible joints | | StoSilent Decor | 1.00 | A2-s1, d0 | ■ ■ | ■ | ■ ■ |
| | | StoColor Climasan StoColor Silent | 0.95 | A2-s1, d0 | ■ ■ | ■ ■ | ■ ■ |
| | | Uncoated board | 1.00 | A2-s1, d0 | ■ ■ | ■ ■ | ■ ■ |
| StoSilent Modular 100 | PET nonwoven fibre | Nonwoven surface | Depending on suspension height, format, material, and finish | B-s1,d0 | ■ ■ | on request | |
| StoSilent Modular 230 | Expanded glass granulate | Fine-textured colour coating | | A2-s1, d0 carrier board C-s3, d0 PET layer | ■ ■ | | |
| StoSilent Modular 300 | Polystyrene fibres | Nonwoven surface | | Depending on colour | ■ ■ | | |
| StoSilent Modular 400 | Individual, on-site solution, construction based on StoSilent Board, different coating systems possible | | | Depending on carrier board | | | |
| StoSilent Compact Sil | | StoSilent Decor MF | 0.45 (MH) | C-s1, d0 | ■ ■ | □ | ■ ■ |
| StoSilent Compact Miral | | StoSilent Miral AP | 0.30 (H) at 15 mm thickness 0.45 (MH) at 25 mm thickness | A2-s1, d0 | ■ ■ | □ | ■ ■ |

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