Building with conscience.

StoSilent

Acoustic systems

Acoustics

Our StoSilent range offers a comprehensive portfolio of acoustic solutions for a variety of uses. The range includes suspended panel systems, direct systems, and acoustic plasters, as well as versatile ceiling and wall elements – combining aesthetic appeal and function in perfect harmony.

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Cover photo reference:
MOAE – Huamao Museum of Art Education, Ningbo, China
Planning: Carlos Castanheira & Álvaro Siza Vieira, Porto, Portugal
Sto expertise: StoSilent Distance, StoSilent Decor M, StoSilent GP
Photo: HouPictures, China

Our acoustic systems: StoSilent

Our potential: technology and service

Building with conscience

Building with conscience means helping to shape our environment responsibly – and good room acoustics are crucial to realising this vision. From the very earliest stages of planning, it is important to think about how sound can be optimised for the intended use of the building.

People use rooms in all kinds of ways – to gather, chat, work, and create, to seek relaxation and recuperation, and to enjoy some well-earned rest and sleep. Depending on how a space is used, requirements for reverberation time, sound distribution, and speech intelligibility will vary: in offices and lobbies, we appreciate low background noise and a peaceful atmosphere; in concert halls, we want to be able to pick up on even the most subtle sounds in the music.

Studies have also shown that room acoustics not only affects well-being, but also the health and performance of the people using the space. With this in mind, architects, tradespeople, and acoustics experts must think about the acoustic aspects of their plans at an early stage in the construction process. There are many factors to consider, including the room dimensions in relation to its use, the composition of floors, walls, and ceilings, the materials and furnishings used, and the number of people who will eventually be present in the space and what they will be doing. It is only possible to create spaces where people feel comfortable – and where they can effectively communicate, work, and live – when these aspects are perfectly harmonised based on the intended function of the room.

At Sto, we've been researching the topic of acoustics for over 35 years. Based on our decades of experience and the many successful projects we've completed to date, we developed the StoSilent programme. The range encompasses tried-and-tested systems with specific technical properties that effectively ensure that speech and sound can be transmitted clearly, or that a space remains peaceful and calm. All our solutions are also designed with aesthetics and maximum versatility in mind – providing architects and planners with the solutions they need to combine outstanding design with exceptional acoustic performance.

The five-star Öschberghof hotel in Donaueschingen – which was fully refurbished based on plans by architects at Allmann Sattler Wappner – is a perfect example of high-quality acoustic planning in action. In partnership with JOI-Design, the team created a high-end interior concept that focuses on nature, tranquility, and authenticity, inviting guests to relax as soon as they step into the hotel. A premium acoustic solution in coordinated colours was incorporated into the design, using the directly bonded StoSilent Direct acoustic system and the StoSilent Decor M silicate acoustic coating.

Öschberghof, Donaueschingen, Germany
Planning: Allmann Sattler, Wappner Architekten GmbH, Munich, Germany, JOI-Design Innenarchitekten A D joehnk + partner mbB, Hamburg, Germany
Sto expertise: StoSilent Direct with StoSilent Decor M
Photo: Martin Baitinger, Germany

Focusing on acoustics

Dry system construction professional Alessandro Bertolani has been using high-quality acoustic solutions for years. In this interview, he tells us that the topic of acoustics will move even further up the agenda in the future.

Bertolani Costruzioni Srl is one of the most experienced dry system construction specialists in northern Italy. In partnership with Sto, the company has developed countless custom solutions for challenging acoustics projects around the world.

Mr Bertolani, when did you first start working with acoustic solutions?
When we started out, acoustics was more of a side issue that we had to get architects and engineers thinking about. Around the year 2000, I was involved in the construction of the Renzo Piano wind tunnel at the Ferrari plant in Maranello. It was incredibly exciting to be involved in such a high-level project!

Which acoustics project has been most challenging to date?
Without a doubt, the most challenging project was the new Apple Store in Rome, where we delivered a high-quality acoustic solution while preserving the historic frescos in the building. It was quite tricky to accomplish! To arrive at the perfect solution for the ceilings – some of which were vaulted and decorated with various works of art – while meeting the expectations of both the architects and the building owner, our first step was to create a comprehensive 3D model to work from.

Have acoustic requirements changed over the years, and what is the most important aspect of a good acoustic system?
Yes, building owners and architects are now much more interested in acoustics. Even though other aspects, such as thermal insulation, tend to be slightly higher on the agenda, I would say that the topic of acoustics is now a key factor in many new buildings and refurbishments. Bringing the differing expectations of acoustic engineers in line with the architectural design is critical to success. But this is an enormous challenge, as projects are becoming ever-more complex. We need to be really creative to integrate all of the different requirements into the solution.

Image on right:
MOAE – Huamao Museum of Art Education, Ningbo, China
Planning: Carlos Castanheira & Álvaro Siza Vieira, Porto, Portugal
Sto expertise: StoSilent Distance, StoSilent Decor M
Photo: HouPictures, China

Image below:
Alessandro Bertolani, Bertolani Costruzioni Srl, Italy

“I think we’ll prefabricate more elements so that we can achieve even greater flexibility and cost efficiency.”

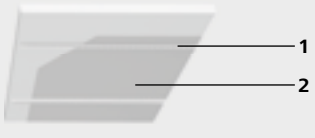
Which Sto acoustic system do you use most frequently?
The system we use most frequently is StoSilent Distance with the StoSilent Top Finish coating. This system makes it easy to invisibly integrate the various installations into the ceiling, which is why it’s the preferred choice of many architects too. The support and expertise we get from the Sto service team is really important, and it is invaluable to us in our international projects in particular!

How is the field of acoustics developing?
We’re seeing acoustics taking on an increasing level of importance for architects and building owners. At the same time, projects are becoming more complex. From a design perspective, it is essential that we can integrate acoustics seamlessly and invisibly into the architecture. That’s why Sto is the best partner for achieving optimum acoustic solutions in complex projects.

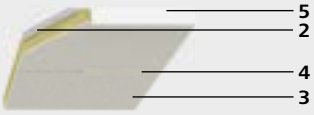
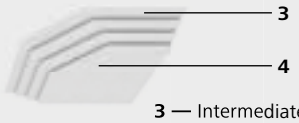
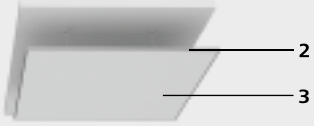
Acoustic systems: more than what they seem

We deliver high-quality acoustic solutions that blend seamlessly into your design. We offer six different systems for use with a range of room heights, architectural concepts, and surface shapes and compositions.

In perfect harmony: the many layers of our acoustic systems

Category	System	Carrier layer
Suspended, flat acoustic system sub-construction	**StoSilent Distance**	 StoSilent Distance C StoSilent Distance S StoSilent Distance F **1** — Sub-construction **3a** — Bonding **3b** — Screw connection
Directly bonded acoustic system Applied directly to the load-bearing surface	**StoSilent Direct** Full-surface application **StoSilent Frame** Partial application	 **1** — Priming coat
Directly coated acoustic plaster system Applied directly to the load-bearing surface	**StoSilent Compact**	 **1** — System profile **2** — Priming coat
Suspended, modular acoustic elements Modular, prefabricated system	**StoSilent Modular**	 **1** — Hangers

StoSilent combines high-quality acoustics with maximum flexibility. We offer the perfect system for your look, surface, and space – providing maximum design freedom for planners and building owners.

Absorber layer	Material layer
Detailed information on all absorbers is provided on page 13	Detailed information on all material options is provided on page 15
 **2** — Acoustic panel **4** — Edge profile	 **5** — Intermediate coat **6** — Acoustic plaster finish (tinted available as an option)
 **2** — Bonding **3** — Acoustic panel **4** — Filler and levelling coat **5** — Edge profile	
 **2** — Bonding **3** — Acoustic panel made of sintered expanded glass granulate	Acoustic panel coated ex works; no further material layer
Absorbent material layer; no further absorber layer required	 **3** — Intermediate coat **4** — Finish
 **2** — Sub-construction/frame **3** — Horizontally suspended acoustic panel	StoSilent Modular 100: Uncoated non-woven surface StoSilent Modular 230: Fine-textured colour coating applied ex works

In focus: absorbers

Absorbers are a central building block of the StoSilent Distance, StoSilent Direct and StoSilent Frame systems, as well as our acoustic elements. Our panels guarantee optimal sound absorption and the installation process is simple and flexible.

A subjective sense of well-being is an important criteria when designing facades and interior spaces. Pleasant acoustics – achieved via a solution that effectively inhibits noise and allows sufficient scope for communication, music, or peace and quiet, depending on the building and how it is used – are a crucial element of well-being.

We have developed highly effective acoustic panels to create a solution that combines these multifaceted acoustic requirements with maximum design freedom. The panels are available in a range of thicknesses and versions, and can be cut to size to suit individual requirements.

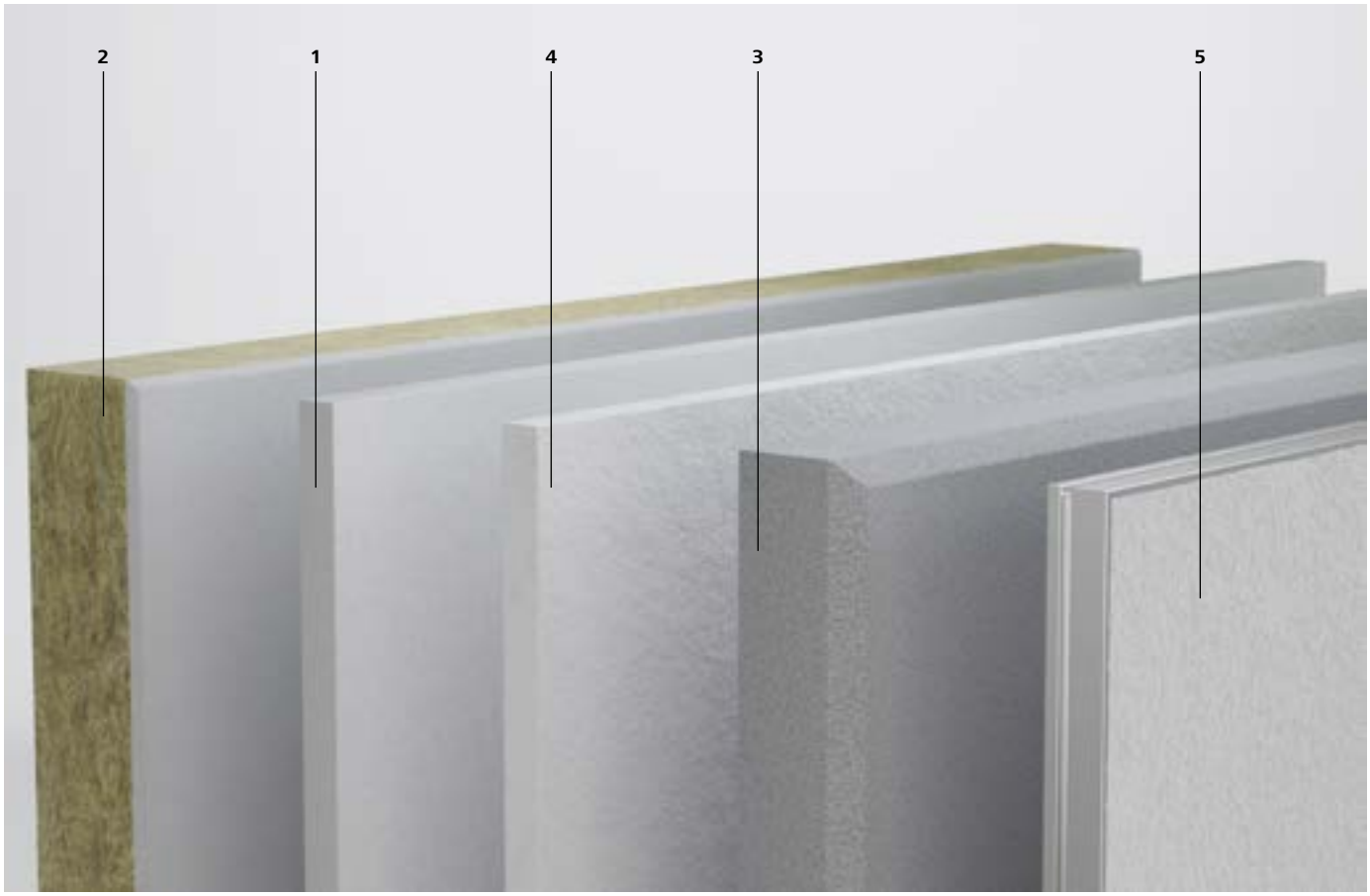
They are manufactured using a patented process, with expanded glass granulate sintered or mixed with binder to form the core of the acoustic panel. The material we have selected not only boasts exceptional acoustic properties, but is also lightweight, highly stable, and unaffected by moisture. And thanks to its high percentage of recycled materials, the product is a sustainable choice too.

Our StoSilent Modular 100 system is made with recycled PET fibre. With a range of different suspension heights, the panels can be used to create a multidimensional effect, enabling the architects to design the space to suit requirements.

The acoustic element has been awarded the Oeko-Tex® certificate in recognition of its exceptionally high quality standards.

Image on right:
The various materials used in StoSilent acoustic panels are pictured below.

Image below:
The raw material: expanded glass granulate

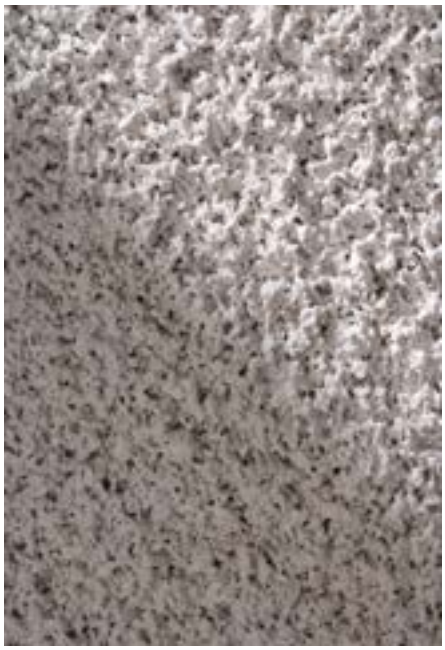


Expanded glass granulate				PET fibre board
1 — StoSilent Distance	2 — StoSilent Direct	3 — StoSilent Frame	4 — StoSilent Modular 230	5 — StoSilent Modular 100
StoSilent Board · For suspended ceiling and wall structures · Very high recycling percentage · Weighted sound absorption coefficient α_w of up to 0.45 depending on suspension height · Sharp-edged · Colour shade on visible side: white, rear side: grey · Low weight and high stiffness · Low moisture-induced and thermal expansion · Fixing by bonding or with screws · Reaction to fire (class) A2-s1, d **Application** · Used in the StoSilent Distance system	**StoSilent Board MW 100** · Sandwich panel made of expanded glass granulate and stone wool · For smooth and curved surfaces · Weighted sound absorption coefficient of up to α_w 1.00 depending on panel thickness and finish · Straight-edged panel with 45° bevel in the ceiling membrane · Low weight and high stiffness · Low moisture-induced and thermal expansion · Simple application · Reaction to fire (class) A2-s1, d0 **Application** · Used in the StoSilent Direct system	**StoSilent Board R** · Lightweight monolithic sound absorber · Sound absorption dependent on number of panels and arrangement/number of panels and suspension height · Made of 100 % sintered expanded glass granulate · Moisture-proof · Simple application · Ex works coating · TÜV seal of quality – externally monitored **Application** · Used in the StoSilent Frame system	**StoSilent Modular 230** · Very high recycling percentage · Sound absorption dependent on format and suspension height · Ex works finish with fine-textured paint coat · Low weight and high stiffness · Low moisture-induced and thermal expansion · Reaction to fire (class) A2-s1, d0 **Application** · Used as an acoustic element	**StoSilent Modular 100** · Carrier board made from recycled PET plastic fibres · With natural anodised, slimline aluminium frame and carrier profiles · Sound absorption dependent on format and suspension height · Prefabricated with white nonwoven surface ex works · Awarded the Oeko-Tex® certificate · Reaction to fire (class) B-s1, d0 in accordance with EN 13501 **Application** · Used as an acoustic element

First impressions: acoustically effective surfaces

Silicate acoustic plaster

In addition to mineral binders, silicate plaster contains small amounts of synthetic resin to increase elasticity, stability, and adhesion. StoSilent Sil AP is a multi-layer, porous, fine-grained silicate acoustic plaster. The plaster is coated with a cover layer. The StoSilent Decor finish is suitable for unlimited seamless application. The organic StoSilent Decor MF finish is used to colour the solution based on the StoColor System. StoSilent Decor M is a silicate, natureplus-certified finish available in a limited range of colours.



Mineral acoustic plaster

Mineral plaster contains binders of mineral origin, such as cement, which enable it to absorb and release moisture. Our multi-layer, porous, mineral acoustic spray plaster StoSilent Miral AP has a coarse grain, making it easy to create eye-catching, rough surface finishes. The plaster is suitable for unlimited seamless application and can be finished in a limited range of colours based on the StoColor System.

Organic acoustic plaster

Organic plasters use synthetic resin as a binder, resulting in a plaster that is more flexible when exposed to mechanical stress. StoSilent Top is an organic porous coating for a range of acoustic systems. The plaster can be finished in a limited range of colours based on the StoColor System.

Our StoSilent acoustic systems can be completed with various surface finishes available in the wide range of colours in the StoColor System. Nonwoven surfaces or uncoated solutions are available on request.

For more inspiration on acoustics simply scan the QR code

Colour coating

Our acoustic systems can be colour-coated with our open-pored renovation paint StoColor Silent or the interior emulsion paint StoColor Climasan, which removes harmful substances and odours from the air. Both coatings can be finished in colour based on the StoColor System. The StoSilent Modular 230 ceiling element has a fine-textured colour coating in white, which can be supplied in any colour from the StoColor System.

Nonwoven surface

Our StoSilent Modular 100 ceiling element boasts a unique look thanks to its white, nonwoven surface with fine, directed fibre texture. The direction of the texture depends on the element format. The material has been awarded Oeko-Tex® Standard 100 (class 1) certification.

Reapor

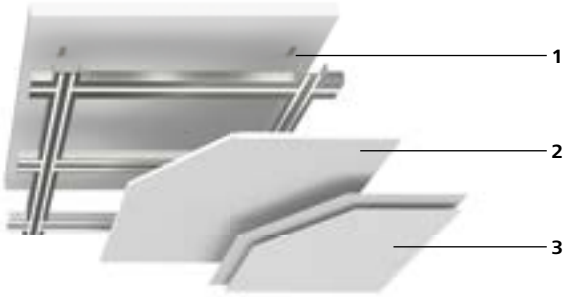
Our StoSilent Frame system use Reapor acoustic panels made from expanded glass granulate supplied with a RAL colour coating ex works. The material remains visible through the colour coating.
The acoustic panels are tested for harmful substances and have been awarded the TÜV seal of quality.

Our acoustic systems: StoSilent

With our StoSilent Distance suspended panel system, the simple, direct system StoSilent Direct, the quick solution of StoSilent Frame, the StoSilent Compact flexible plaster system and the StoSilent Modular ceiling element, we offer five effective systems for optimised room acoustics. Each of these systems has been designed with a specific carrier, acoustic, and material layer.

MOAE – Huamao Museum of Art Education, Ningbo, China
Planning: Carlos Castanheira & Álvaro Siza Vieira, Porto, Portugal
Sto expertise: StoSilent Distance, StoSilent Decor
Photo: HouPictures, China

StoSilent: an overview



System		1 — Carrier layer	2 — Absorber layer	3 — Material layer	
Category	**System name**	**sub-construction**	**Acoustically effective layer**	**Finish**	**Colour range**
Suspended acoustic systems	StoSilent Distance C	Sub-construction at the same level	StoSilent Board 205 C Absorber made of expanded glass granulate	StoSilent Decor	■■
				StoSilent Top Basic white	
				StoSilent Top Finish	■
			StoSilent Board 105 C	StoSilent Decor	■■
				StoSilent Top Basic white	
				StoSilent Top Finish	■
	StoSilent Distance S	Height offset sub-construction	StoSilent Board 100 S Absorber made of expanded glass granulate	StoSilent Top Basic white	
				StoSilent Top Finish	■
			StoSilent Board 110 S	StoSilent Top Decor	■■
	StoSilent Distance F	Curved, height-offset sub-construction	StoSilent Board 310 F Absorber made of expanded glass granulate	StoSilent Decor	■■
Bonded acoustic systems	StoSilent Direct	Load-bearing ceiling construction with priming coat	StoSilent Board MW 100 Sandwich panel made of expanded glass granulate and stone wool	Visible joints uncoated	
				Visible joints StoColor Climasan	■
				Visible joints StoSilent Decor	■■
				Seamless StoMiral AP	■■
				Seamless StoSilent Decor	■■
				Seamless StoSilent Top Basic white	
				Seamless StoSilent Top Finish	■
	StoSilent Frame	Load-bearing ceiling construction with priming coat	StoSilent Board R 400 Absorber made of sintered expanded glass granulate	Uncoated non-woven surface	■■
Acoustic plaster systems	StoSilent Compact	Load-bearing ceiling construction with priming coat		StoSilent Sil AP with StoSilent Decor	■■
				StoSilent Miral AP StoColor Silent optional	■■
Acoustic elements	StoSilent Modular	Horizontal suspension	StoSilent Modular 100 Absorber element	Uncoated non-woven surface	
			StoSilent Modular 230 Absorber element	Fine-textured colour coating applied ex works	■■

■■ very good
■ good

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 systems are suitable for your project.

For more information on StoSilent simply scan the QR code

System properties		Interior applications		Curved surfaces
Maximum sound absorption α_w	**Reaction to fire (class)**	**Ceiling**	**Wall**	
0.70 (L)[1)]	A2-s1, d0	■■■	■	■
0.55		■■	■■	■
0.65 (L)[1)]		■■	■■	
0.95[1)]		■■	■■	
0.65 (L)[1)]		■■	■■	
0.80[1)]		■■	■■	
0.65				
0.80				
0.80				
0.45 (H)	B-s1, d0	■■	■	■■
1.00	A2-s1, d0	■■	■■	■
0.95		■■	■■	■
1.00		■■	■	■■
0.85		■■	■	■■
0.80				
0.75 (single-layer) 0.65 (L) (with intermediate coat)		■■	■■	■■
0.65		■■	■■	
depending on suspension height, quantity, and arrangement	on request	■■	■■	
0.45 (MH)	C-s1, d0	■■	■■	■■
0.30 (H) 15 mm 0.50 (MH) 25 mm	A2-s1, d0	■■	■■	■■
depending on suspension height, quantity, and arrangement	B-s1, d0	■■	■■	
	A2-s1, d0 (panel) C-s3, d0 (nonwoven fabric)			

StoSilent Distance

Suspended acoustic system for precise, seamless surfaces

For further information on the system simply scan the QR code

The StoSilent Distance system can be installed either as a suspended ceiling or as a 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. Depending on requirements, walls and suspended ceilings of up to 200 square metres can be constructed seamlessly.

The system was the perfect solution for the Harbitz Torg office building in Oslo. The StoSilent Distance system was used as a wall covering to achieve optimum acoustics for the crystalline-folded surface texture of the central atrium. The surface was finished using the porous silicate acoustic coating StoSilent Decor M.

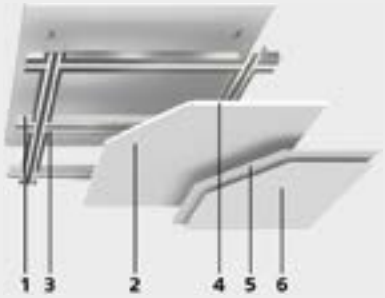
System advantages

- Low weight
- Also suitable for curved surfaces and vaults
- Conceals the mains utilities
- Available in three versions to suit various requirements

Harbitz Torg, Oslo, Norway
Building owner: Møller Eiendom Holding AS, Oslo, Norway
Planning: LPO Architects A/S, Oslo, Norway
Execution: Bazzea, Viverano, Italy
Sto expertise: StoSilent Distance, StoSilent Decor M
Photo: Tove Lauluten, Oslo, Norway

The system

Build-up: StoSilent Distance C with StoSilent Decor M



Carrier layer
1 — Sub-construction
3 — Bonding

Absorber layer
2 — Acoustic panel
4 — Edge finish

Material layer
5 — Intermediate coat
6 — Finish

Material layer options

Silicate acoustic plaster
- StoSilent Decor
- Textured surface
- Tintable in accordance with the StoColor System

Organic acoustic plaster
- StoSilent Top
- Smooth surface
- Limited tintability in accordance with the StoColor System

System properties

Application
- Interior
- As cavity construction for level wall and ceiling areas
- Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- StoSilent Distance S system version for ventilated wall and ceiling areas
- StoSilent Distance F system version for curved wall and ceiling areas

Fixing
- Metal sub-construction in accordance with EN 13964 with vernier hangers

Reaction to fire
- Class A2-s1, d0 in accordance with EN 13501-1

Application
- Complete selection of detail solutions
- Simple and fast installation thanks to light panel weight

StoSilent Direct

Directly bonded acoustic system for seamless surfaces

For further information on the system simply scan the QR code

The StoSilent Direct acoustic system is a high-quality acoustic 'sandwich' of expanded glass granulate and stone wool. This is applied directly to the substrate and is ideal for large surface areas. With the right finish, you can even design seamless surfaces of up to 700 square metres. The slimline profile of the system is yet another advantage: no sub-construction is required, so there is minimal impact on room height.

The complete renovation of the five-star Öschberghof hotel in Donaueschingen provides the perfect example of this system in action. On the construction site, the individual panels were bonded directly to the ceilings in each room. The surfaces were then finished using the porous silicate acoustic coating StoSilent Decor M.

System advantages

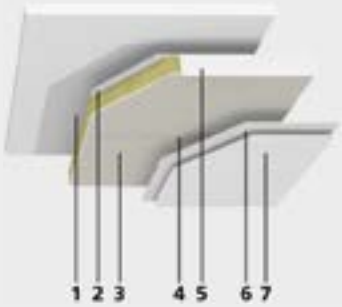
- Direct bonding onto walls/ceilings
- Simple application
- For smooth surfaces and curved surfaces (convex, concave, not spherical)

StoSilent Direct can be installed seamlessly or with visible joints, depending on the finish

Öschberghof, Donaueschingen, Germany
Planning: Allmann Sattler, Wappner Architekten GmbH, Munich, Germany
Sto expertise: StoSilent Direct with StoSilent Decor M
Photo: Martin Baitinger, Germany

The system

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



Carrier layer
1 — Priming coat
2 — Bonding

Absorber layer
3 — Acoustic panel
4 — Filler and levelling coat
5 — Edge finish

Material layer
6 — Intermediate coat
7 — Finish

Material layer options

Silicate acoustic plaster
- StoSilent Decor
- Textured surface
- Tintable in accordance with the StoColor System

Organic acoustic plaster
- StoSilent Top
- Smooth surface
- Limited tintability in accordance with the StoColor System

Optional coatings
- Colour coating: StoColor Silent/ Climasan
- No coating

System properties

Application
- Interior
- For ceilings and walls. Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- Exterior, for selected areas
- For smooth surfaces and curved surfaces (convex, concave, no spherical surfaces)

Reaction to fire
- Class in accordance with EN 13501-1: A2-s1, d0
- Fire resistance class REI60 in accordance with EN 13501-2 (wooden beam ceiling), classification report no. KB 3.2/19-423-1
- Class K260 covering, classification report no. KB 3.2/19-423-2

Application
- Bonded directly to substrate
- By trained specialists

StoSilent Frame

Directly bonded acoustic system for ceiling edges

For further information on the system simply scan the QR code

We developed the StoSilent Frame system to enable you to optimise the acoustics of spaces quickly and cost-effectively. Unlike other systems, the sound insulation material is applied in a ring around the room where the walls meet the ceiling to prevent unwanted noise reflection where it arises. A positive side effect of this approach is that it minimises the amount of material required. Depending on the on-site conditions, StoSilent Frame can also be installed as a partial solution.

The system was developed with quick and easy retrofitting in mind, and it is also suitable for use in masonry, concrete, and dry construction.

System advantages

- Consists of 95 % recycled material and does not contain any synthetic mineral fibres
- The acoustic panels are tested for harmful substances and have been awarded the externally monitored TÜV seal of quality.
- Robust and hygienic absorber material
- Quick and simple application

Office test project, Niederglatt, Switzerland
Sto expertise: StoSilent Frame

The system

Build-up: StoSilent Frame

Carrier layer
1 — Priming coat
2 — Bonding

Acoustic layer
3 — Acoustic panel coated ex works

System properties

Application
- Interior
- For ceilings
- Bonding in the edge area between the wall and ceiling
- For smooth surfaces
- Ideal for schools, nursery schools, and public areas

Design options
- StoSilent Board R 400: coated ex works

Colour range
- Colour shades in accordance with RAL colour fans

Application
- Bonded directly to substrate
- Fast and simple installation
- For immediate installation

StoSilent Compact

Acoustic system for seamless surfaces

For further information on the system simply scan the QR code

The StoSilent Compact acoustic plaster system is the perfect acoustic solution for rooms that are not suitable for suspended acoustic systems. We offer two solutions: StoSilent Compact Miral and StoSilent Compact Sil. Both are designed to enable you to quickly achieve a seamless, homogenous surface and are just as easy to apply as conventional plaster.

The systems are ideal for barrel vaults or other multi-dimensional curved surfaces. The solution was perfect for the fully renovated "Bodega La Vieja" winery in the Spanish town of Puerto de Santamaría. To optimise the acoustics of the sophisticated wine bar, the church-like arched ceiling was coated with StoSilent Compact Sil acoustic plaster and finished with StoSilent Decor. The character of the space was fully preserved during the renovation.

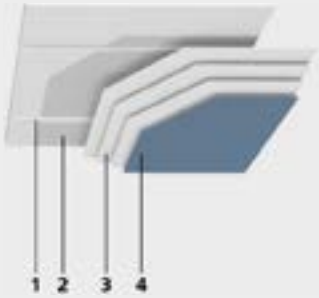
System advantages

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

"Bodega La Vieja" (Osborne) winery, Puerto de Santamaría, Spain
Planning: Estudio Ollero, S.A.
Sto expertise: StoSilent Compact with StoSilent Sil AP and StoSilent Decor M
Photo: Thomas Götz, Germany

The system

Build-up: StoSilent Compact with StoSilent Sil AP and StoSilent Decor M



Carrier layer
1 — System profile
2 — Priming coat

Acoustic layer
3 — Intermediate coat

Material layer
4 — Finish

Material layer options

Silicate acoustic plaster
- StoSilent Decor
- Textured surface
- Tintable in accordance with the StoColor System

Organic acoustic plaster
- StoSilent Top
- Smooth surface
- Limited tintability in accordance with the StoColor System

System properties

Application
- Interior
- For ceilings and upper wall areas
- Do not use on even surfaces and barrel vaults
- In saltwater spas, steam baths
- On gypsum fibre boards

Reaction to fire
- Reaction to fire (class) in accordance with EN 13501-1: C-s1, d0

Application
- Multi-layer
- Thickness: 25 mm
- By trained specialists

StoSilent Modular

Sound-absorbing ceiling elements

For further information on the system simply scan the QR code

StoSilent Modular ceiling elements are the ideal solution in rooms where suspended or directly bonded systems cannot be installed or where acoustics need to be optimised when the room is already in use. The modules are designed to add a visual accent to the space. We offer a wide range of materials, colours, shapes, and integrated lighting elements, opening up a whole spectrum of design options.

The acoustic elements are available in three different materials. Depending on the design concept, we can supply rectangular, round, or free-form shapes in a variety of different dimensions. We deliver the StoSilent Modular systems as finished acoustic elements, including the load-bearing construction, carrier profiles, and finish.

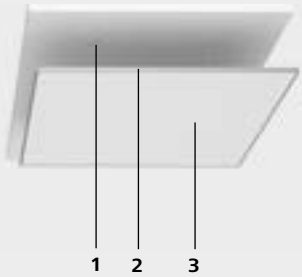
System advantages
- Wide range of surfaces and colour design
- Quick to install and remove

Image on left:
Casino Milupa, Fulda, Germany
Execution: Klüber Putz GmbH, Künzell, Germany
Sto expertise: StoSilent Modular 100
Photo: Gerhard Hagen, Germany

Image on right:
Das Spittelberg, Vienna, Austria
Application: Fenz GMBH, Laa/Thaya, Austria
Sto expertise: StoSilent Modular 230, colour shade RAL 9005 JET BLACK
Photo: Sto Ges.m.b.H., Christian Schellander, Villach, Austria

The system

Build-up: StoSilent Modular 100



Carrier layer
1 — Hangers
2 — Aluminium frame

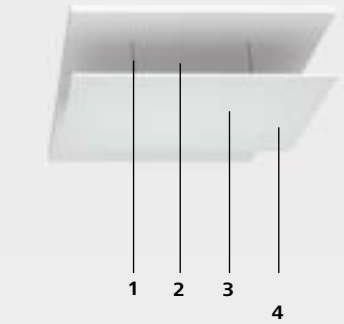
Acoustic layer
3 — PET fibre board

Sound-absorbing ceiling element made of recycled PET fibres on an aluminium frame

Size
- Thickness: 26.5 mm
- Length x width mm: 1150 x 750 mm, 1150 x 1150 mm, 1250 x 1250 mm, 2350 x 1150 mm, 3000 x 1250 mm
- Custom variants on request

Appearance
- White nonwoven surface with fine, directed fibre texture
- Anodised frame (aluminium silver, anodised, natural without texture)

Build-up: StoSilent Modular 230



Carrier layer
1 — Hangers
2 — Sub-construction made of galvanised steel sheet

Acoustic layer
3 — Carrier board with a layer of PET fibre
4 — Finish

Sound-absorbing ceiling element made of expanded glass granulate with a fine-textured colour coating

Size
- Thickness: 19 mm
- Length x width mm: 1150 x 1150 mm, 2350 x 750 mm, 2350 x 1150 mm, 1150 mm, circular
- Custom variants (polygons and free-form shapes) on request

Appearance
- Visible underside and edges with fine-textured colour coating
- Ex works colour coating, fully tintable in accordance with the StoColor System
- With photocatalytic function for white paint, for the degradation of harmful substances and odours

Our potential: technology and service

With the help of Sto's expert planning and advice, you can create custom acoustic systems and high-precision detailed solutions tailored to your exact requirements. We're always ready to help with any questions – from the initial design stage through to completion.

MOAE – Huamao Museum of Art Education, Ningbo, China
Planning: Carlos Castanheira & Álvaro Siza Vieira, Porto, Portugal
Sto expertise: StoSilent Distance, StoSilent Decor M
Photo: HouPictures, China

Functional sound absorbers for balanced room acoustics

The quality of the acoustics in any given space is dependent on a number of different factors. Sound absorption and reverberation time are key to the development of an optimised solution.

Acoustic requirements
StoSilent systems are used to optimise the acoustics of interiors. The key parameters are sound absorption and the reverberation time:

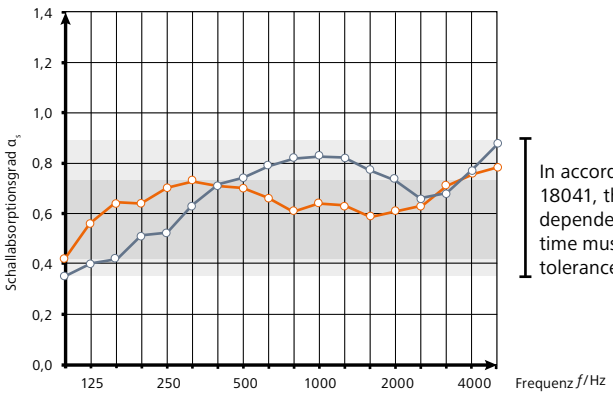
The sound absorption coefficient α indicates how much of the noise generated is absorbed. α = 0 means that all of the noise generated is reflected, while α = 1 means that all of the noise generated is absorbed. Depending on their sound absorption coefficient, acoustic panels are assigned to one of five absorber categories (A, B, C, D, or E) in accordance with DIN EN 11654. It is important to remember that the use of the panels depends on the acoustic conditions and requirements at the location; the categories are therefore descriptive, rather than evaluative.

The reverberation time is the time that passes until the noise level in the room has reduced by 60 dB. It depends on the room volume and the material properties of the walls, floor, ceiling, and the facility itself. Stone, wood, carpet, and textiles all absorb sound to different degrees. The intended use of the room is key to calculating the optimal reverberation time. DIN 18041 and Austrian Standard ÖNORM B 8115-3 both take the use of the room into account, defining optimal reverberation times and permitted tolerance ranges for different types of room.

Harmony is required
The required tolerance range for reverberation time runs in a smooth curve from low to high frequencies (see extract from DIN 18041). Structural implementation is therefore very easy if the building element that contributes significantly to the room damping effect – in this case the acoustic ceiling – demonstrates a suitably harmonious frequency response in terms of sound absorption.

The StoSilent Distance C system, for example, provides the perfect conditions, as shown in the spectrums below. Particular benefits are provided by constructions which absorb a lot of sound at low frequencies rather than just at medium and high frequencies, as is generally the case with lightweight fibre material or perforated boards.

Image on right:
Haus der Bayrischen Geschichte, Regensburg, Germany
Planning: wörner traxler richter planungsgesellschaft mbh, Frankfurt, Germany
Sto expertise: StoSilent Distance Board 100, StoSilent Top Finish, StoSilent Fix, StoSilent Top Basic
Photo: Boris Storz, Munich, Germany



StoSilent Distance C in comparison
Value range and frequency response for sound absorption, both structures backed with 30 mm of mineral wool
Orange: StoSilent Distance C, StoSilent Board 205 C with StoSilent Top Finish
Blue: Gypsum perforated board, round hole 12 mm, hole grid 25 mm with StoSilent Decor M


DAS HAUS
DER BAYERISCHEN
GESCHICHTE

Because expert advice is part and parcel of good service

Whatever your acoustic requirements, we offer a wide range of solutions – and we are your contact for the entire portfolio. Our project managers and Technical Support Centre are on hand to support you from the initial concept to the finished project.

Our services

- Planner and tradesman consultation, particularly for custom solutions
- Visits to construction sites
- Communication of layout drawings

Advice for every project phase
Comprehensive advice is a key component of our services. Sto offers expert advice quickly during every stage of the project – about planning, how to best coordinate different processes, and how to apply Sto products correctly, right through to the most detailed questions.

Sto advisors at the construction site
Sto Technical Consultants come to your construction site to provide training in special material characteristics or special application methods, including how to use products and tools effectively.

Support for specialist contractors
The Sto Technical Advisor provides professional, on-site assistance. As a qualified, technical contact person, they support specialist contractors in the correct application of Sto products. Practical explanations on all materials and application techniques can be found in the application guidelines and in videos on the Sto YouTube channel.

Personal contact
If you have any questions on StoSilent solutions, contact our Infoservice on +49 77 44 57-1131 or get in touch with the Sto distribution partner for your region. All Sto contacts are listed at www.sto.com

Our employees can also advise you on all details and can show you a variety of solutions.

Services

Sample service

Sto helps you to select the right system and surface with material samplesthat are specific to your project.
info.international@sto.com

Tender specifications

Tender specifications are available from Sto to provide support during the planning stage.
info.international@sto.com

StoDesign

If you have any questions concerning the aesthetic aspects of paint and facade materials, the StoDesign team can develop and test various technical and design versions and can define materials, surfaces, and colour shades for you – from individual buildings through to large-scale urban design.
info.international@sto.com

Details

The Sto technical consultant team develops highly individual details together with architects, planners, and tradesmen upon request:
infoservice.international@sto.com
You can find CAD drawings for standard simply scan the QR code

References

You can view the latest international architectural applications of Sto products and systems, such as StoSilent, sorted according to building type, country and product group at:
simply scan the QR code

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