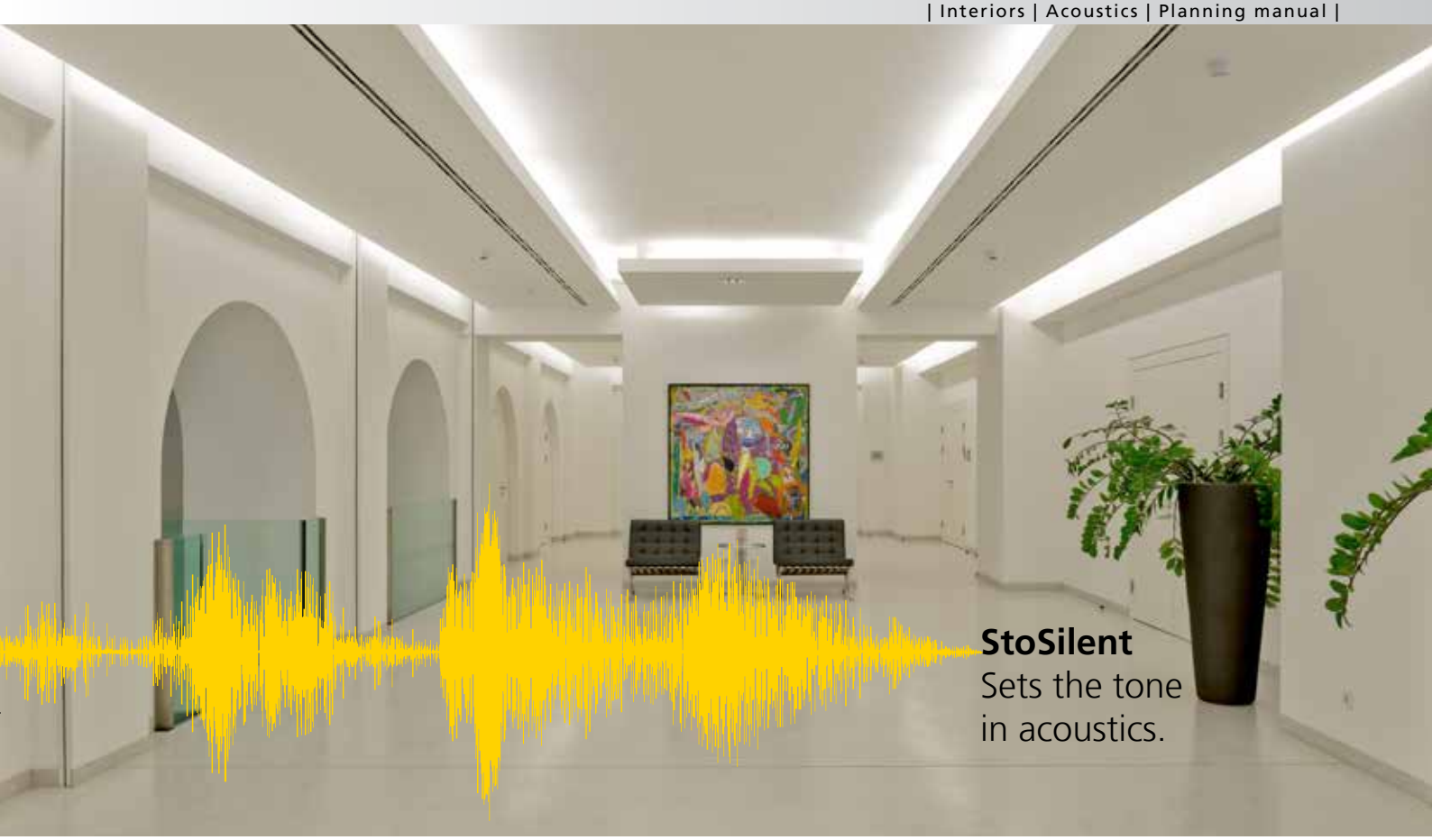

StoSilent
Acoustic systems by Sto
Planning manual

Contents

Always striking the right tone

Tips and notes on using the planning manual

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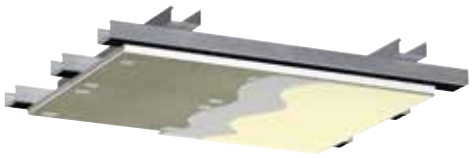
The suspended panel system



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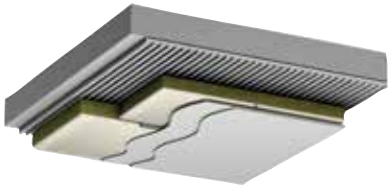

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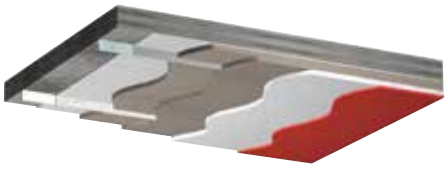


Striking the right note or tone in conversation, in music, or in a lecture is the sine qua non of good communication. To ensure this note or tone is also perceived clearly, i.e. heard and understood by the listener, interior spaces and rooms must be created with optimum acoustics. This is the task facing planners and architects. These planning aids define – clearly, comprehensively, and quickly – what these people need to take into account in order to create the optimum 'ambient interior climate' for a good listening experience, employing Sto acoustic systems.

StoSilent acoustic solutions strike the right tone based on the purpose of the room in question. Restaurants, offices, function rooms, schools, swimming pools – they all have their own requirements with regard to sound quality. Our StoSilent systems combine all of the necessary technical properties to create numerous room designs, all with different purposes, which ensure that words and sound are properly conveyed and understood. At the same time, they satisfy the highest standards with regard to design, ecology, and sustainability – true to our motto: "building with conscience".

The StoSilent planning manual contains all relevant information about the Sto acoustic systems. It gives building owners, architects, applicators, and – first and foremost – specialist planners the security and support they need to successfully develop projects, not just with regard to acoustics. The manual contains comprehensive information on every single system: from system build-up, technical information and specifications on sound absorption, right through to design options and detail drawings. You will find out everything worth knowing about the different room situations and areas of application, ambient interior climate, and about sustainability, as well as obtaining planning-relevant information about materials, surfaces, paints, and so on. Our advisors and project managers will be happy to provide you with information about project-specific solutions and answer any other questions you may have.

StoSilent

The right solution for every room

Weizen Logistics Centre, open-plan office, DE-Stühlingen, StoSilent Direct

Rooms vary hugely, both in the ways they can be used and the conditions applicable to their use. For this reason, they require individual room-acoustic concepts. With four tried-and-tested systems, the StoSilent range offers a unique range of solutions to optimize the acoustics in every room according to its purpose. The possible applications range from classrooms and offices to relaxation or wellness areas. Not only will the sound properties lead to functional results, the variety of technical and structural solutions will also guarantee the successful completion of your projects.

This is where you will find out which aspects are relevant in the different application ranges and which solutions are recommended. Observe the applicable directives and laws and consult with the acoustics advisor if you have any questions.

Acoustics in the world of work

As the world of work changes, office environments and room structures are subject to an ever growing list of new requirements. Fast-moving information and communication technologies require modern room concepts with a comfortable and efficient work environment. Alongside lighting, climate, and fire protection, acoustics are also a key criterion.

According to surveys and scientific studies, disruptive noise is one of the most frequently criticised factors in office environments. When these environments are designed and coordinated in order to optimise the acoustics, employees and employers benefit in equal measure. An acoustic design which suits the purpose of the room will increase productivity, job satisfaction, and well-being, and is therefore a key factor in ensuring motivation and success in the world of office work.

The solutions in our StoSilent acoustic range are compatible with the sustainability and healthy living which feature so prominently in the modern world of work, while also meeting the architectural standards of planners and architects.

Open-plan office

Planners and acousticians face particular acoustic challenges in open-plan offices. Noise prevention is particularly important in this context, as office work involves two key aspects – communication and concentration. In order to avoid problems in either of these areas, it is essential to find a good compromise between background noise and speech. When planning open-plan offices and combined-use areas, several aspects must therefore be considered at the same time:

- Effective space management, as multiple workplaces must be located in the same area
- The peace and quiet required for focused work and telephone calls
- Short communication channels so that information can be exchanged quickly within the team

It is even more difficult to plan acoustic designs for call centres, as they involve a large number of people working in close proximity to each other and all speaking on the phone at the same time. Call centre employees must be able to concentrate on what customers are saying and provide them with information – while disturbing their colleagues as little as possible. Confidentiality is particularly important: customers on the phone must not be able to hear what is being said at the next workstation. In cases like these, a simple acoustic solution is generally not sufficient. A combination of ceiling and wall absorbers, screen walls, or – if applicable – workstation absorbers will provide the best possible room acoustics in this situation.

Conference room at the University of Music and the Performing Arts, DE-Stuttgart, StoSilent Distance

Bank reception, DE-Weil am Rhein, StoSilent Distance

Individual office
At first glance, you might think that acoustic requirements are not as important in individual offices as they are in open-plan rooms. However, if the acoustics in an individual office are not suited to the purpose of the room, the user may perceive the environment as too loud or echoey. If nothing else, it is very inconvenient when the user is speaking on the telephone and cannot understand the caller due to the long reverberation in the room. This problem also occurs when the user has a face-to-face meeting with another person, and it must be solved with acoustic measures.

Multi-person office
As well as noise generated by other people, background noise from printers, air conditioning, or from outside can result in significant subjective noise pollution levels in multi-person offices, causing stress among employees. In this case, full-surface acoustic ceilings or ceiling elements can provide an alternative solution.

Video conference room
Acoustic measures must be taken in video conference rooms to ensure that the transfer of images and sound is not affected by factors such as ventilation noise, traffic noise, airborne noise and impact sound from neighbouring rooms, etc. From experience, damping this noise via the ceiling surface areas only is generally not sufficient. Acoustic panels on the wall opposite the screen can help to prevent disruptive multiple reflections and flutter echoes in order to optimise speech intelligibility.

Seminar room
Like school classrooms, seminar rooms are arranged for conventional lecture-style teaching. The room-acoustic requirements are therefore the same:

- Very good speech intelligibility
- Relatively short reverberation time
- Low background noise
- No disruptive flutter echoes

Depending on the size, shape, and – in particular – occupancy of the rooms, absorbers may need to be installed and combined with reflectors in the right positions.

Conference room
Room-acoustic requirements are very high in large conference and meeting rooms, as it is especially important to ensure that speech can be heard clearly. As well as considering the human voice, criteria such as modern multimedia equipment and large projection surfaces also need to be taken into account. The rooms must also be well ventilated and kept at a comfortable temperature, as well as providing sufficient artificial or natural light. Conference rooms are used to announce important information and make key decisions. Optimised room acoustics with no disruptive noise will help to ensure comprehensibility.

Reception area
The reception area of a company or a public building serves as its "business card" and, as such, must meet certain acoustic requirements in addition to its spatial and architectural design. Intelligent absorber solutions create the right level of acoustic privacy. If the entrance area is quiet and sound is dampened, visitors will automatically be quieter than in echoey rooms. Sound-absorbing surfaces and separating elements in the immediate vicinity of reception staff also help to ensure discretion.

Acoustics outside of work
Depending on their nature and use, leisure facilities are often characterised by high noise levels. This is particularly the case wherever lots of people congregate – for example, in meeting places, in open atriums, or at large leisure pools. In these places, appropriate measures must be taken to reduce noise levels. Alongside architecture and design, acoustic quality is a top priority for leisure facilities.

Food and drink
Guests who feel comfortable in a café, restaurant, or bar stay longer – and consume more. Restaurants are awarded Michelin stars for their outstanding cuisine and excellent service. If stars were awarded for atmosphere and ambience, however, acoustic well-being would be one of the key criteria. Good acoustics encourage guests to stay longer and to come back. That must be worth another star!

Retail
The same rule applies in shops and boutiques: if you feel comfortable,

Vapiano restaurant at the central bus station, DE-Munich, StoSilent Distance

StoSilent
The right solution for every room

you will stay longer and come back again. Customers are more likely to stay and browse in shops with an attractive design and pleasant acoustic atmosphere. Environments that are visually and acoustically appealing have a positive impact on customers and help them to make decisions.

Good acoustics are not only important for the purposes of improving customer satisfaction and visitor numbers. Shops also need to make sure that they comply with the relevant standards and directives in order to provide a safe and acoustically optimised workplace environment for their employees.

Shopping centres
The shopping centres that have been appearing in and on the outskirts of town and city centres for years are not just there for functional shopping – customers visit these centres to have a day out and enjoy a bit of retail therapy. Noise causes disruption and creates stress – and no one wants that in their free time! Customers will stay longer in a quiet environment where sound is dampened than in a noisy atmosphere. And experience has shown that if they stay longer, they spend more.

Sound-absorbing ceiling and wall surface areas – in large atriums, for example – create a comfortable atmosphere and encourage customers to stay. These means they can relax in open-style restaurants in between their purchases and enjoy their shopping trip to the full.

Swimming pool/spa
Noise levels are always high in swimming baths and leisure pools, and the acoustics play a major role in determining visitors' comfort, along with the air and water temperature. Although people will be expecting a certain level of noise in swimming baths or "fun pools", those visiting the spa areas are looking for rest and relaxation. Sound-absorbent ceiling and wall coverings and elements reduce the reverberation and dampen noise significantly, thus guaranteeing a relaxing atmosphere.

Theatre/concert
Making sure that a concert hall sounds good is no mean feat. Planning the acoustics of cultural buildings such as concert halls, theatres, and opera houses is an extremely challenging task for planners and acousticians. The requirements – particularly with regard to the room acoustics – are very complex and go beyond considerations such as reverberation time and extraneous noise. In this case, acoustic quality is also a major factor, and is described, planned, and measured using abstract parameters such as early reverberation time, intensity, distinctness, clarity, lateral fraction, diffusion, and so on. The top priority is always to create the perfect listening experience from every part of the hall, whether audience members are sitting in the stalls, circle, or a box. To ensure that this is the case, the acoustic products and systems must be tailored to the specific requirements of the building in question.

Acoustics in educational institutions
It is impossible to learn and teach in a noisy environment. Noise is one of the main causes of disturbance in schools and nurseries in particular. Implementing effective room-acoustic measures is the only way to ensure successful learning and teaching in these institutions. Due to the multifunctionality of the rooms, the construction materials used in the education sector need to meet high standards with regard to comfort, durability, aesthetic appeal, and sustainability – as demonstrated by the products in the StoSilent portfolio.

Kärnten Therme spa, AT-Villach, StoSilent Distance

Banca Popolare di Lodi (auditorium), IT-Lodi, StoSilent Distance

Nursery school, DE-Gundremmingen, StoSilent Distance

Schools
It has been proven that the acoustic conditions in the classroom affect the ability to concentrate, social behaviour, sick leave among teachers, and pupils' performance. Although acoustic comfort is crucial for successful learning and well-being, acoustics are rarely prioritised when it comes to building schools. Unfortunately, classrooms often have considerable shortcomings with regard to room acoustics: they are echoey, with poor speech intelligibility and too much background noise. In many cases, the noise level exceeds the permitted value for industrial workplaces. National standards and directives set clear requirements and limits to ensure that projects proceed successfully.

High levels of noise make it extremely difficult to learn, teach, and communicate in a relaxed manner – and mental capacities are impaired as a result. In such cases, the building must be refurbished with room-acoustic elements such as sound-absorbing wall and/or ceiling coverings. These coverings reduce the reverberation time and make the rooms quiet. Speech intelligibility is improved and background noise reduced as a direct result of these measures, creating a pleasant working atmosphere in the classroom.

Nursery schools
Room-acoustic planning always has the same objectives and requirements: directing sound reflections and stopping, restricting, or improving the propagation of sound. Suitable constructions must be selected in order to achieve the goal of promoting communication, improving speech intelligibility and concentration, and creating private areas. Poor acoustics in nursery schools make linguistic communication more difficult. Excessive reverberation leads to more noise and the more people are in a room, the further volume levels will increase. Highly absorbent systems and elements on walls and ceilings reduce noise and protect staff and children in particular from noise, stress, and – in the worst-case scenario – illness.

Acoustics in living spaces, corridors, and canteens

Living spaces
The primary focus in private homes is often on achieving an appealing appearance, while acoustic considerations are neglected. The requirements laid out by standards and directives do not apply in this case. But a living space is characterised as much by its acoustics as by its visual properties. Clear, modern architecture and acoustically effective room dampening using efficient absorbers do not need to be mutually exclusive. Large-scale absorbers provide a solution for current trends in home design which favour large, open-plan living/kitchen/staircase areas. These elements reduce the long reverberation times created by the relatively large volume of the room.

Benefits and advantages:
- Quiet rooms create a relaxed atmosphere for conversations.
- Improvement in the quality of the sound produced via multimedia hi-fi systems
- Positive influence on the behaviour of residents: communication is quieter and calmer.

Corridors
Corridors, whether in office buildings, schools, administrative buildings, hotels, or banks, often require an atmosphere of peace, quiet, and discretion. People tend to be quieter in peaceful areas with dampened sound than in loud, echoey environments. Reduced noise on the corridor also has a positive effect for the rooms off the corridor because there will be less disruption.

Canteens
A canteen is much more than just a place to grab some food. It gives colleagues, pupils, or students somewhere to chat and exchange ideas – preferably, in a pleasant, peaceful atmosphere. Communication is just as important as good, healthy food. This requires healthy acoustics characterised by a quiet environment.

Tip:
Create a balanced ratio between background noise and speech, so that people can have conversations without any disturbance, but also without being overhead by the entire dining hall.

More detailed information on the acoustic application areas and fields, their challenges and benefits, along with possible solutions and product suggestions can be found on pages 116 to 121.

Sustainability

An indispensable part of all our products

Sustainable building is increasingly becoming standard practice – Sto has always committed itself to creating intelligent and durable products and systems for this very purpose. Here are some insights into how we make sure they are sustainable, and the product features that express this:

- Every single Sto product does its part to ensure sustainability, whether this comes in the form of energy saving, climate protection, or enhancement of health and well-being.

- All the raw materials in Sto products fulfil a function that is relevant to the product application – and we make sure to optimise the impact they have on the environment.

- Sto products are manufactured in a way that uses energy and resources efficiently. Renewable resources are used whenever this is a socially responsible, ecologically sound, and economically viable option.

- Where technology and economic conditions allow, Sto optimises the disposal and recycling potential of its products.

- As a technology leader in the sustainable design of living spaces tailored to human needs, Sto accepts its responsibility towards its customers, society, and the environment – worldwide.

- Sto regards sustainability as a process of continuous improvement, not one with an end result – and it believes that we have to travel on the path of sustainability together.

We use the Sto "sustainability compass" to control the dynamic and complex processes of our sustainability strategy more effectively. This encompasses four dimensions: ecology, economy, social, and well-being. With regard to a building refurbishment, this means taking into account considerations such as cost factors (economy), demands for environmental and climate protection (ecology), working standards and economic costs (social), as well as health aspects and living comfort (well-being), and coordinating all of these factors effectively. In this way we are supplementing the classic definition quite deliberately to include the element of well-being, which in our view is elementary: particularly when designing facades and interiors, human factors such as subjective perceptions, individual values, aesthetic appeal, and comfort play an essential role. More specifically with regard to acoustic systems, this means that we use innovative, harmless materials which also meet the highest architectural standards, from the acoustic panel right up to the finish.

Protecting health – boosting well-being

We use our acoustic products and systems predominantly in situations where we have a responsibility to protect the health of the users and ensure their well-being. This includes buildings such as schools, nurseries, and universities, leisure facilities such as museums, swimming pools, and restaurants, as well as open-plan offices and hotel lobbies.

More and more public buildings are now being constructed according to criteria which stipulate the need for healthy living and sustainability in building construction and use – for example, according to LEED (Leadership in Energy & Environmental Design) certification criteria. The requirements that the products used must fulfil include low emissions values, and the absence of any hazardous materials or harmful substances in their processing, use, and disposal.
Our acoustic systems meet these requirements perfectly: through the use of materials which pose no risk to the local environment or to the health of applicators and users of a building, they help to achieve a high "green building standard".

Sustainable conservation of resources

The high proportion of recycled materials (up to 85 % recycled glass or PET fibre boards) in our acoustic panels and ceiling elements also helps to ensure that resources are conserved and the systems score LEED points under "MR Credit 4: Recycled Content" (one point for the use of 10 % recycled material or more, two points for 20 % or more, based on the entire building). The systems can also score points in the areas "EQ Acoustic Performance" and "ID Credit 1: Innovation in Design" in an LEED certification.

Sustainably tested

StoSilent seals of approval and quality

Alongside recognised building certifications, many architects, investors, and public procurement bodies expect today's building products, particularly for interiors, to achieve high environmental and health standards. Sto therefore provides specific information in order to enable clear, transparent product evaluation. In addition to safety data sheets, Environmental Product Declarations (EPD) and our sustainability data sheets contain all of the relevant facts and figures on the subjects of health and the environment. This makes it easy to see, for example, whether the systems comply with the criteria of key environmental labels such as "natureplus®" or "Oeko-Tex®" The following overview shows which of our acoustic products have been tested and certified by external bodies and awarded the corresponding seals of quality:

StoSilent – overview of sustainability and properties

	Products and systems	Seals of approval and test procedures				
		A+ / A	TÜV SÜD Emissionsarm	natureplus® No. 0808-1409-046-3	CONFIDENCE IN TEXTILES Tested for harmful substances according to Oeko-Tex® Standard 100 03.0.1092 Hohenstein	GEV-EMICODE EC 1 PLUS sehr emissionsarm
Products	**StoSilent Coll MW**	A+	–	–	–	–
	StoSilent Decor M	A+	Test standard TM-10 Internal dispersion plasters 06/09	RL0602 Internal wall paint with a mineral base	–	–
	StoSilent Decor MF	A+	–	–	–	–
	StoSilent Filler	A+	–	–	–	–
	StoSilent Fix	A+	–	–	–	–
	StoSilent Plan	A+	–	–	–	–
	StoSilent Prep Quarz	A+	–	–	–	–
	StoSilent Prim	A	–	–	–	–
	StoSilent Top Basic	A+	–	–	–	–
	StoSilent Top Finish	A+	–	–	–	–
Systems	**StoSilent Modular 100**	–	–	–	Oeko-Tex® standard 100, product class I (PET board)	EC1 Plus, very low-emission (adhesive)
	StoSilent Modular 200 (StoSilent Top coating) **StoSilent Modular 210** (StoSilent Decor MF coating)	A+	–	–	–	–
	StoSilent Modular 210 (StoSilent Decor M coating)	A+	Test standard TM-10 Internal dispersion plasters 06/09	RL0602 Internal wall paint with a mineral base		

Explanations of the seals of approval and test procedures

French regulations on the labelling of VOC emissions from building products

LOI n° 2009-967 du 3 août 2009 de programmation relative à la mise en œuvre du Grenelle de l'environnement (1) NOR: DEVX0811607L Version consolidée au 17 octobre 2012

All building products as well as decorative and furnishing products to be traded in France must be labelled with an emission classification (A+, A, B, C) on the basis of VOC emission tests in accordance with ISO 16000.

Evaluation of emission behaviour and its toxic and environmentally relevant ingredients

TÜV seal of quality – "low-emission, physiologically harmless, and production monitored"
The product meets the stringent criteria of the TÜV SÜD test standard TM-10 on internal dispersion plasters, edition 06/09.
Under normal application conditions, no impairments are to be expected for applicators and users.

Quality mark for environment-friendly, healthy and functional building products and furnishings in Europe.

natureplus® is only awarded to building and accommodation products which contain at least 85 % renewable and/or mineral raw materials. This highlights the sustainable availability and, therefore, future viability of these products. A declaration must also be issued regarding the materials used so that users are better able to classify the product beyond the natureplus® seal of quality.

Physiologically harmless textiles

The Oeko-Tex® standard 100 is an independent testing and certification system for textile raw materials, intermediate products, and end products at all stages of processing. It regulates the analysis of harmful substances which are suspect in the context of human ecology, stipulating scientifically verified limits for the respective substances concerned.
Product class I: textiles and textile toys for babies and small children up to the age of three, e.g. underwear, romper suits, bed linen, bedding, stuffed animals.

EMICODE® – GEV classification criteria

The EMICODE® seal is awarded to modern, solvent-free, and emission building products. The emissions are subject to extremely strict limits. Emitted VOCs are identified individually and a total figure is calculated. The total amount of emission concentrations determines the TVOC value (total volatile organic compounds) or TSVOC value (total semi-volatile organic compounds). This value is mandatory for the EMICODE® classification.

StoSilent acoustic systems

Application fields arranged by ambient interior climate

Our StoSilent acoustic systems are suitable for a wide range of acoustic applications and virtually all usage areas – primarily in interiors under normal climate conditions. In addition, the systems can also be used in swimming baths and in protected outdoor areas. The prerequisite is always appropriate structural and building physical heat and moisture protection which is planned professionally according to requirements and the application in question. While in interi-

StoSilent – fields of application

		Interior			
Use and building elements	**Requirements:** Sufficient structural heat and moisture protection for the relevant building elements	• Habitable room • Interior wall • Intermediate floor	• Habitable room • External wall • Ceiling towards the outside		• Swimming bath (climate-controlled), max. 30° C, max. 70 % humidity • Wall and ceiling • No condensation, no splash water, not over ice-cold pools • No brine pools
Stress	Air temperature	≤ 30 °C	≤ 25 °C	≤ 30 °C	≤ 30 °C
	Humidity	≤ 70 %	≤ 70 %	≤ 70 %	≤ 70 %
	Stress class according to Table 8 from EN 13964 * Class B includes class A if class A is not listed separately.	B*	A	B*	B*
	Condensation/precipitation/splash water	No	No		No
	Wind load max. 1.0 kN/m²	No	No		No
System	StoSilent Distance	With rear ventilation	With rear ventilation		With rear ventilation and anti-corrosion load-bearing construction
	StoSilent Direct	√	Calculations required as proof	x	x
	StoSilent Modular 100	√	√	√	With anti-corrosion load-bearing construction
	StoSilent Modular 200/210	√	√	√	
	StoSilent Modular 300	√	√	√	
	StoSilent Compact Sil	√	√	√	x
	StoSilent Compact Miral	√	√	√	√
Coating	StoSilent Top Basic	√	√	√	√
	StoSilent Top Finish	√	√	√	√
	StoSilent Decor	√	√	√	√
	StoColor	√	√	√	√

√ Approved X Not possible

ors, StoSilent systems primarily regulate the room acoustics, in areas such as shopping arcades and the entrances to multi-storey and underground car parks they dampen noise to create a more peaceful, comfortable environment. The following overview shows which of the systems can be used for the different application fields in exterior and interior areas.

Interior and exterior

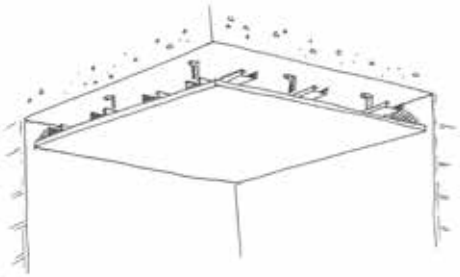
Application

	Exterior				Interior or exterior
• Swimming bath (climate-controlled), max. 30° C, max. 70 % humidity • Over ice-cold pools • Sauna exit • Ice rink • Wall and ceiling	• Ground-level open arcade • Shopping arcade • Protected against precipitation • Ceiling	• Balcony ceiling • Access balcony • Loggia • Outside/external wall	• Underground car park • Ceiling towards heated rooms	• Entrance to underground car park • Multi-storey car park • Underground station • Ceiling	• Other applications
≤ 30 °C	–20 °C to 40 °C	–20 °C to 40 °C	–20 °C to 40 °C	–20 °C to 40 °C	
≤ 70 %	20 % to 90 %	20 % to 90 %	20 % to 90 %	20 % to 90 %	
Yes	No	No	No	No	No
No	No	Yes	No	Yes	
x	√	x	√	Adjust sub-construction to wind load	On request
x	√	x	√	√	
x	x	x	x	x	
x	x	x	x	x	
x	x	x	x	x	
x	x	x	x	x	
x	√	x	√	√	
x	√	x	x	x	
x	x	x	x	x	
x	√	x	√	√	
x	√	x	√	√	

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

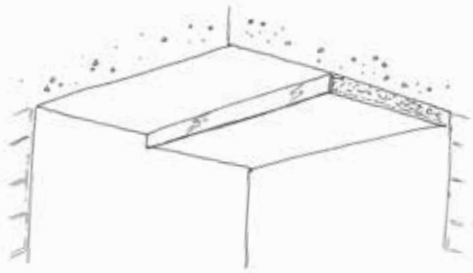
StoSilent Distance
The suspended panel system

As far as seamless acoustics are concerned, suspended acoustic systems form the largest market. We have been successful in this field for many years. We offer three different systems with different requirements for absorption and fire classification rating.



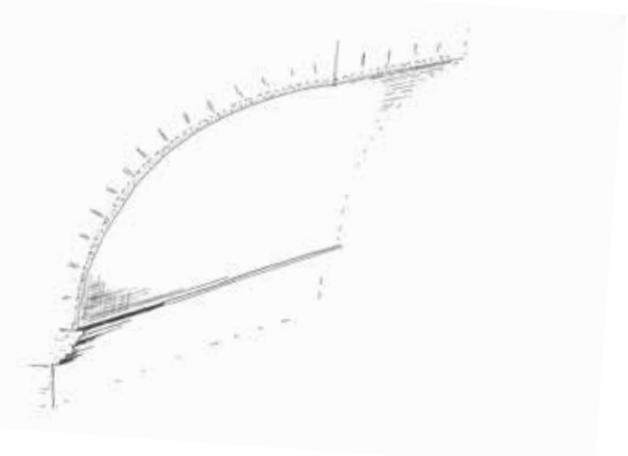
StoSilent Direct
The easy direct system

The direct system StoSilent Direct is a new addition to our range of seamless absorber solutions. It can be installed on walls and ceilings without a substructure. The sandwich boards are made of mineral wool and expanded glass granulate, and therefore have outstanding sound-absorbing qualities.



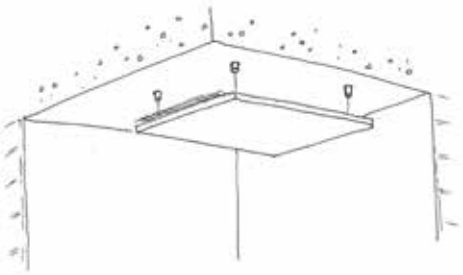
StoSilent Compact
The flexible plaster system

Structural conditions often prevent direct or suspended acoustic systems from being installed, for example if curves or vaults are present. For these instances, we have developed acoustic plaster systems which can be applied directly to the ceiling and wall.



StoSilent Modular
The adjustable ceiling system

StoSilent Modular is recommended for quick and simple acoustic optimisation in rooms which are already in use. The modular ceiling elements are particularly suitable for buildings with concrete core cooling, where a loss of cooling would occur if an acoustic ceiling were to be installed across the full surface.



Technical characteristics

Concise facts and figures

Technical characteristics	StoSilent Distance						
StoSilent	**StoSilent Board 100**	**StoSilent Board 110**	**StoSilent Board 200**	**StoSilent Board 210**	**StoSilent Board 300**	**StoSilent Board 310**	**StoSilent Board 310 F**
Degree of absorption*	α_w up to 0.80	α_w up to 0.80	α_w up to 0.55	α_w up to 0.55	α_w up to 0.60	α_w up to 0.55	α_w up to 0.45
EN 13501 building material classification	A2-s1, d0	A2-s1, d0	A2-s1, d0	A2-s1, d0	B-s1, d0	B-s1, d0	B-s1, d0
Finish	StoSilent Top	StoSilent Decor	StoSilent Top	StoSilent Decor	StoSilent Top	StoSilent Decor	StoSilent Decor
Finish	In accordance with the StoColor System, pastel colour shades	In accordance with the StoColor System, silicate products	In accordance with the StoColor System, pastel colour shades	In accordance with the StoColor System, silicate products	In accordance with the StoColor System, pastel colour shades	In accordance with the StoColor System, silicate products	In accordance with the StoColor System, silicate products
Texture of the finish	Smooth coating (with finest graining)	Spray plaster (fine texture)	Smooth coating (with finest graining)		Smooth coating (with finest graining)	Spray plaster (fine texture)	Spray plaster (fine texture)
LRV of the finish	75.4 %	90.0 %	75.4 %	90.0 %	75.4 %	90.0 %	90.0 %
LRV of the finish	77.0 %	83.0 %	77.0 %	83.0 %	77.0 %	83.0 %	83.0 %
Whiteness of the finish	69.0 %	66.0 %	69.0 %	66.0 %	69.0 %	66.0 %	66.0 %
Thermal conductivity	0.087 W/(mK)	0.085 W/(mK)	0.084 W/(mK)	0.086 W/(mK)	0.089 W/(mK)	0.082 W/(mK)	0.082 W/(mK)
sd value	0.12 m	0.13 m	0.21 m	0.19 m	0.16 m	0.11 m	0.11 m
pH value of coating/ plaster	8–9	11–12	8–9	11–12	8–9	11–12	11–12
Minimum bending radius	–	–	10 m	10 m	10 m	10 m	5 m
System thickness***	approx. 28 mm	approx. 27 mm	approx. 28 mm	approx. 27 mm	approx. 18 mm	approx. 17 mm	approx. 17 mm
kg/m² board	7.0	7.2	9.2	9.0	5.7	5.4	5.5
kg/m² coating (wet)	5.5	2.7	5.5	2.7	5.5	2.7	2.7
kg/m² coating (dry)	4.1	1.8	4.1	1.8	4.1	1.8	1.8
kg/m² system without sub-construction (dry)	11.1	9.0	13.3	10.8	9.8	7.2	7.3
Boards/formats/ weight	1200 x 625 x 25 mm	1200 x 625 x 25 mm	1200 x 800 x 25 mm	1200 x 800 x 25 mm	1200 x 800 x 15 mm 1200 x 800 x 25 mm 2400 x 1200 x 15 mm	1200 x 800 x 15 mm 1200 x 800 x 25 mm 2400 x 1200 x 15 mm	1200 x 800 x 15 mm 2400 x 1200 x 15 mm
Coating variants	StoSilent Top Finish StoSilent Top Basic	StoSilent Decor M StoSilent Decor MF	StoSilent Top Finish StoSilent Top Basic	StoSilent Decor M StoSilent Decor MF	StoSilent Top Finish StoSilent Top Basic	StoSilent Decor M StoSilent Decor MF	StoSilent Decor M StoSilent Decor MF
Application: min. temperature of air/building element/ coating	12 °C	12 °C	12 °C	12 °C	12 °C	12 °C	12 °C
Application: max. relative humidity/building element moisture level****	70 %	70 %	70 %	70 %	70 %	70 %	70 %

* Weighted sound absorption coefficient in accordance with EN ISO 11654
** Absorption area per test object – value dependent on format and suspension height
*** Without sub-construction/suspension
**** In the case of higher values, special approval must be sought through consultation with the Sto Technical Support Centre (TSC).

	StoSilent Direct		StoSilent Compact		StoSilent Modular			
	StoSilent Board MW 100–46 mm	**StoSilent Board MW 100–66 mm**	**StoSilent Compact Sil**	**StoSilent Compact Miral**	**StoSilent Modular 100**	**StoSilent Modular 200**	**StoSilent Modular 210**	**StoSilent Modular 300**
	α_w up to 0.95	α_w up to 1.00	α_w up to 0.45	α_w up to 0.35	**	**	**	**
	A2-s1, d0	A2-s1, d0	B-s1, d0	A2-s1, d0	B-s1, d0 (PET board)	B-s1, d0 (carrier board) C-s3, d0 (PET nonwoven fibre)	B-s1, d0 (carrier board) C-s3, d0 (PET nonwoven fibre)	B-s2, d0, up to D-s3, d0 (depending on colour shade)
	Seamless: • StoSilent Top • StoSilent Decor Visible joints: • StoSilent Decor • StoColor Climasan • Without coating	Seamless: • StoSilent Top • StoSilent Decor Visible joints: • StoSilent Decor • StoColor Climasan • Without coating	StoSilent Decor	–	PET nonwoven fibre	StoSilent Top Finish	StoSilent Decor	PES nonwoven fibre
	Various	Various	In accordance with the StoColor System	Limited tintability in accordance with the StoColor System	Not tintable	In accordance with the StoColor System, pastel colour shades	In accordance with the StoColor System, silicate products	Collection, 8 colour shades
	Smooth coating/ spray plaster (fine texture)	Smooth coating/ spray plaster (fine texture)	Spray plaster (fine texture)	Heavily textured	Fine, unidirectional fibre structure	Smooth coating (with finest graining)	Spray plaster (fine texture)	Depending on colour shade
	Various	Various	–	–	–	75.4 %	90.0 %	Depending on colour shade
	Various	Various	85.0 %	80.0 %	85.0 %	77.0 %	83.0 %	Depending on colour shade
	Various	Various	62.0 %	44.0 %	–	69.0 %	66.0 %	Depending on colour shade
	0.040 W/(mK)	0.040 W/(mK)	0.048 W/(mK)	0.10 W/(mK)	–	–	–	–
	< 0.2 m	< 0.2 m	0.05 – 0.06 m	0.01 – 0.03 m	–	–	–	–
	8–12	8–12	11–12	12	–	–	–	–
	5 m	5 m	Depending on substrate	Depending on substrate	Not possible	Not possible	Not possible	–
	approx. 56 mm	approx. 76 mm	approx. 25 mm	approx. 15 mm	26 mm	approx. 18 mm	approx. 17 mm	8 mm (PES board), 48 mm (total thickness)
	6.0	7.9	–	–	–	–	–	–
	5.2 (Decor), 5.0 (Top)	5.2 (Decor), 5.0 (Top)	10.0	7.5	–	–	–	–
	4.0 (Decor), 3.7 (Top)	4.0 (Decor), 3.7 (Top)	3.75	4.0	–	–	–	–
	14.5 (Decor M), 14.2 (Top)	16.4 (Decor M), 16.1 (Top)	–	–	–	–	–	–
	800 x 600 x 46 mm	800 x 600 x 66 mm	–	–	1150 x 750 mm/3.2 kg 1150 x 1150 mm/4.2 kg 1250 x 1250 mm/4.6 kg 2350 x 1150 mm/6.3 kg 3000 x 1250 mm/7.9 kg	1170 x 770 mm/10 kg 1206 x 1206 mm/15.1 kg 2406 x 801 mm/20.9 kg 2406 x 1206 mm/32.2 kg	1170 x 770 mm/9.8 kg 1206 x 1206 mm/14.8 kg 2406 x 801 mm/20.5 kg 2406 x 1206 mm/31.6 kg	1150 x 750 mm/6.9 kg 900 x 900 mm/6.5 kg 1150 x 1150 mm/9.2 kg 2350 x 1150 mm/17.5 kg
	Without coating StoColor Climasan StoSilent Decor M StoSilent Decor MF StoSilent Top Basic StoSilent Top Finish	Without coating StoColor Climasan StoSilent Decor M StoSilent Decor MF StoSilent Top Basic StoSilent Top Finish	StoSilent Decor M StoSilent Decor MF	StoSilent Miral AP StoColor Silent	–	StoSilent Top Finish StoSilent Top Basic (coating already applied at the factory)	StoSilent Decor M StoSilent Decor MF (coating already applied at the factory)	–
	12 °C	12 °C	12 °C	12 °C	–	–	–	–
	70 %	70 %	70 %	70 %	–	–	–	–

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent acoustic systems

Useful information regarding installation, colour shades, surface quality

Our acoustic systems StoSilent Distance, StoSilent Direct, and StoSilent Compact are created on site by specialist tradesmen using individual components such as sub-construction, board, and coating. The StoSilent Modular ceiling elements are delivered to the construction site fully assembled and are easy to install.

The experience of the tradesmen regarding the application of the StoSilent systems ensures that the high standards associated with the visual and functional quality of the acoustic systems are always achieved. Ultimately, the quality standard delivered on the surface constitutes the "signature" of the applicator.

Requirements on site at the construction site

- The lowest permitted application and substrate temperature is 12 °C.
- The maximum level of relative air humidity and building element moisture must not exceed 70 %.
- Quick heating or cooling during the installation and drying time can cause cracks to appear.

Additional requirements for acoustic panels

- Ensure that the panels are protected against humidity and weathering influences.
- Always store the acoustic panels on a level surface.
- Adapt the storage of the panels to suit installation conditions – no later than 24 hours before final application.
- Installation only after setting the right temperature and equilibrium humidity in the room

Colour shades

We offer the matching coatings in a wide range of colours for all our acoustic solutions. A sample ceiling area measuring at least five square metres must be produced, which must then be accepted by the planner or building owner and/or investor before work commences. This sample surface area should remain in place until formal acceptance (as a comparison surface).

Surface quality

The coatings are manually sprayed onto our acoustic systems or applied and smoothed using a square trowel.

The structural base must be prepared meticulously in order to ensure an outstanding result with smooth surfaces.

The skills and abilities of the tradesman and applicator have a major role to play in the visual and functional quality of the surface finish.

Specifically in rooms with glancing light of the kind that typically occurs in rooms with floor-to-ceiling windows, or with lighting that emits its light parallel to the ceiling and wall surface, it is vitally important for the invitation to tender document to draw attention to these characteristics and to take into account the more stringent requirements associated with versions involving the use of glancing light.

Mediathek Oberkirch media centre, DE-Oberkirch, StoSilent Compact Sil

StoSilent acoustic systems

Colour shade design and coatings

	White	Limited tintability in accordance with the StoColor System	Tintable in accordance with the StoColor System	Colour range
StoSilent Distance				
With StoSilent Top Basic finish	√	√		
With StoSilent Top Finish finish	√	√		
With StoSilent Decor M finish	√	√		
With StoSilent Decor MF finish	√		√	
StoSilent Direct				
With StoSilent Top Basic finish	√	√		
With StoSilent Top Finish finish	√	√		
With StoSilent Decor M finish	√	√		
With StoSilent Decor MF finish	√		√	
With StoColor Climasan finish	√	√		
Without finish	√			
StoSilent Compact Miral				
With StoSilent Miral AP finish	√	√		
With StoColor Silent finish	√		√	
StoSilent Compact Sil				
With StoSilent Decor M finish	√	√		
With StoSilent Decor MF finish	√		√	
StoSilent Modular				
StoSilent Modular 100 (PET nonwoven fibre)	√			
StoSilent Modular 200 (StoSilent Top Finish finish)	√	√		
StoSilent Modular 210 (StoSilent Decor M finish)	√	√		
StoSilent Modular 210 (StoSilent Decor MF finish)	√		√	
StoSilent Modular 300 (polyester fibre)	√			√
StoSilent Modular 400 (StoSilent Top Basic finish)	√	√		
StoSilent Modular 400 (StoSilent Top Finish finish)	√	√		
StoSilent Modular 400 (StoSilent Decor M finish)	√	√		
StoSilent Modular 400 (StoSilent Decor MF finish)	√		√	

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance

The seamless board system

The StoSilent Distance system can be installed as a suspended ceiling or wall covering with a cavity. 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.

Overview of system versions

StoSilent Distance
Standard system with a wide spectrum of applications. Depending on the suspension height, there are different sound absorption values, e.g. α_w = 0.60 for a board thickness of 25 mm, fire classification B-s1, d0, according to EN 13501-1

StoSilent Distance A2
Reaches sound absorption values up to a maximum of α_w = 0.80. Fire classification A2-s1, d0, according to EN 13501-1

StoSilent Distance Flex
Flexible ceiling system. Flexible with a minimum radius of 5 metres, sound absorption values up to α_w = 0.45. Fire classification B-s1, d0, according to EN 13501-1

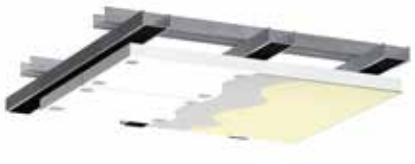
Augsburger Aktienbank AG, DE-Augsburg, StoSilent Distance with StoSilent Decor and StoSilent Top

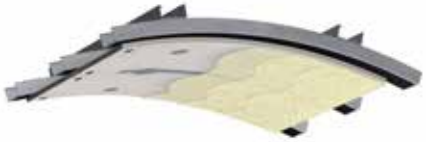
System description of StoSilent Distance

System version	StoSilent Distance	
Sub-construction	Metal sub-construction in accordance with EN 13964 with vernier hangers Adjusting rod CD profiles **Sto-Hinterlüftungsprofil**	
Waterproofing		
Acoustic panel	StoSilent Board 300	StoSilent Board 310
Screw connection		
Bonding		
Filler and levelling coat		StoSilent Plan
Edge finish		
Intermediate coat	StoSilent Top Basic	StoSilent Decor M
Finish	StoSilent Top Basic / StoSilent Top Finish	StoSilent Decor M / StoSilent Decor MF
Accessories	StoSilent Profile FB StoSilent Profile EW	

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance
The suspended panel system





StoSilent Distance A2 | **StoSilent Distance Flex**

Metal sub-construction in accordance with EN 13964 with vernier hangers
CD profiles
Adjusting rod

StoSilent Profile Tape

StoSilent Board 100
StoSilent Board 200

StoSilent Board 110
StoSilent Board 210

StoSilent Board 310 F

Sto-Drywall Screw

StoSilent Fix

StoSilent Plan

StoSilent Profile AP
StoColl Fix or **Sto-Stone Paste**

StoSilent Top Basic

StoSilent Decor M

StoSilent Top Basic

StoSilent Top Finish

StoSilent Decor M

StoSilent Decor MF

StoSilent Profile AP
StoSilent Profile FB
StoSilent Profile EW

StoSilent Profile AP

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance

The seamless board system

Important system notes for StoSilent Distance:

The developers, product managers, and advisors at Sto have many years of experience and extensive expertise in the manufacture and application of seamless acoustic panel systems. This knowledge is continuously being brought to bear on daily practical applications. When planning and carrying out building projects with our Sto seamless acoustic panel systems, there are important notes, tips, and guide values which must be taken into account:

- Primarily suited to interior ceilings and walls (see table in "Application fields arranged by ambient interior climate" section)
- Only of limited suitability for areas subject to mechanical stress
- To avoid uncontrolled low-pressure areas, cavities in neighbouring walls must be sealed.
- To enable pressure equalisation between the ceiling cavity and the used space, rear ventilation either through an open all-round joint or corresponding ceiling openings must be assured. The proportion of the ceiling openings should account for at least 0.8 % of the ceiling surface area. In most cases, this is achieved by an open all-round joint measuring at least 2 cm.
- Installation only after adjusting the equilibrium humidity in the room
- Prior to bonding, dust must be removed from edges cut on site and the edges must be sealed or re-coated with StoSilent Fix or StoColor Opticryl Matt.
- If the fine grid (e.g. when retrofitting ceiling installations) is cut through, additional trimmers must be created.
- For acoustic insulation purposes, non-visible flat-panel loudspeakers can be incorporated in the ceiling construction.
- Installation in brine pools or sea water swimming baths strictly only on request
- Not suitable for splash water zones
- Force-transmitting connections to adjacent building elements are not permitted.
- To allow for inspection of the sub-construction and installations in the ceiling cavity, it is advisable to fit service hatches, e.g. Knauf alutop® Access Panel D171.

Important system notes for coating with StoSilent Top:

- The StoSilent Top Finish finish is tintable in white and in more than 250 colour shades of the StoColor System, special colour shades are available on request.
- StoSilent Top Basic can also be used as a finish, other decorative surfaces are possible in the wall area as partial surfaces (on request).
- Radii in excess of 10 m can be implemented.

Important system notes for coating with StoSilent Decor:

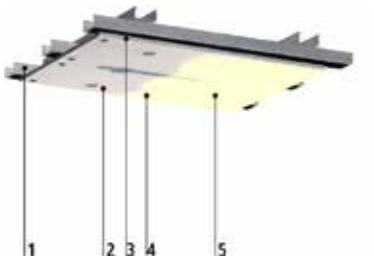
- The StoSilent Decor MF finish is fully tintable in accordance with the StoColor System. This means that practically any colour shade is available in the StoSilent Decor coating system.
- The StoSilent Decor M finish is tintable in white and in more than 450 colour shades from the StoColor System (all colour shades in silicate range acc. to colour fan), special colour shades available on request.
- Radii in excess of 5 m can be implemented using the StoSilent Board 310 F acoustic panel (from 10 m with StoSilent Board 210 and StoSilent Board 310).

StoSilent Distance

System overview

StoSilent Distance
The suspended panel system

1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 300 acoustic panel
3. Bonding
4. Intermediate coat
5. Finish



1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 310 acoustic panel
3. Bonding
4. Filler and levelling coat
5. Finish

StoSilent Distance
Suspended acoustic system made of expanded glass granulate boards, reaction to fire B-s1, d0, in accordance with EN 3501

System advantages

- Low weight
- Easy application due to homogeneous board structure
- High degree of stiffness
- Low moisture-induced and thermal expansion
- Airtight facing on the back of the board
- Seamless installation possible across areas of up to 200 m²

Areas of application

- Interior
- For suspended ceiling and wall structures
- Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- Not suitable for splash zones

Fixing

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

Reaction to fire

- Class B-s1, d0, in accordance with EN 13501-1

Sound absorption

- StoSilent Top coating:
  α_w in accordance with EN 11654 max. 0.60,
  NRC in accordance with ASTM C 423 max. 0.60,
  values depend on system thickness
- StoSilent Decor coating:
  α_w in accordance with EN 11654 max. 0.55,
  NRC in accordance with ASTM C 423 max. 0.60,
  values depend on system thickness

Design options

- Fine surface
- Textured surface

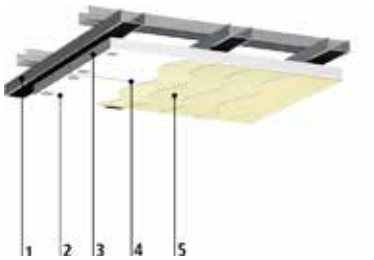
Application

- By trained specialists

StoSilent Distance A2

System overview

1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 100 acoustic panel
3. Bonding
4. Intermediate coat
5. Finish



1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 110 acoustic panel
3. Bonding
4. Filler and levelling coat
5. Finish

StoSilent Distance A2
Suspended, non-combustible acoustic system made of expanded glass granulate boards

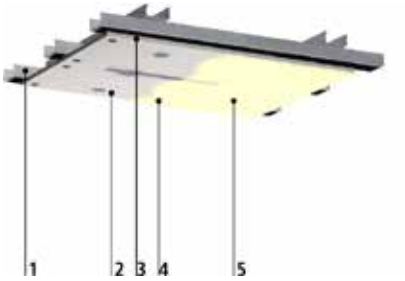
System advantages

- Low weight
- Easy application due to homogeneous board structure
- Low moisture-induced and thermal expansion
- With non-air-permeable facing
- Seamless installation possible across areas of up to 200 m²
- Non-combustible, class A2-s1, d0, in accordance with EN 13501-1

Areas of application

- Interior
- For suspended ceiling constructions
- Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- Especially suited for ceilings and upper wall areas of escape routes, corridors, staircases, or meeting places
- Not bendable
- Not suitable for splash zones

StoSilent Distance
The suspended panel system



1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 200 acoustic panel
3. Bonding
4. Intermediate coat
5. Finish

1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 210 acoustic panel
3. Bonding
4. Intermediate coat
5. Finish

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

Sound absorption
- StoSilent Top coating
  - StoSilent Board 100:
    α_w in accordance with EN 11654 max. 0.80,
    NRC in accordance with ASTMC 423 max. 0.75
  - Sto Silent Board 200:
    α_w in accordance with EN 11654 max. 0.55,
    NRC in accordance with ASTM C 423 max. 0.55

  Values depend on the height of construction
- StoSilent Decor coating:
  - StoSilent Board 110:
    α_w in accordance with EN 11654 max. 0.80,
    NRC in accordance with ASTM C 423 max. 0.80
  - StoSilent Board 210:
    α_w in accordance with EN 11654 max. 0.55,
    NRC in accordance with ASTMC 423 max. 0.60

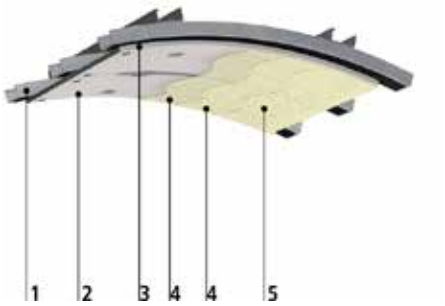
  Values depend on the height of construction

Design options
- Fine surface
- Textured surface

Application
- By trained specialists

StoSilent Distance Flex

System overview



1. Sub-construction with StoSilent Profile Tape
2. StoSilent Board 310 F acoustic panel
3. Bonding
4. Filler and levelling coat
5. Finish

StoSilent Distance Flex
Suspended, bendable acoustic system made of expanded glass granulate boards

System advantages
- Low weight
- Easy application due to homogeneous board structure
- Bendable from radii of 5 m
- Low moisture-induced and thermal expansion
- Airtight facing on the back of the board
- Seamless installation possible across areas of up to 200 m²

Areas of application
- Interior
- For suspended ceiling and wall structures
- Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- Not suitable for splash zones

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

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

Sound absorption
- α_w in accordance with EN 11654: max. 0.45
- NRC in accordance with ASTM C 423: max. 0.50
- Values depend on the height of construction

Design options
- Textured surface

Application
- By trained specialists

StoSilent Distance

Suspension and sub-construction

StoSilent Distance
The suspended panel system

The seamless acoustic panel systems StoSilent Distance, StoSilent Distance A2, and StoSilent Distance Flex are always mounted onto a compression-proof metal sub-construction and are anchored in the ceiling substrate.

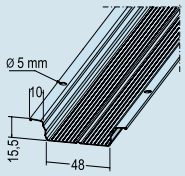
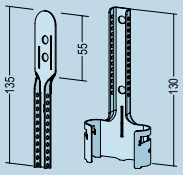
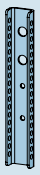
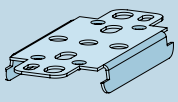
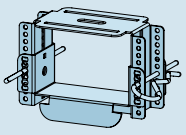
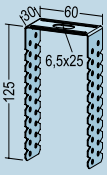
Suspension

- Commercially available vernier hangers and compression-proof direct hangers are to be used for the installation of the sub-construction. The suspension heights range from approx. 15 mm to several metres.
- If the load-bearing capacity of the ceiling on site (e.g. in old buildings) is not sufficient to support the suspended loads, long-span hangers need to be employed. When professionally planned and installed, these hangers will bear the loads from the sub-construction.
- Due to their high level of dimensional stability, grid supports should be used along with, preferably, long-span hangers with double-T cross section.
- Long-span hangers are also installed in the event of excess spacing between load-bearing building elements.
- Long-span hangers can also be employed whenever acoustic protection requirements necessitate the separation of building elements.

Sub-construction

In all seamless StoSilent Distance acoustic panel systems, a compression-proof metal sub-construction must be installed in accordance with EN 13964 "Suspended ceilings – requirements and test methods". Anchoring of the sub-construction in the ceiling substrate is dictated by the structural requirements of the construction situation on site. Dowels and screws must be selected in accordance with the material and substrate used as well as the loads to be expected. It is not permissible to use hangers with quick-clamping springs or wire suspension. The acoustic panels are fixed to the sub-construction directly using drywall screws.

Fixing technique for different suspension heights

Fixing technique	Top-hat profile	Vernier hanger	Vernier extension	Direct-mounting clip	Vernier direct hanger	Direct hanger (U-type hanger)
						
Suspension height[1] (mm)	16.5 mm	approx. 135 - 2000 mm	To further extend the vernier hanger	30 mm	59 - 108 mm	30 - 200 mm

1) Suspension height to upper edge of acoustic panel (air gap), i.e. the panel thickness and coating thickness always need to be added to the final figure for thickness of the suspended ceiling.

StoSilent Distance

Suspension and sub-construction

Rocco Forte Group De Luxe Hotel, DE-Frankfurt, StoSilent Distance

The StoSilent Distance systems are suitable for use in different climate conditions. These range from offices to climate-controlled swimming pools. The prerequisite is a suitable sub-construction which must be selected according to the stress classes defined in EN 13964. In general, screwing the acoustic panels to sub-constructions made from other materials, such as timber, is not advisable. In contrast to expanded glass granulate, wood has very different physical characteristics. The thermal and hygric dimensional changes of timber are many times greater than the changes affecting acoustic panels. If these panels are ever screwed to anything other than a compression-proof metal sub-construction, this automatically voids the warranty.

Rooms exposed to moisture and swimming pools

Special requirements apply to rooms exposed to moisture and to swimming pools. According to EN 13964 "Suspended ceilings – requirements and test methods", additional protection against corrosion measures are vitally necessary for the steel sub-construction. The recommended sub-constructions are itemised in Tables 8 and 9 of EN 13964.
The table on the right gives an overview of the stress classes and the necessary measures.

Important notes

- Always fit acoustic panel systems to a compression-proof metal sub-construction in accordance with EN 13964
- Fixing of sub-construction to ceiling substrate with hangers and nail anchors
- The use of timber sub-constructions automatically voids the warranty.

	Stress classes of suspended ceilings in accordance with EN 13964 2014:08 Table 8	**Corrosion protection classes of metal sub-construction building elements in accordance with EN 13964 2014:08 Table 9**
Class	**Conditions**	**Profiles, hangers, connecting elements as building elements made from steel**
A	Building elements exposed to a fluctuating relative humidity of up to 70 % and a fluctuating temperature of up to 25 °C but not exposed to corrosive contamination	Products with a cladding made from continually melt-refined metal [...] or with a cladding made from electrolytically galvanised flat products [...] or continually organically coated (coil-coated) products in corrosion protection class (interior) CPI2 for the side under stress [...]
B	Building elements exposed to a fluctuating relative humidity of up to 90 % and a fluctuating temperature of up to 30 °C but not exposed to corrosive contamination	Products with a cladding made from continually melt-refined metal [...] or with a cladding made from electrolytically galvanised flat products in accordance with EN 10152 with or without an additional organic coating [...] or continually organically coated (coil-coated) products in corrosion protection class (interior) CPI2 for the side under stress [...]
C	Building elements exposed to a fluctuating relative humidity of up to 95 % and a fluctuating temperature of up to 30 °C as well as potential condensation, but not exposed to corrosive contamination	Products with a cladding made from continually melt-refined metal [...] with an additional organic coating of 20 µm per front side or with a cladding made from electrolytically galvanised flat products in accordance with EN 10152 with an additional organic coating on the front side (60 µm or 40 µm, depending on type)
D	Conditions more stringent than those listed above	Special measures depending on the use and exposure to corrosion; minimum corrosion protection according to class C; additional measures as required; Subsequently powder-coated systems Products that can be classified as class C4 and C5 in accordance with EN ISO 12944

For more information and detailed requirements, see EN 13964: 2014-08 "Suspended ceilings – requirements and test methods".

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance
Surfaces and installations

StoSilent Distance
The suspended panel system

With its three different versions, the StoSilent Distance system is perfect for designing seamless, sound-absorbing walls and ceilings with surfaces of up to 200 square metres. Its technical and visual functions are guaranteed if the following specifications are adhered to.

Seamless surfaces

Our acoustic panel systems must have an open, all-round joint with adjacent building elements. The open cross section of the joint must be at least 0.8 % of the total ceiling surface area. In this manner, similar climate conditions can be created inside the room and in the ceiling cavity above it.

This reduces strong airflows and the associated soiling of the surface, resulting in longer renovation cycles than with other systems on the market. Different joint widths are produced depending on the size and geometry of the room. If the open shadow gap cannot be implemented with the required width – in particular when creating small ceiling surface areas – additional openings must be installed in the ceiling until the specified open cross section of 0.8 % of the total ceiling surface area has been achieved. These openings can be covered with empty speaker covers, ventilation covers, or similar items, for example.

Installations

Installations in wall and ceiling coverings, such as loudspeakers, lights, service hatches, etc., can be implemented in all versions of the StoSilent Distance system.
Perfect functioning of the system is guaranteed under the following conditions:

- Please observe the system drawings during planning and execution.
- Please observe the Technical Data Sheets for the products in the system.
- Please include installations in the plans for flat-surfaced ceilings and wall coverings in advance.
- If necessary, all requisite trimmers and additional hangers must be provided in the metal sub-construction in accordance with the Sto planning details.
- Please adapt the load-bearing capacity of the sub-construction (hanger spacing, centre to centre distance of the profiles, etc.) to the applicable load-carrying points.

Guide values for seamless Sto acoustic panel systems

Max. surface area	200 m^2
Max. projection length	20 m
Surface ≤ 100 m^2	All-round joint, b = 20 mm*
Surface > 100 m^2	All-round joint, b = 25 mm*
Partial surface, projection length ≤ 10 m	Expansion joint b = 15 mm*
Partial surface, projection length > 10 m	Expansion joint b = 20 mm*

*In accordance with details. The proportion of the open, all-around joint must account for at least 0.8 % of the ceiling surface area.

Specifications for ceiling installations

Load cases	Retaining element	Notes
Loads ≤ 2.0 kg point load	Cavity fixing	Max. 2 hrs./m^2
Loads ≤ 10 kg/m^2	Direct fixing	Directly into the metal sub-construction or convert into distributed load, e.g. by backing with a wood veneer board
Loads > 10 kg/m^2	Direct fixing	Directly to bare ceiling

Important notes

- For the purposes of pressure equalisation, seamless acoustic panel systems need to have open, all-round joints and/or ceiling apertures (min. 0.8 % of ceiling surface area).
- Existing structural expansion joints must always be incorporated.
- In special kinds of construction geometry, required expansion joints need to be planned into the design (execution of expansion joints acc. to EN 13964 "Sub-ceilings – requirements and test methods").
- On all system connecting points (walls, ceilings, supports) and transition points between gypsum plasterboards and/or other dry construction elements, open joints must be incorporated in accordance with the planning details.

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

Sound characteristics

It's all about the right sound absorption

Systems built over an area (seamless)

System	Board/product	Coating	Build-up acc. to ISO 354	Structural height i
StoSilent Distance	StoSilent Board 300	StoSilent Top Finish	E-45	45
	StoSilent Board 300 + mineral wool*	StoSilent Top Finish	E-45	45
	StoSilent Board 300	StoSilent Top Finish	E-115	115
	StoSilent Board 300	StoSilent Top Finish	E-260	260
	StoSilent Board 300, 25 mm	StoSilent Top Finish	E-55	55
	StoSilent Board 300, 25 mm + mineral wool*	StoSilent Top Finish	E-55	55
	StoSilent Board 300, 25 mm	StoSilent Top Finish	E-125	125
	StoSilent Board 300, 25 mm	StoSilent Top Finish	E-270	270
	StoSilent Board 300, 25 mm	StoSilent Top Basic, white	E-55	55
	StoSilent Board 300, 25 mm + mineral wool**	StoSilent Top Basic, white	E-55	55
	StoSilent Board 300, 25 mm	StoSilent Top Basic, white	E-125	125
	StoSilent Board 300, 25 mm	StoSilent Top Basic, white	E-270	270
	StoSilent Board 300, 25 mm + mineral wool*	StoSilent Top Basic & Sto-Terrazzo Effect	E-55	55
	StoSilent Board 300, 25 mm + mineral wool*	StoSilent Top Basic & silicon carbide F14	E-55	55
	StoSilent Board 300, 25 mm	StoSilent Top Basic, tinted (blue)	E-125	125
	StoSilent Board 310	StoSilent Decor M	E-45	45
	StoSilent Board 310	StoSilent Decor M	E-260	260
	StoSilent Board 310, 25 mm	StoSilent Decor M	E-55	55
	StoSilent Board 310, 25 mm + mineral wool**	StoSilent Decor M	E-55	55
	StoSilent Board 310, 25 mm	StoSilent Decor M	E-125	125
	StoSilent Board 310, 25 mm	StoSilent Decor M	E-270	270
	StoSilent Board 315 (filled, reflective)	StoSilent Decor M	E-260	260

* Mineral wool, 30 mm thick, Knauf TP 120 A30
** Mineral wool, 30 mm thick, Isover SSP 1

StoSilent Distance
The suspended panel system

n mm	Board thickness in mm	α_w EN ISO 11654	*NRC* ASTM C 423	*SAA* ASTM C 423	Absorber class EN ISO 11654	Test report
	15	0.45 (H)	0.45	0.47	D	M35 120/108
	15	0.40 (H)	0.45	0.43	D	M35 120/108
	15	0.40 (H)	0.45	0.43	D	M35 120/108
	15	0.35 (H)	0.40	0.41	D	M35 120/108
	25	0.60	0.55	0.56	C	M35 120/109
	25	0.55	0.55	0.54	D	M35 120/109
	25	0.55	0.55	0.53	D	M35 120/109
	25	0.50	0.50	0.52	D	M35 120/109
	25	0.50	0.45	0.45	D	M35 120/117
	25	0.50	0.45	0.43	D	M35 120/117
	25	0.50	0.45	0.43	D	M35 120/117
	25	0.45	0.40	0.42	D	M35 120/117
	25	0.60	0.60	0.57	C	M35 120/110
	25	0.60	0.55	0.56	C	M35 120/110
	25	0.50 (M)	0.55	0.55	D	M35 120/110
	15	0.45 (H)	0.50	0.50	D	M35 120/49
	15	0.40 (H)	0.50	0.49	D	M35 120/49
	25	0.50 (MH)	0.60	0.61	D	M35 120/114
	25	0.50 (MH)	0.60	0.59	D	M35 120/114
	25	0.50 (MH)	0.60	0.58	D	M35 120/114
	25	0.55 (MH)	0.60	0.61	D	M35 120/57
	15	0.10	0.05	0.07	–	M35 120/97

Sound characteristics

It's all about the right sound absorption

Systems built over an area (seamless/with visible joints)

System	Board/product	Coating	Build-up acc. to ISO 354	Structural height i
StoSilent Distance A2	StoSilent Board 100	StoSilent Top Finish	E-55	55
	StoSilent Board 100 + mineral wool*	StoSilent Top Finish	E-55	55
	StoSilent Board 100	StoSilent Top Finish	E-125	125
	StoSilent Board 100	StoSilent Top Finish	E-270	270
	StoSilent Board 110	StoSilent Decor M	E-55	55
	StoSilent Board 110 + mineral wool*	StoSilent Decor M	E-55	55
	StoSilent Board 110	StoSilent Decor M	E-125	125
	StoSilent Board 110 + mineral wool*	StoSilent Decor M	E-125	125
	StoSilent Board 110	StoSilent Decor M	E-270	270
	StoSilent Board 110, filled (reflective)	StoSilent Decor M	E-270	270
	StoSilent Board 200	StoSilent Top Finish	E-200	200
	StoSilent Board 200, with open shadow gap	StoSilent Top Finish	E-200 (version)	200
	StoSilent Board 200, with open shadow gap + mineral wool**	StoSilent Top Finish	E-200 (version)	200
	StoSilent Board 210	StoSilent Decor M	E-200	200
	StoSilent Board 210, with open shadow gap	StoSilent Decor M	E-200 (version)	200
	StoSilent Board 210, with open shadow gap + mineral wool**	StoSilent Decor M	E-200 (version)	200

* Mineral wool, 30 mm thick, Isover SSP 1
**Stone wool strips with W x H = 100 x 145 mm, 51 kg/m³

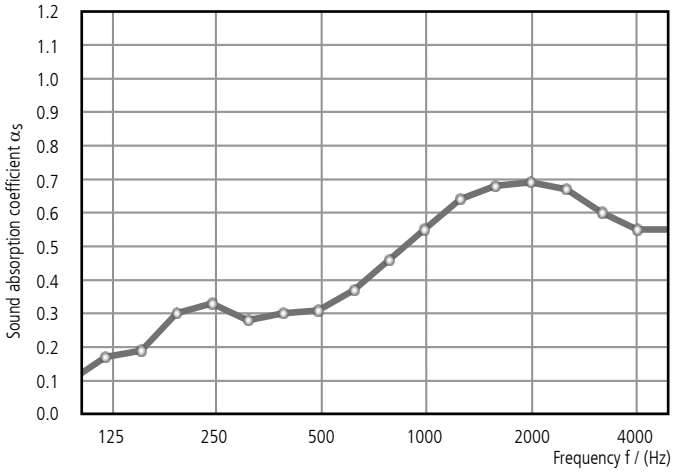
StoSilent Distance
The suspended panel system

n mm	Board thickness in mm	EN ISO 11654	*NRC* ASTM C 423	*SAA* ASTM C 423	Absorber class EN ISO 11654	Test report
	25	0.80	0.75	0.76	B	M35 120/73
	25	0.70	0.65	0.66	C	M35 120/112
	25	0.70	0.65	0.64	C	M35 120/112
	25	0.70 (M)	0.70	0.71	C	M35 120/73
	25	0.80	0.75	0.77	B	M35 120/81
	25	0.75 (MH)	0.80	0.78	C	M35 120/101
	25	0.75	0.75	0.74	C	M35 120/81
	25	0.75 (M)	0.75	0.75	C	M35 120/101
	25	0.75	0.75	0.72	C	M35 120/81
	25	0.10	0.10	0.08	–	M35 120/98
	25	0.50	0.55	0.54	D	M10 0960/6
	25	0.50	0.55	0.55	D	M10 0960/6
	25	0.55	0.55	0.57	D	M10 0960/6
	25	0.40 (MH)	0.55	0.56	D	M10 0960/5
	25	0.50 (H)	0.55	0.55	D	M10 0960/5
	25	0.55 (H)	0.60	0.58	D	M10 0960/5

StoSilent Distance

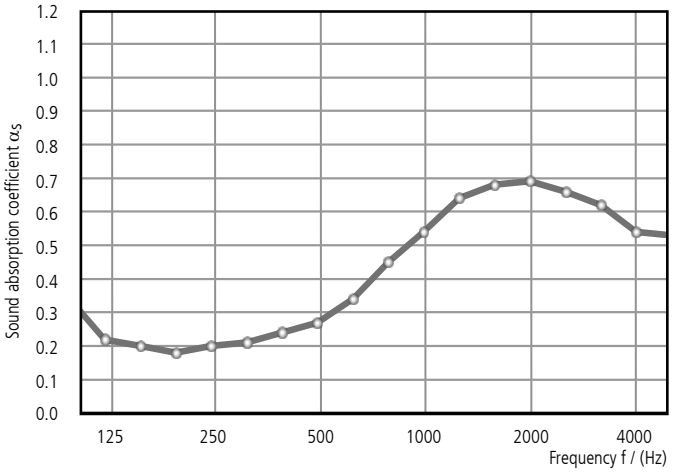
Sound absorption in detail

System: StoSilent Distance
Build-up: StoSilent Board 300
Coating: StoSilent Top Basic & Finish
Thickness: 15 mm
Structural height: 45 mm
α_w**:** 0.45 (H)
***NRC*:** 0.45



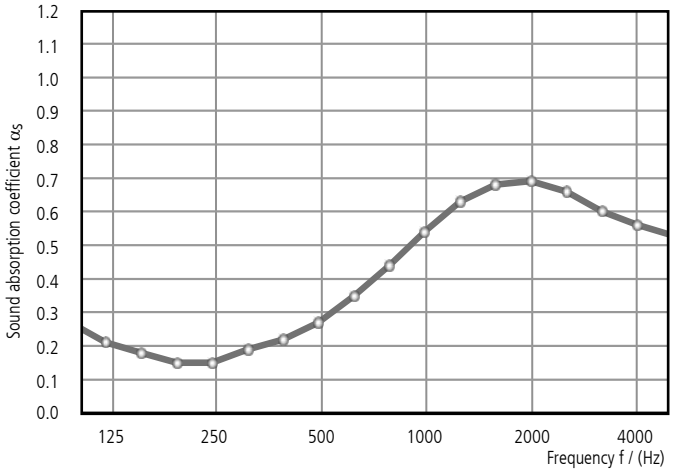
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.10	0.30	0.30	0.46	0.68	0.60
Octave band	0.17	0.33	0.31	0.55	0.69	0.55
Third-octave band	0.19	0.28	0.37	0.64	0.67	0.55
α_p	0.15	0.30	0.35	0.55	0.70	0.55

System: StoSilent Distance
Build-up: StoSilent Board 300
Coating: StoSilent Top Basic & Finish
Thickness: 15 mm
Structural height: 115 mm
α_w**:** 0.40 (H)
***NRC*:** 0.45



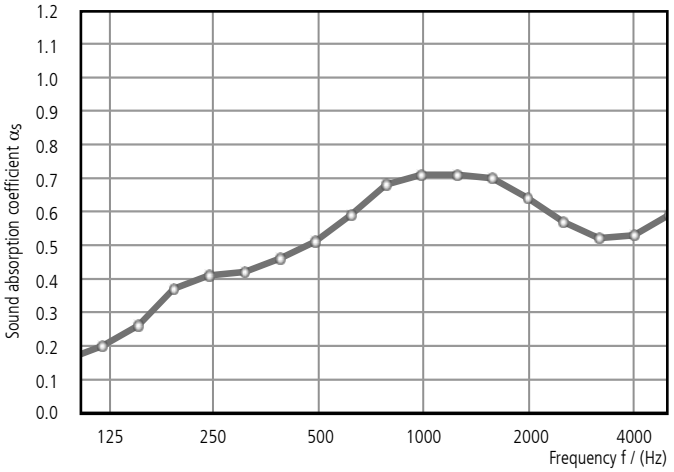
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.34	0.18	0.24	0.45	0.68	0.62
Octave band	0.22	0.20	0.27	0.54	0.69	0.54
Third-octave band	0.20	0.21	0.34	0.64	0.66	0.53
α_p	0.25	0.20	0.30	0.55	0.70	0.55

System: StoSilent Distance
Build-up: StoSilent Board 300
Coating: StoSilent Top Basic & Finish
Thickness: 15 mm
Structural height: 260 mm
α_w**:** 0.35 (H)
***NRC*:** 0.40



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.27	0.15	0.22	0.44	0.68	0.60
Octave band	0.21	0.15	0.27	0.54	0.69	0.56
Third-octave band	0.18	0.19	0.35	0.63	0.66	0.53
α_p	0.20	0.15	0.30	0.55	0.70	0.55

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic & Finish
Thickness: 25 mm
Structural height: 55 mm
α_w**:** 0.60
***NRC*:** 0.55



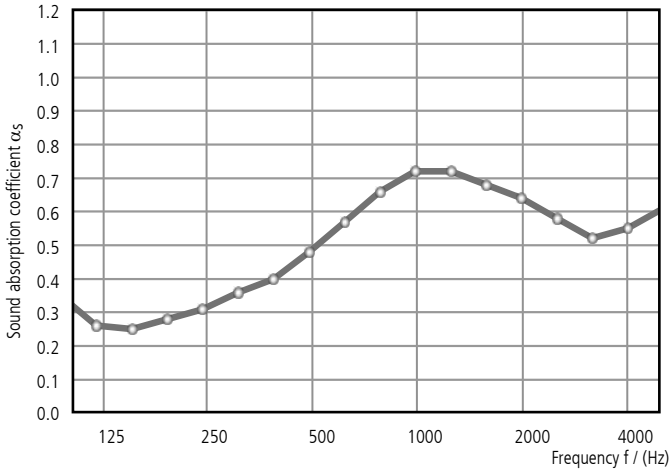
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.16	0.37	0.46	0.68	0.70	0.52
Octave band	0.20	0.41	0.51	0.71	0.64	0.53
Third-octave band	0.26	0.42	0.59	0.71	0.57	0.59
α_p	0.20	0.40	0.50	0.70	0.65	0.55

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance
The suspended panel system

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic & Finish

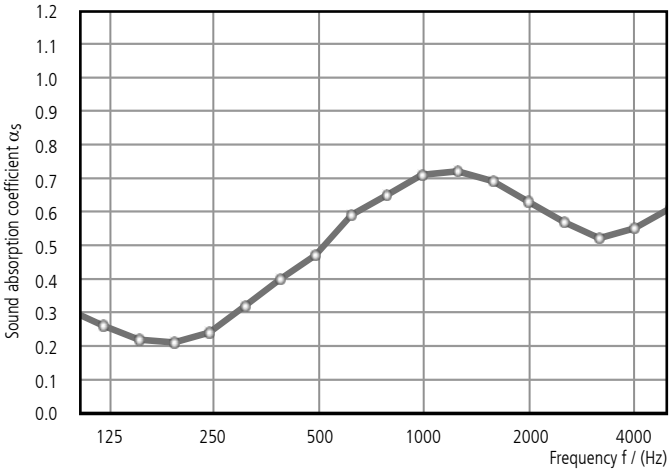
Thickness: 25 mm
Structural height: 125 mm
α_w**:** 0.55
***NRC*:** 0.55



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.35	0.28	0.40	0.66	0.68	0.52
Octave band	0.26	0.31	0.48	0.72	0.64	0.55
Third-octave band	0.25	0.36	0.57	0.72	0.58	0.61
α_p	0.30	0.30	0.50	0.70	0.65	0.55

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic & Finish

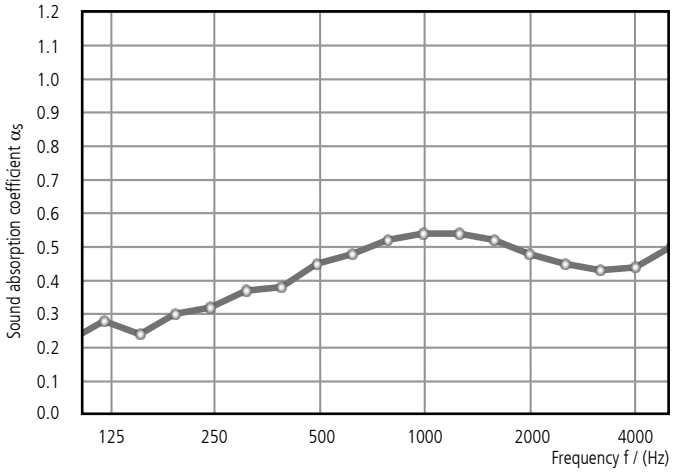
Thickness: 25 mm
Structural height: 270 mm
α_w**:** 0.50
***NRC*:** 0.50



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.31	0.21	0.40	0.65	0.69	0.52
Octave band	0.26	0.24	0.47	0.71	0.63	0.55
Third-octave band	0.22	0.32	0.59	0.72	0.57	0.61
α_p	0.25	0.25	0.50	0.70	0.65	0.55

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic, white

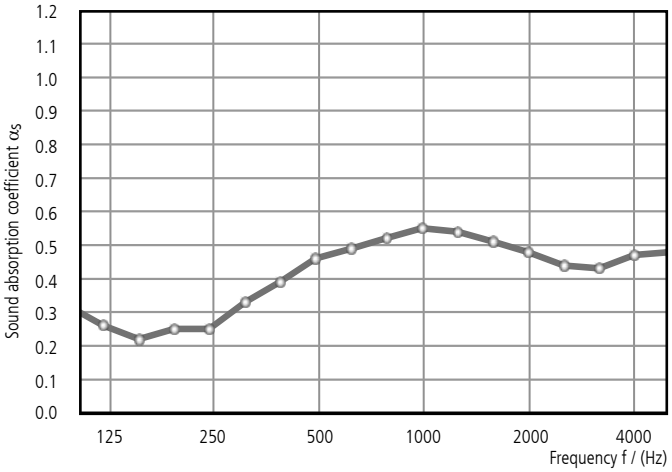
Thickness: 25 mm
Structural height: 55 mm
α_w**:** 0.50
***NRC*:** 0.45



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.22	0.30	0.38	0.52	0.52	0.43
Octave band	0.28	0.32	0.45	0.54	0.48	0.44
Third-octave band	0.24	0.37	0.48	0.54	0.45	0.50
α_p	0.25	0.35	0.45	0.55	0.50	0.45

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic, white

Thickness: 25 mm
Structural height: 125 mm
α_w**:** 0.50
***NRC*:** 0.45



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.32	0.25	0.39	0.52	0.51	0.43
Octave band	0.26	0.25	0.46	0.55	0.48	0.47
Third-octave band	0.22	0.33	0.49	0.54	0.44	0.48
α_p	0.25	0.30	0.45	0.55	0.50	0.45

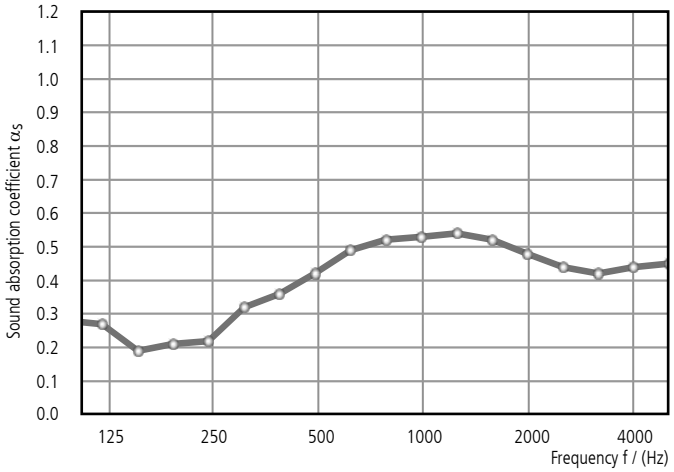
The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance

Sound absorption in detail

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic, white

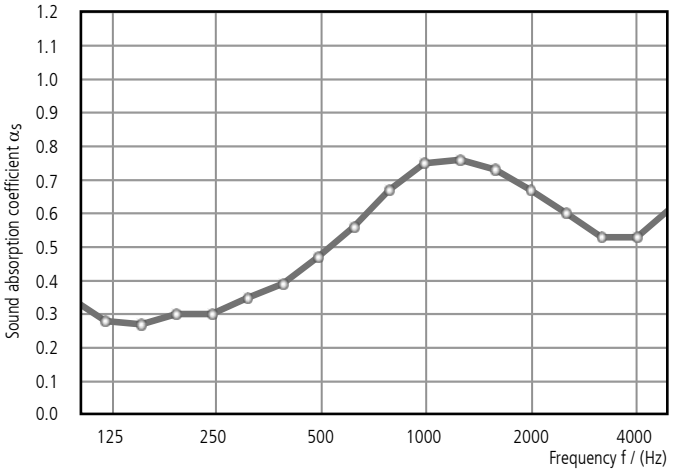
Thickness: 25 mm
Structural height: 270 mm
α_w: 0.45
***NRC*:** 0.40



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.28	0.21	0.36	0.52	0.52	0.42
Octave band	0.27	0.22	0.42	0.53	0.48	0.44
Third-octave band	0.19	0.32	0.49	0.54	0.44	0.45
α_p	0.25	0.25	0.40	0.55	0.50	0.45

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Top Basic, tinted (blue)

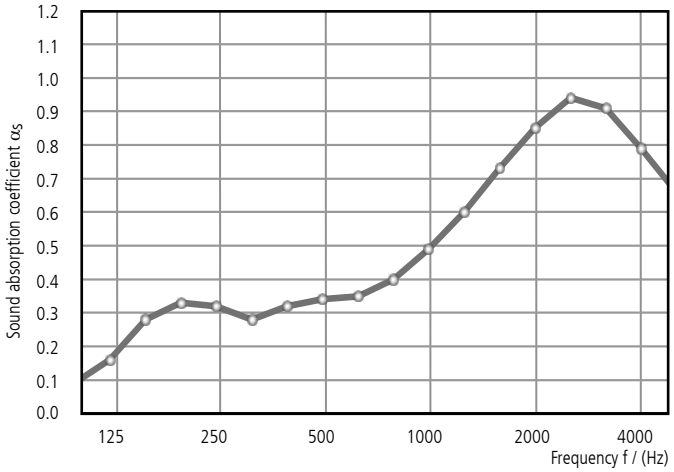
Thickness: 25 mm
Structural height: 125 mm
α_w: 0.50 (H)
***NRC*:** 0.55



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.35	0.30	0.39	0.67	0.73	0.53
Octave band	0.28	0.30	0.47	0.75	0.67	0.53
Third-octave band	0.27	0.35	0.56	0.76	0.60	0.62
α_p	0.30	0.30	0.45	0.75	0.65	0.55

System: StoSilent Distance
Build-up: StoSilent Board 310
Coating: StoSilent Decor M

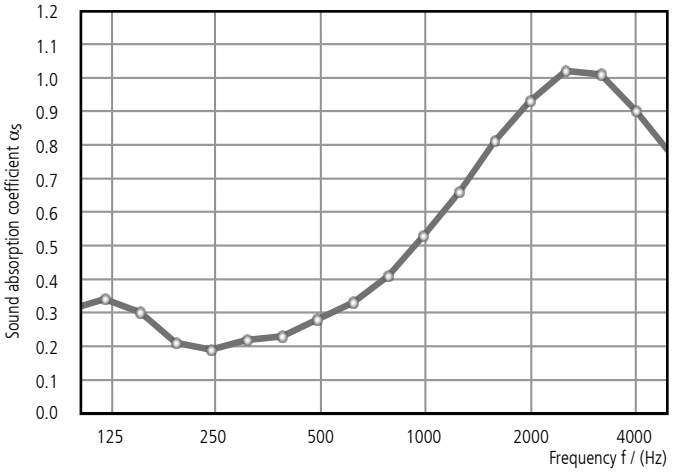
Thickness: 15 mm
Structural height: 45 mm
α_w: 0.45 (H)
***NRC*:** 0.50



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.09	0.33	0.32	0.40	0.73	0.91
Octave band	0.16	0.32	0.34	0.49	0.85	0.79
Third-octave band	0.28	0.28	0.35	0.60	0.94	0.66
α_p	0.20	0.30	0.35	0.50	0.85	0.80

System: StoSilent Distance
Build-up: StoSilent Board 310
Coating: StoSilent Decor M

Thickness: 15 mm
Structural height: 260 mm
α_w: 0.40 (H)
***NRC*:** 0.50



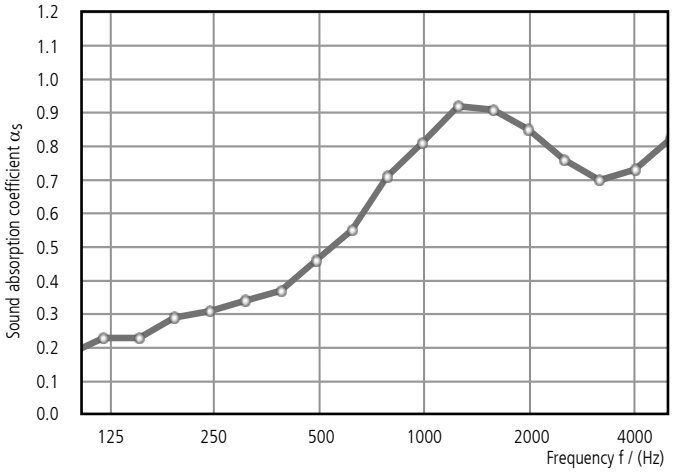
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.31	0.21	0.23	0.41	0.81	1.01
Octave band	0.34	0.19	0.28	0.53	0.93	0.90
Third-octave band	0.30	0.22	0.33	0.66	1.02	0.77
α_p	0.30	0.20	0.30	0.55	0.90	0.90

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance
The suspended panel system

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Decor M

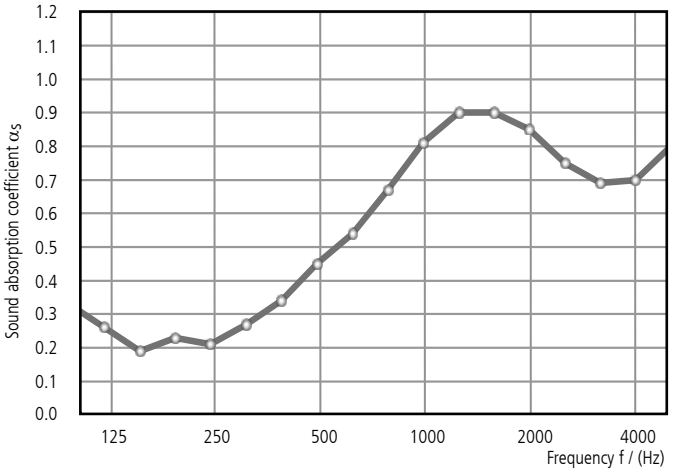
Thickness: 25 mm
Structural height: 55 mm
α_w: 0.50 (MH)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.18	0.29	0.37	0.71	0.91	0.70
Octave band	0.23	0.31	0.46	0.81	0.85	0.73
Third-octave band	0.23	0.34	0.55	0.92	0.76	0.82
α_p	0.20	0.30	0.45	0.80	0.85	0.75

System: StoSilent Distance
Build-up: StoSilent Board 300, 25 mm
Coating: StoSilent Decor M

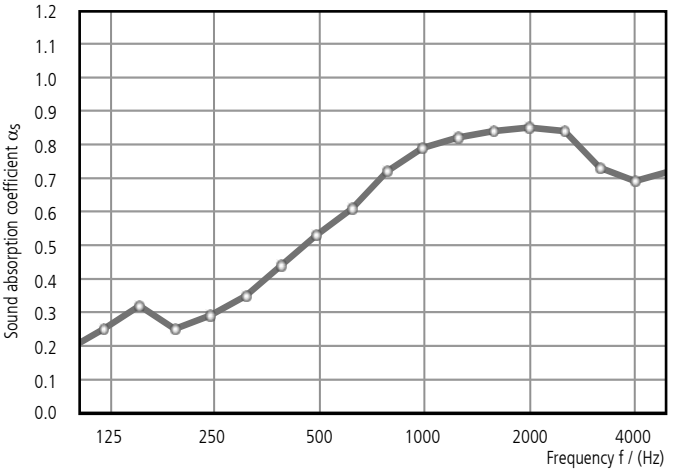
Thickness: 25 mm
Structural height: 125 mm
α_w: 0.50 (MH)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.33	0.23	0.34	0.67	0.90	0.69
Octave band	0.26	0.21	0.45	0.81	0.85	0.70
Third-octave band	0.19	0.27	0.54	0.90	0.75	0.80
α_p	0.25	0.25	0.45	0.80	0.85	0.75

System: StoSilent Distance
Build-up: StoSilent Board 310, 25 mm
Coating: StoSilent Decor M

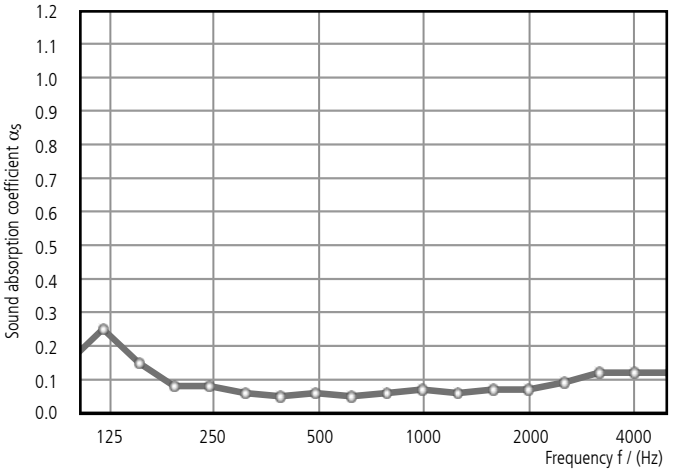
Thickness: 25 mm
Structural height: 270 mm
α_w: 0.50 (MH)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.19	0.25	0.44	0.72	0.84	0.73
Octave band	0.25	0.29	0.53	0.79	0.85	0.69
Third-octave band	0.32	0.35	0.61	0.82	0.84	0.72
α_p	0.25	0.30	0.55	0.80	0.85	0.70

System: StoSilent Distance
Build-up: StoSilent Board 315 filled (reflective)
Coating: StoSilent Decor M

Thickness: 15 mm
Structural height: 260 mm
α_w: 0.10
***NRC*:** 0.05



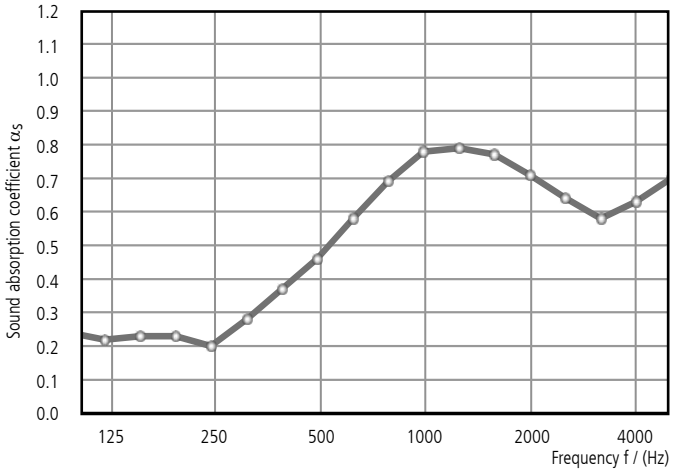
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.15	0.08	0.05	0.06	0.07	0.12
Octave band	0.25	0.08	0.06	0.07	0.07	0.12
Third-octave band	0.15	0.06	0.05	0.06	0.09	0.12
α_p	0.20	0.05	0.05	0.05	0.10	0.10

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance

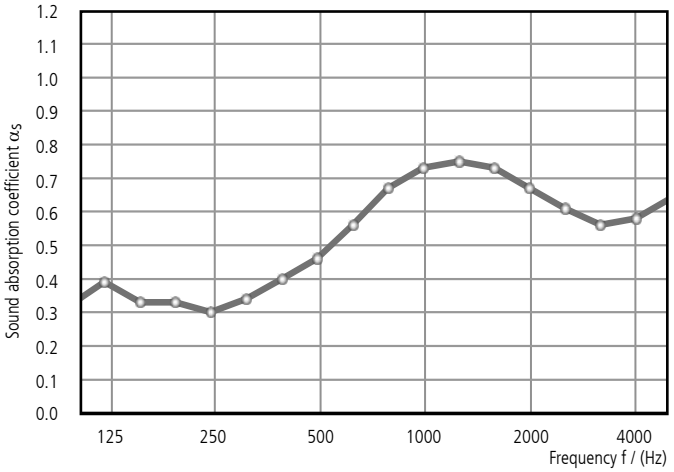
Sound absorption in detail

System: StoSilent Distance A2
Build-up: StoSilent Board 200
Coating: StoSilent Top Basic & Finish
Thickness: 25 mm
Structural height: 200 mm
α_w**:** 0.50 (MH)
***NRC*:** 0.55



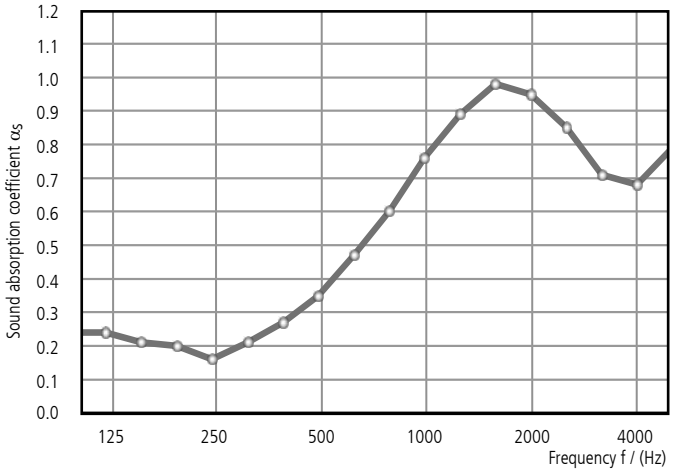
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.24	0.23	0.37	0.69	0.77	0.58
Octave band	0.22	0.20	0.46	0.78	0.71	0.63
Third-octave band	0.23	0.28	0.58	0.79	0.64	0.70
α_p	0.25	0.25	0.45	0.75	0.70	0.65

System: StoSilent Distance A2
Build-up: StoSilent Board 200, with open shadow gap
Coating: StoSilent Top Basic & Finish
Thickness: 25 mm
Structural height: 200 mm
α_w**:** 0.50
***NRC*:** 0.55



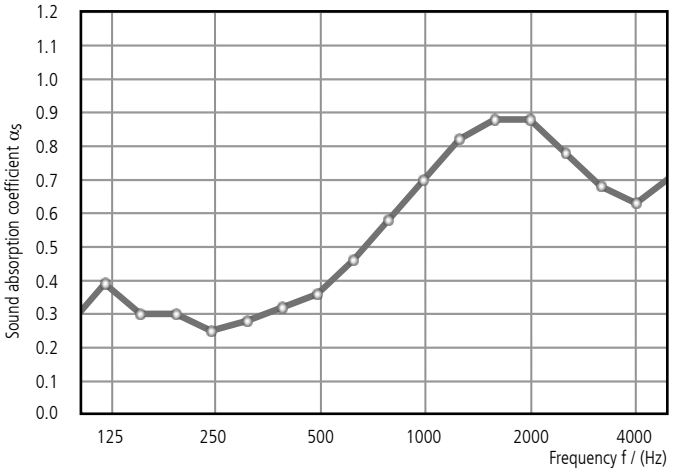
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.32	0.33	0.40	0.67	0.73	0.56
Octave band	0.39	0.30	0.46	0.73	0.67	0.58
Third-octave band	0.33	0.34	0.56	0.75	0.61	0.64
α_p	0.35	0.30	0.45	0.70	0.65	0.60

System: StoSilent Distance A2
Build-up: StoSilent Board 210
Coating: StoSilent Decor M
Thickness: 25 mm
Structural height: 200 mm
α_w**:** 0.40 (MH)
***NRC*:** 0.55



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.24	0.20	0.27	0.60	0.98	0.71
Octave band	0.24	0.16	0.35	0.76	0.95	0.68
Third-octave band	0.21	0.21	0.47	0.89	0.85	0.79
α_p	0.25	0.20	0.35	0.75	0.95	0.75

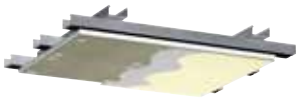
System: StoSilent Distance A2
Build-up: StoSilent Board 210, with open shadow gap
Coating: StoSilent Decor M
Thickness: 25 mm
Structural height: 200 mm
α_w**:** 0.50 (H)
***NRC*:** 0.55



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.27	0.30	0.32	0.58	0.88	0.68
Octave band	0.39	0.25	0.36	0.70	0.88	0.63
Third-octave band	0.30	0.28	0.46	0.82	0.78	0.71
α_p	0.30	0.30	0.40	0.70	0.85	0.65

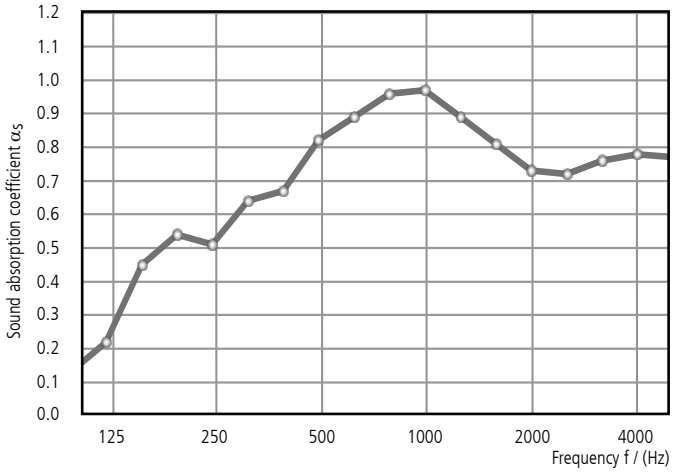
The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance
The suspended panel system



System: StoSilent Distance A2
Build-up: StoSilent Board 100
Coating: StoSilent Top Basic & Finish

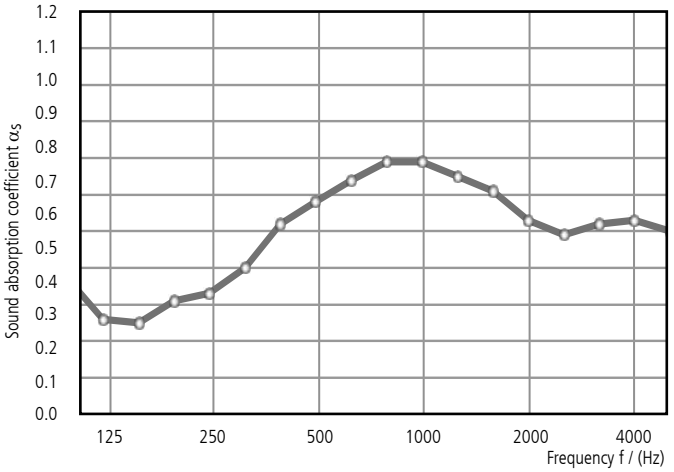
Thickness: 25 mm
Structural height: 55 mm
α_w**:** 0.80
***NRC*:** 0.75



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.13	0.54	0.67	0.96	0.81	0.76
Octave band	0.22	0.51	0.82	0.97	0.73	0.78
Third-octave band	0.45	0.64	0.89	0.89	0.72	0.77
α_p	0.25	0.55	0.80	0.95	0.75	0.75

System: StoSilent Distance A2
Build-up: StoSilent Board 100
Coating: StoSilent Top Basic & Finish

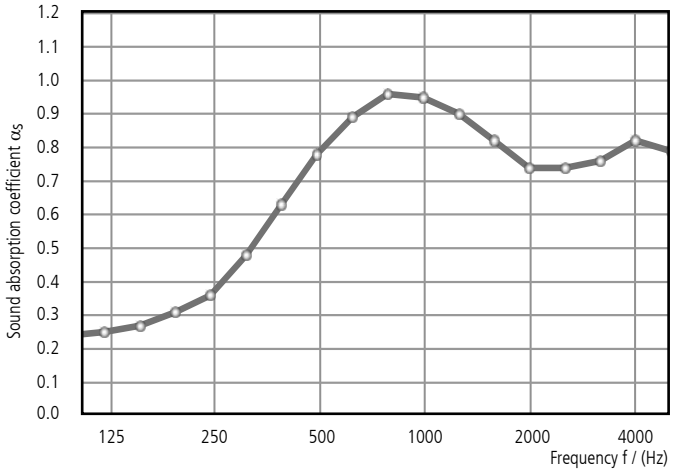
Thickness: 25 mm
Structural height: 125 mm
α_w**:** 0.70
***NRC*:** 0.65



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.47	0.41	0.62	0.79	0.71	0.62
Octave band	0.36	0.43	0.68	0.79	0.63	0.63
Third-octave band	0.35	0.50	0.74	0.75	0.59	0.60
α_p	0.40	0.45	0.70	0.80	0.65	0.60

System: StoSilent Distance A2
Build-up: StoSilent Board 100
Coating: StoSilent Top Basic & Finish

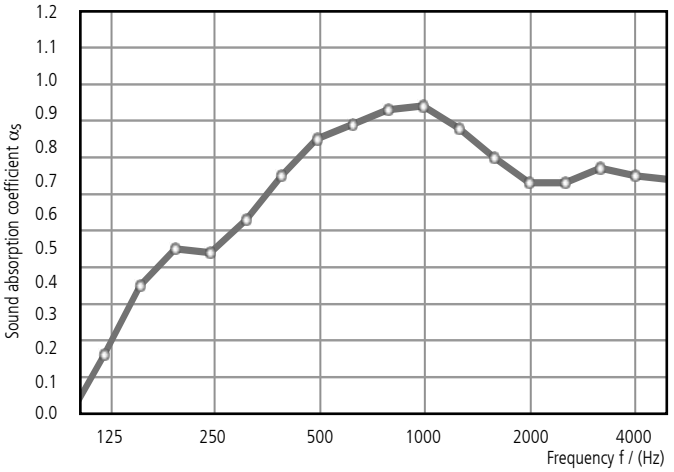
Thickness: 25 mm
Structural height: 270 mm
α_w**:** 0.70 (M)
***NRC*:** 0.70



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.24	0.31	0.63	0.96	0.82	0.76
Octave band	0.25	0.36	0.78	0.95	0.74	0.82
Third-octave band	0.27	0.48	0.89	0.90	0.74	0.79
α_p	0.25	0.40	0.75	0.95	0.75	0.80

System: StoSilent Distance A2
Build-up: StoSilent Board 110
Coating: StoSilent Decor M

Thickness: 25 mm
Structural height: 55 mm
α_w**:** 0.80
***NRC*:** 0.75



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.09	0.55	0.75	0.93	0.80	0.77
Octave band	0.26	0.54	0.85	0.94	0.73	0.75
Third-octave band	0.45	0.63	0.89	0.88	0.73	0.74
α_p	0.25	0.55	0.85	0.90	0.75	0.75

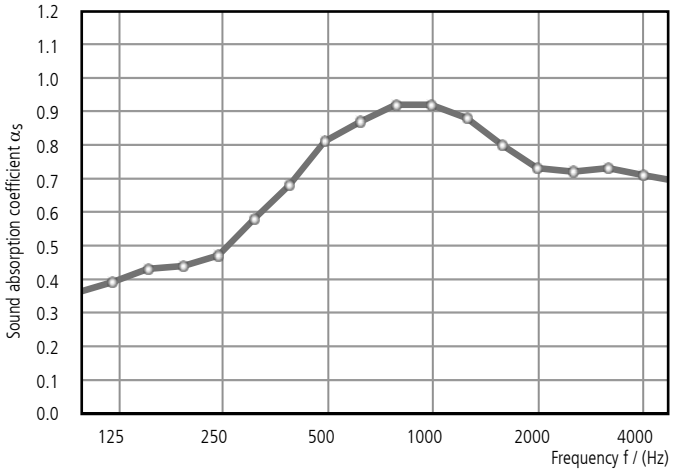
The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance

Sound absorption in detail

System: StoSilent Distance A2
Build-up: StoSilent Board 110
Coating: StoSilent Decor M

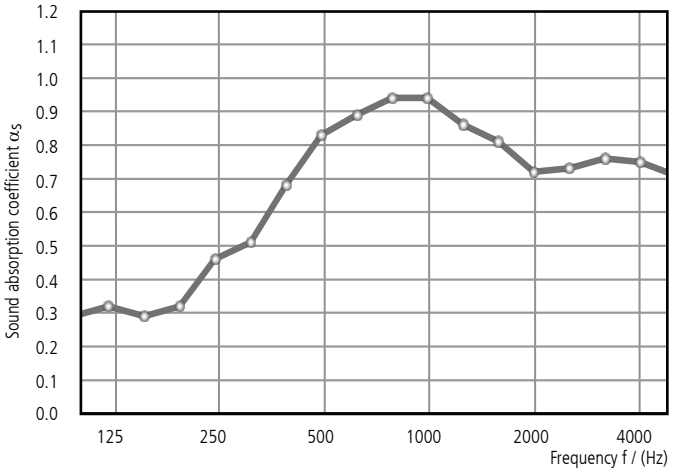
Thickness: 25 mm
Structural height: 125 mm
α_w**:** 0.75
***NRC*:** 0.75



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.36	0.44	0.68	0.92	0.80	0.73
Octave band	0.39	0.47	0.81	0.92	0.73	0.71
Third-octave band	0.43	0.58	0.87	0.88	0.72	0.69
α_p	0.40	0.50	0.80	0.90	0.75	0.70

System: StoSilent Distance A2
Build-up: StoSilent Board 110
Coating: StoSilent Decor M

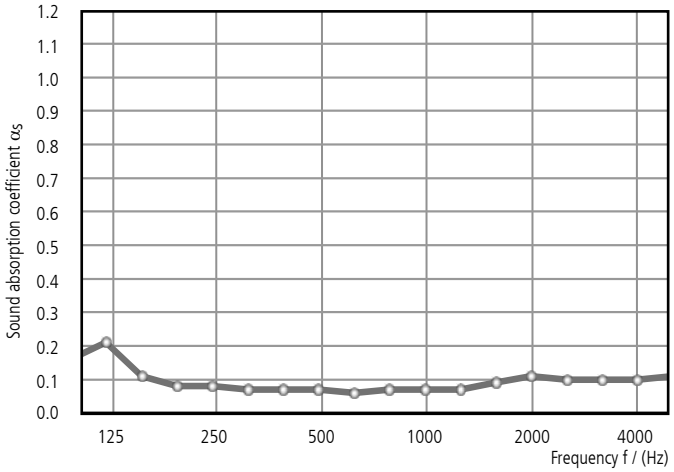
Thickness: 25 mm
Structural height: 270 mm
α_w**:** 0.75
***NRC*:** 0.75



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.29	0.32	0.68	0.94	0.81	0.76
Octave band	0.32	0.46	0.83	0.94	0.72	0.75
Third-octave band	0.29	0.51	0.89	0.86	0.73	0.71
α_p	0.30	0.45	0.80	0.90	0.75	0.75

System: StoSilent Distance A2
Build-up: StoSilent Board 110, filled (reflective)
Coating: StoSilent Decor M

Thickness: 25 mm
Structural height: 270 mm
α_w**:** 0.10
***NRC*:** 0.10



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.16	0.08	0.07	0.07	0.09	0.10
Octave band	0.21	0.08	0.07	0.07	0.11	0.10
Third-octave band	0.11	0.07	0.06	0.07	0.10	0.11
α_p	0.15	0.10	0.05	0.05	0.10	0.10

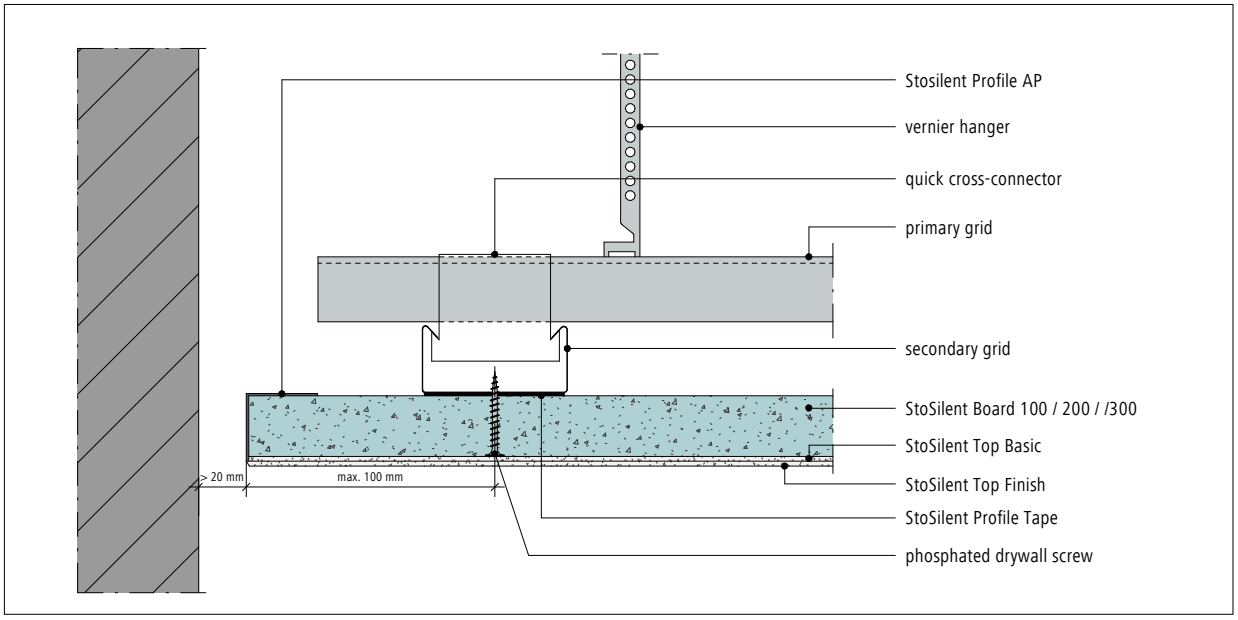
The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Distance

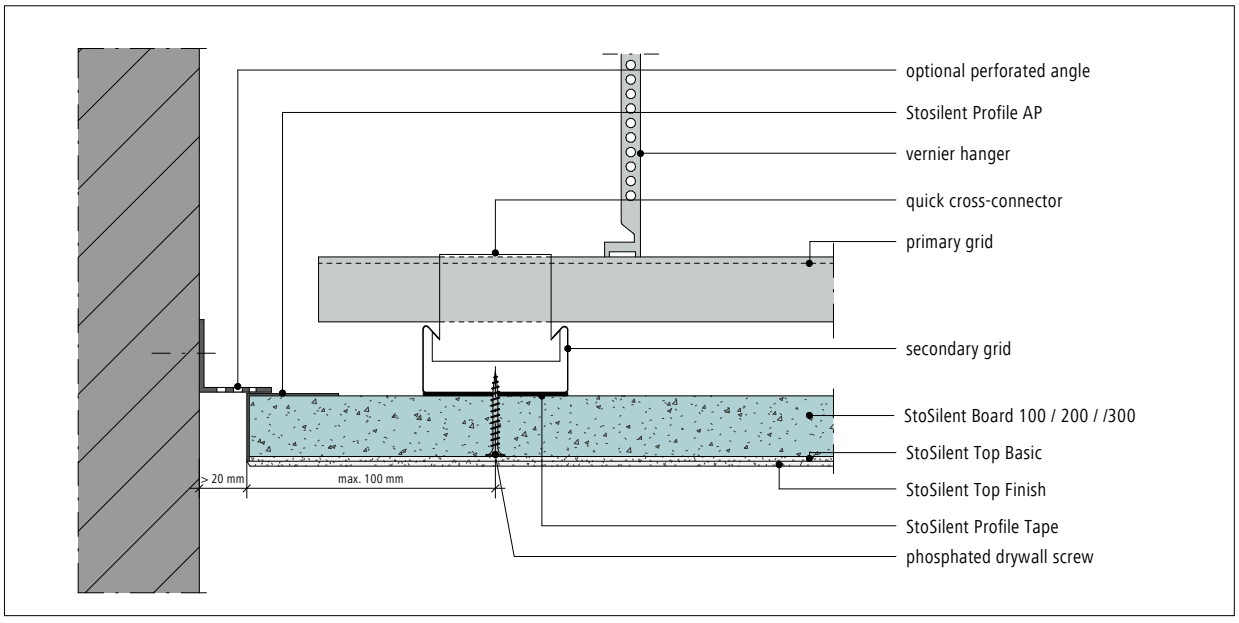
Construction details: ceiling
Coating: StoSilent Top

StoSilent Distance
The suspended panel system

Ceiling (vertical section): open wall junction



Ceiling (vertical section): wall junction with hole angle



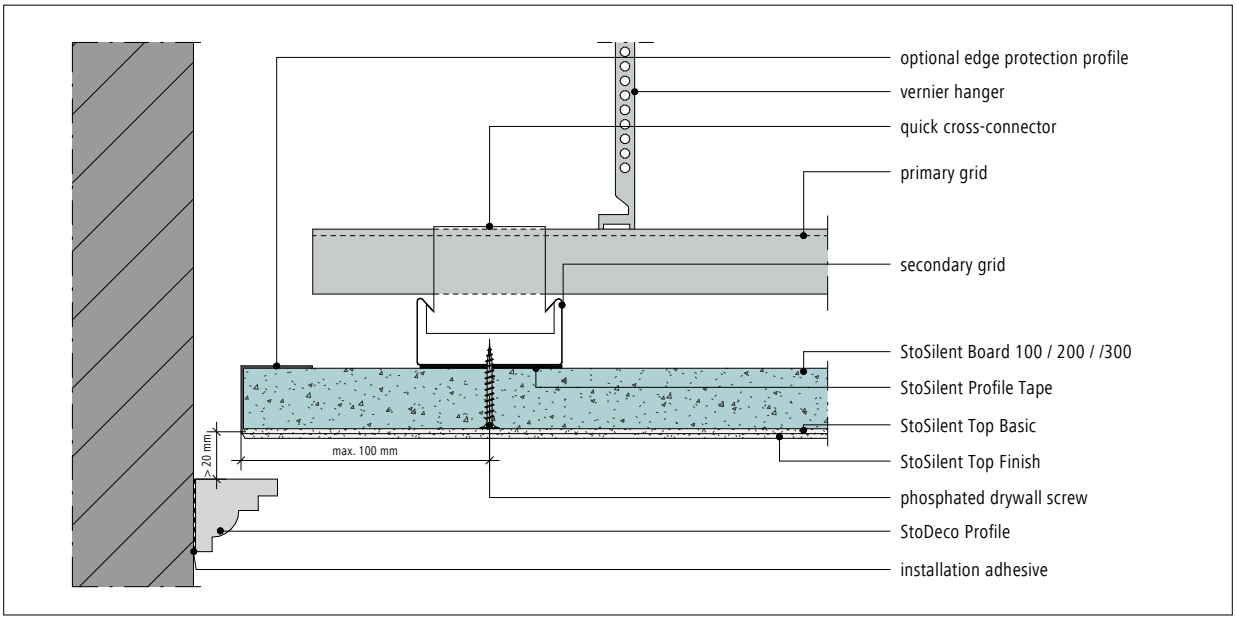
Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

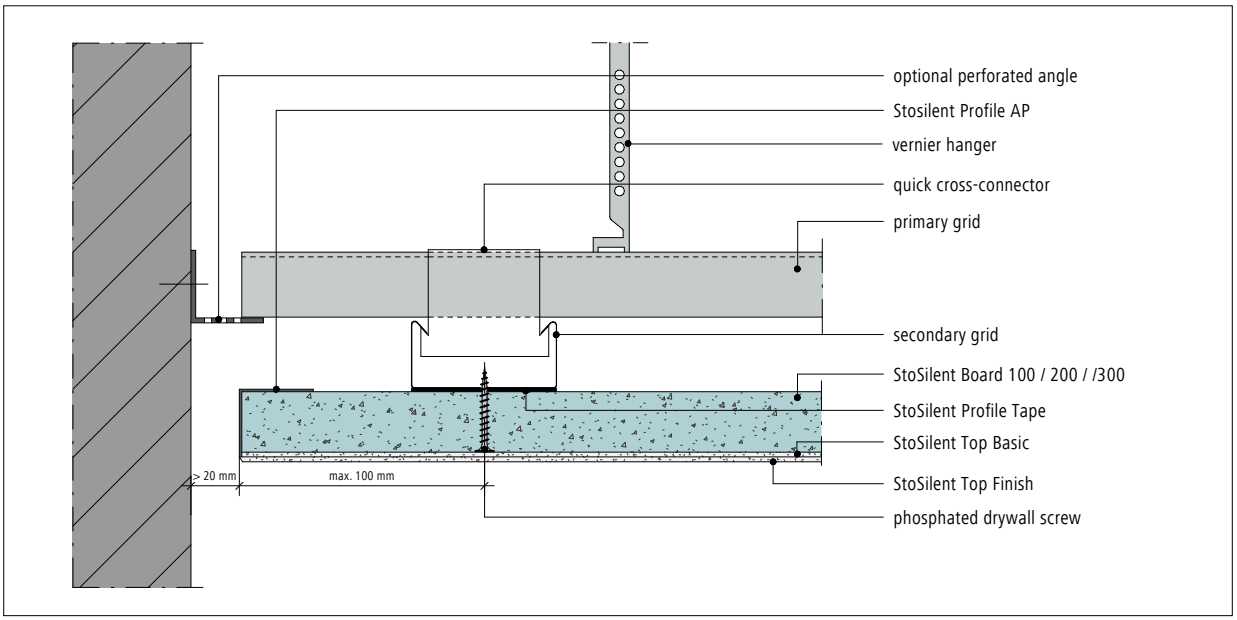
StoSilent Distance

Construction details: ceiling
Coating: StoSilent Top

Ceiling (vertical section): wall junction with StoDeco profile

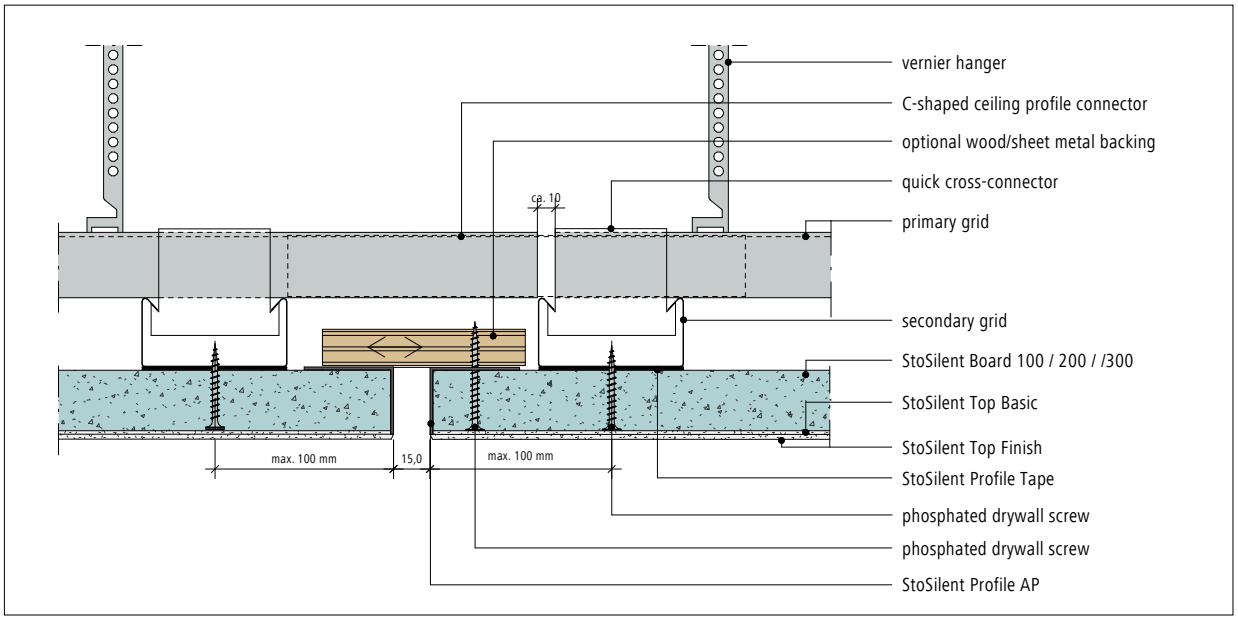


Ceiling (vertical section): wall junction with offset angle

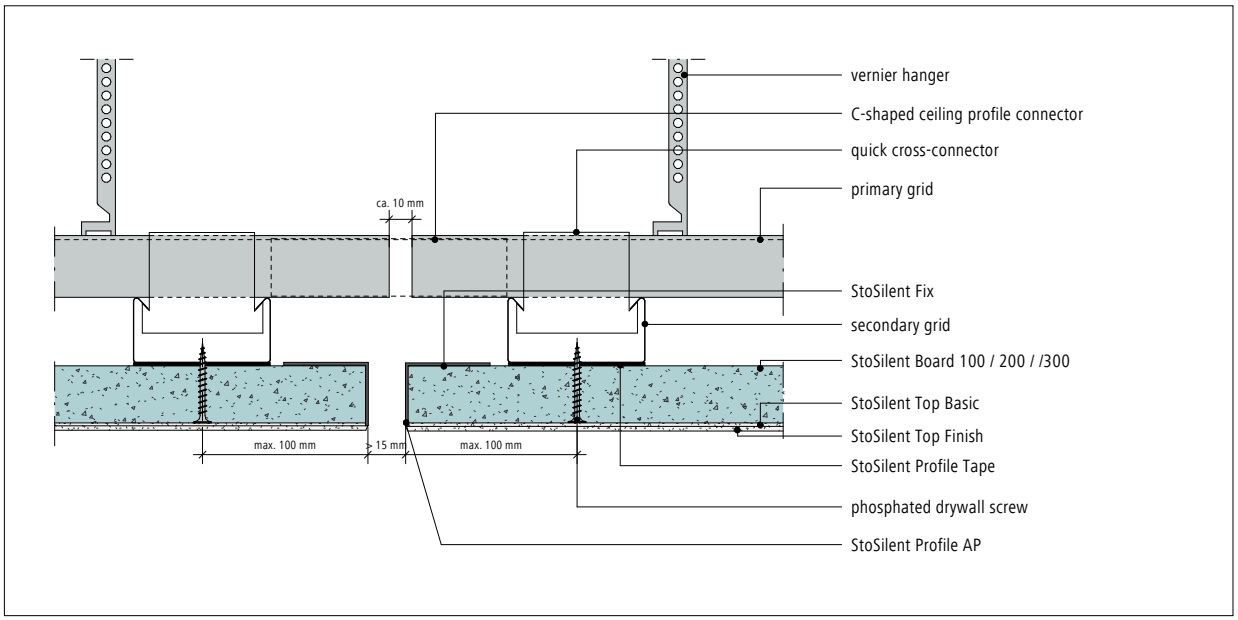


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

Ceiling (vertical section): expansion joint formation, backed



Ceiling (vertical section): expansion joint formation

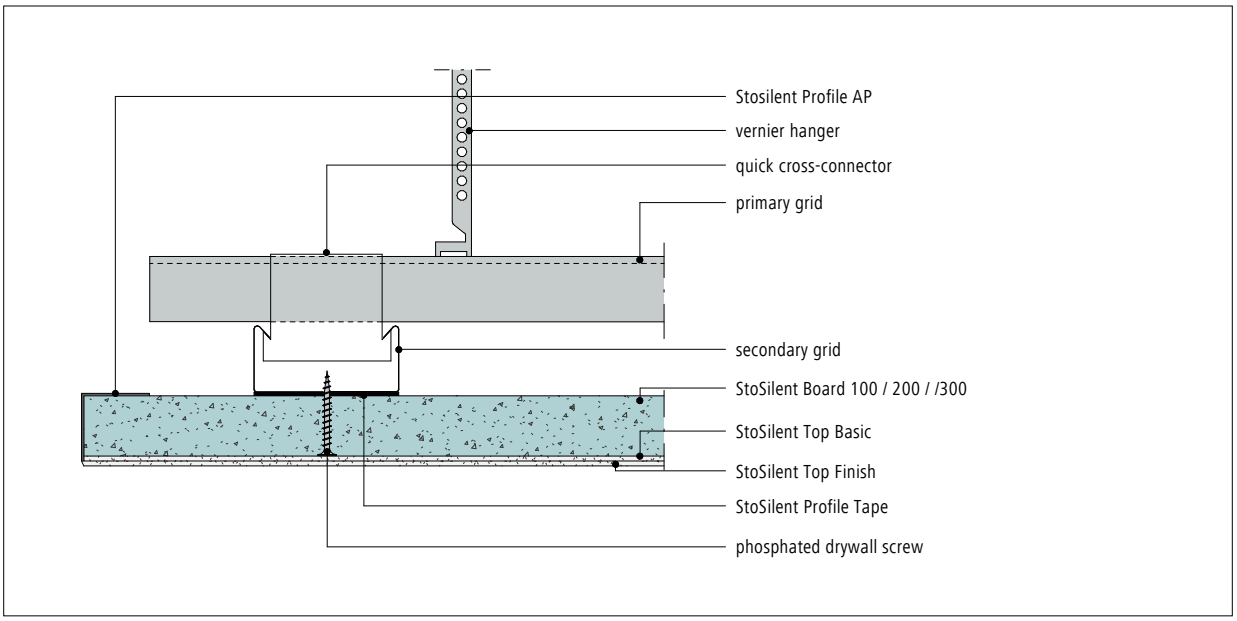


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

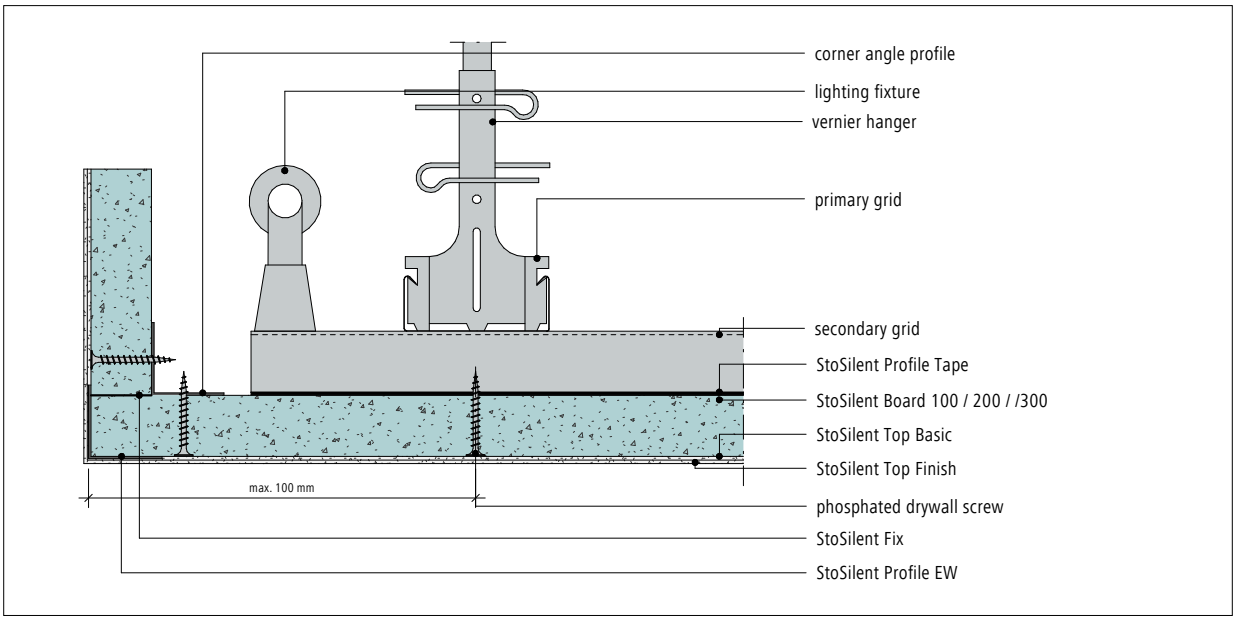
StoSilent Distance

Construction details: ceiling
Coating: StoSilent Top

Ceiling (vertical section): projection without load

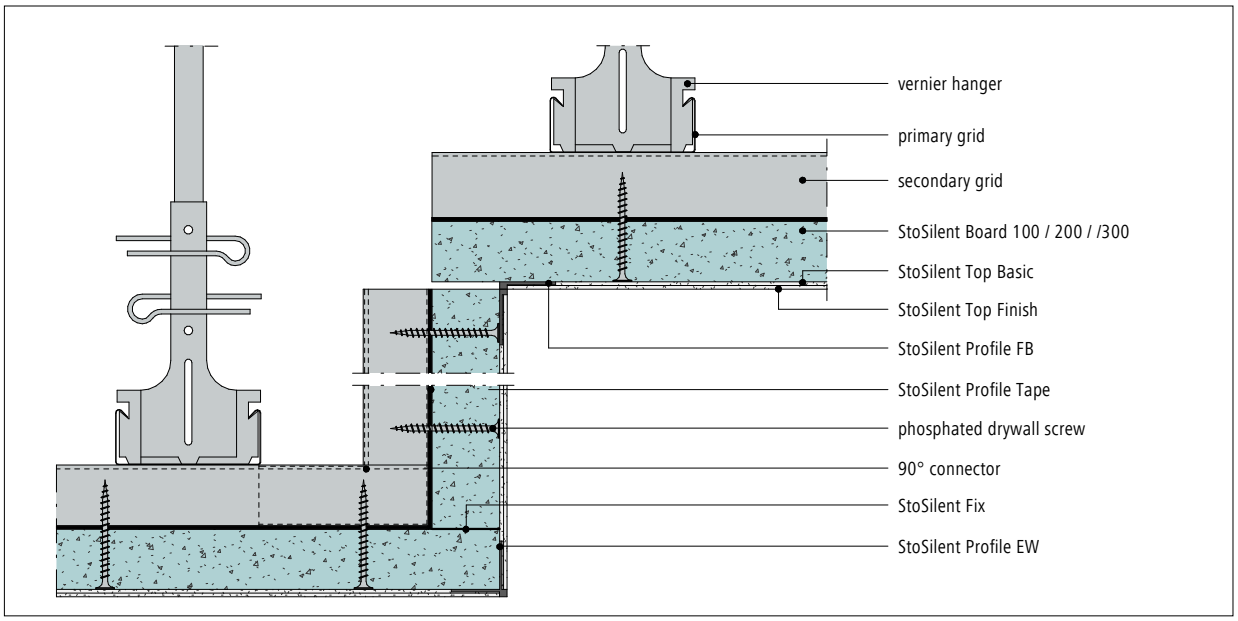


Ceiling (vertical section): projection with load

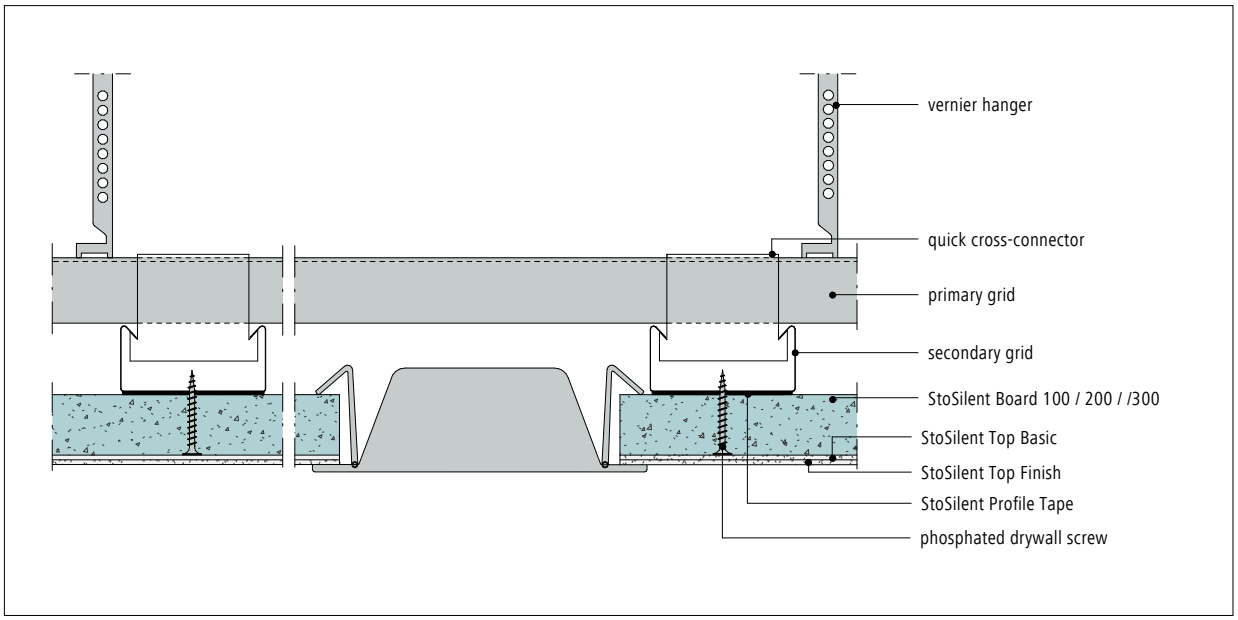


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

Ceiling (vertical section): stepped structure in straight-edged application



Ceiling (vertical section): installation of lamps (subsequent)



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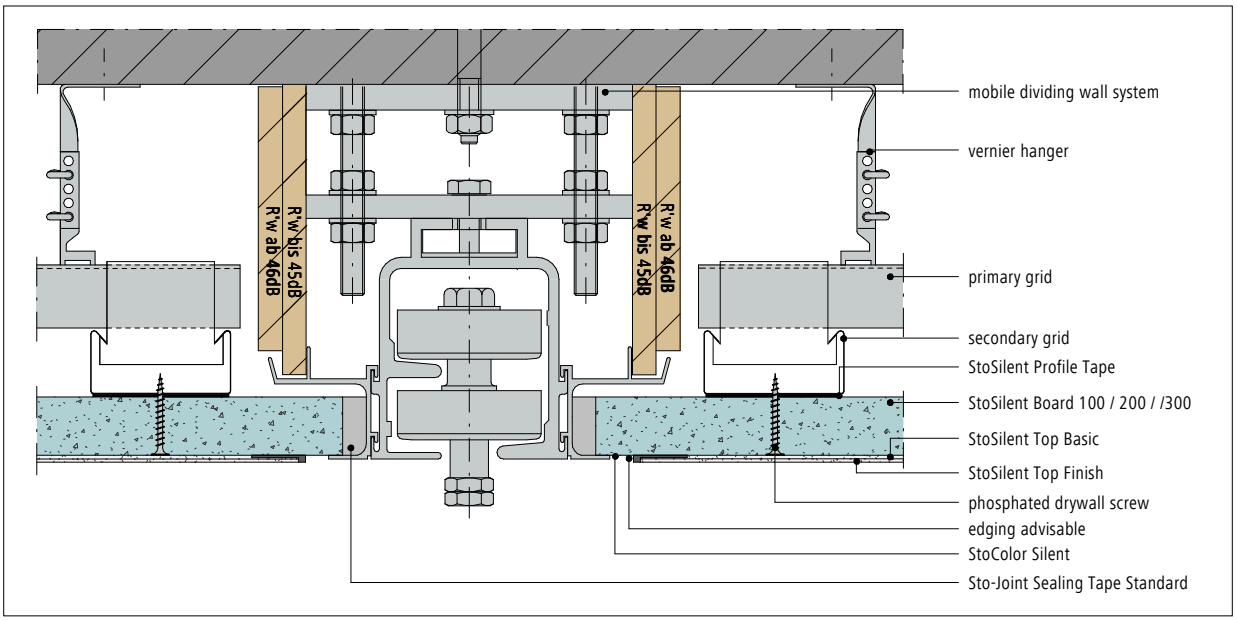
StoSilent Distance

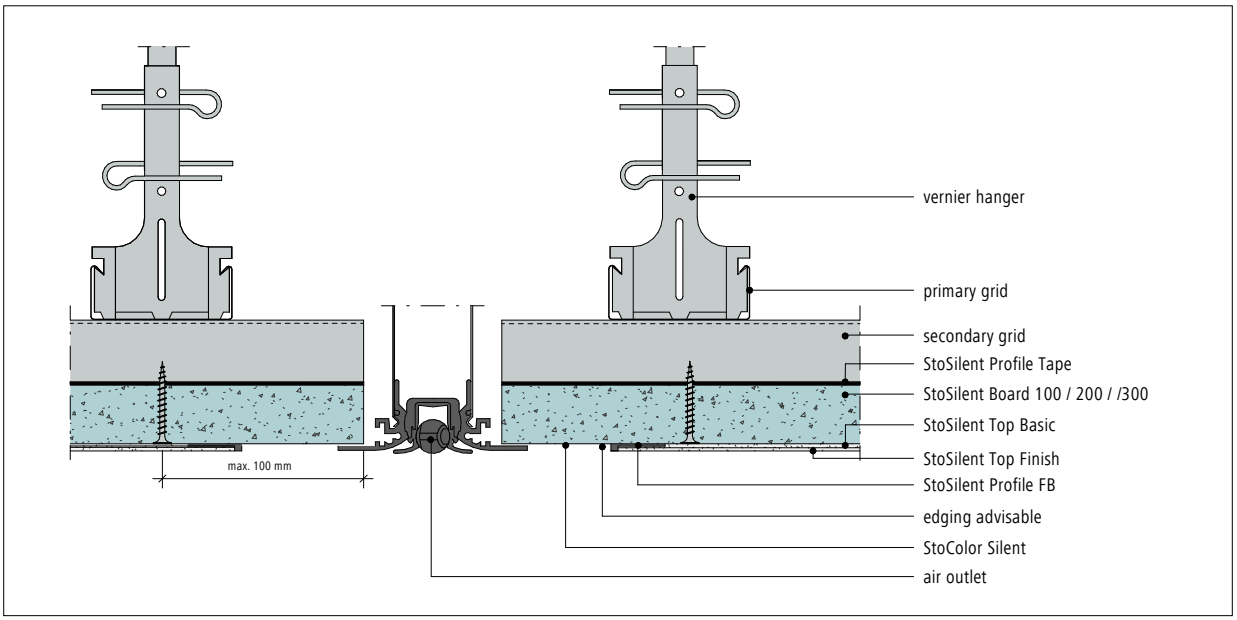
Construction details: ceiling

Coating: StoSilent Top

Ceiling (vertical section): mobile separating wall



Ceiling (vertical section): air outlet



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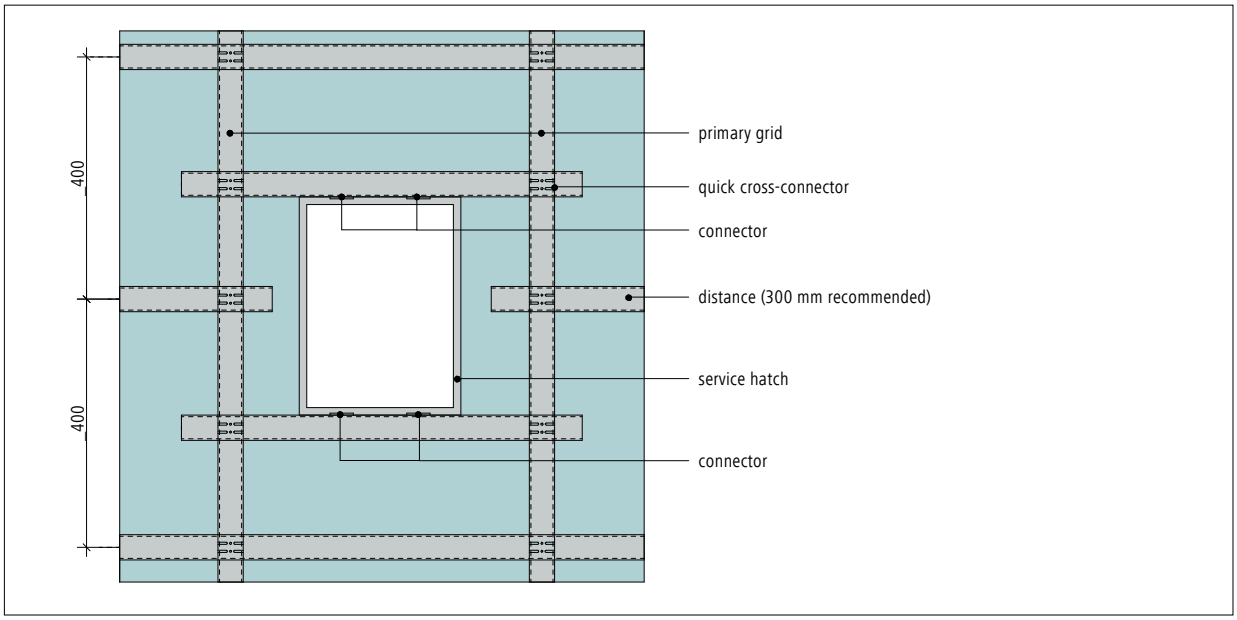
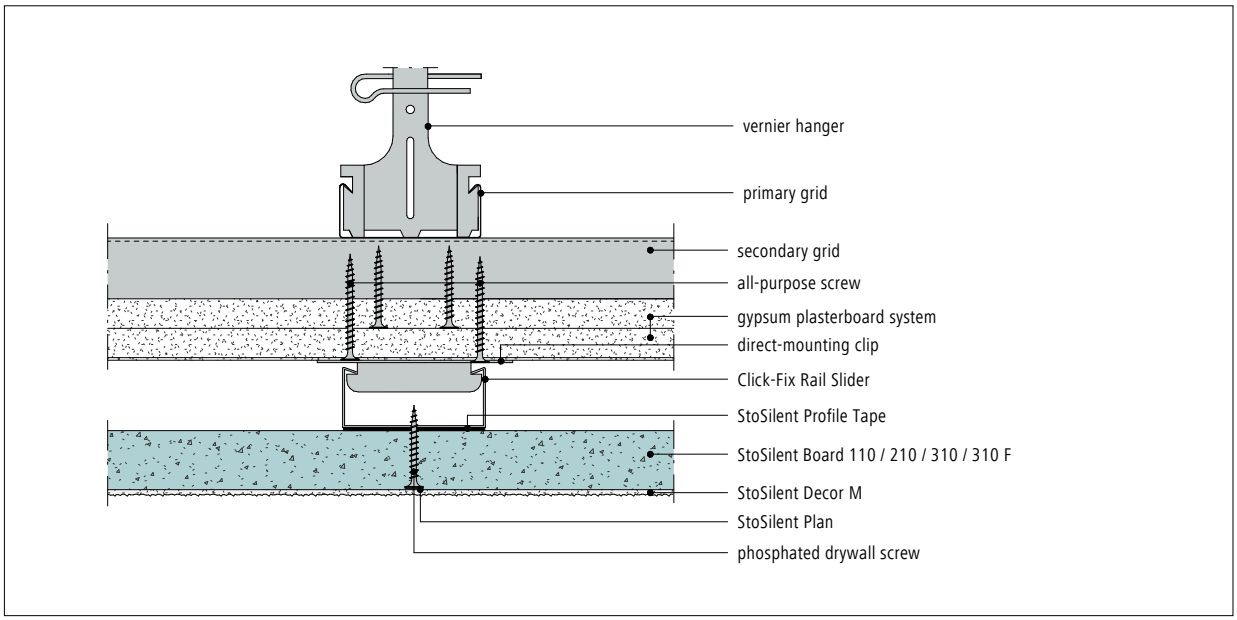
Ceiling (horizontal section): service hatch in trimmer in the sub-construction



Ceiling (vertical section): ceiling under ceiling system



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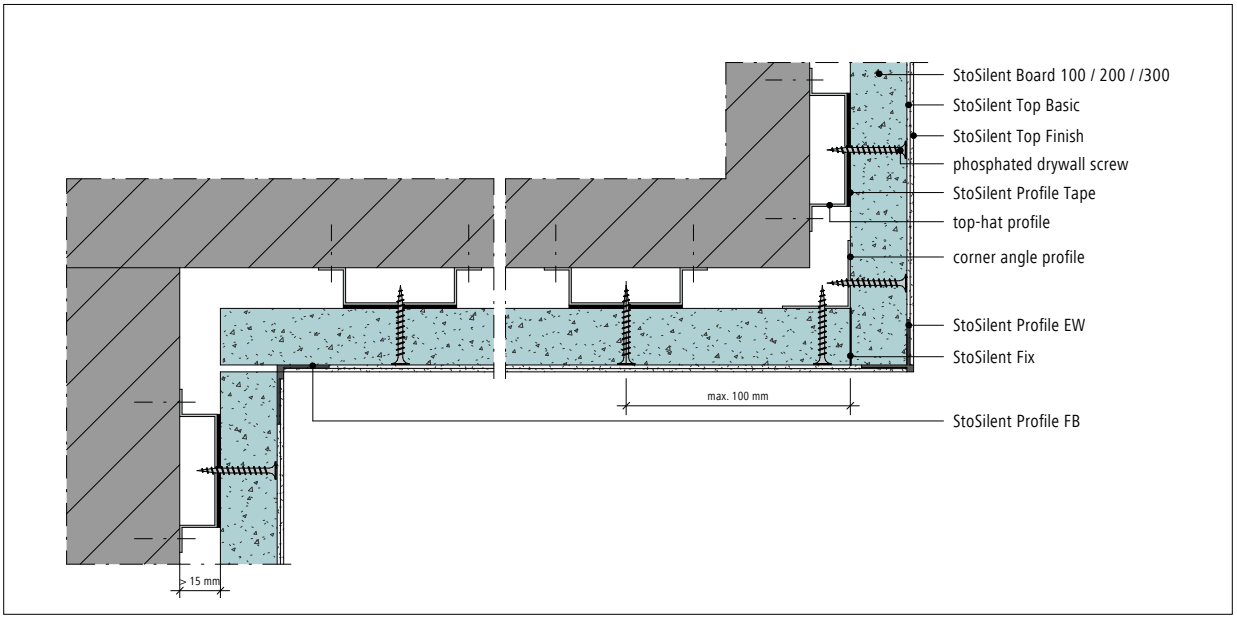
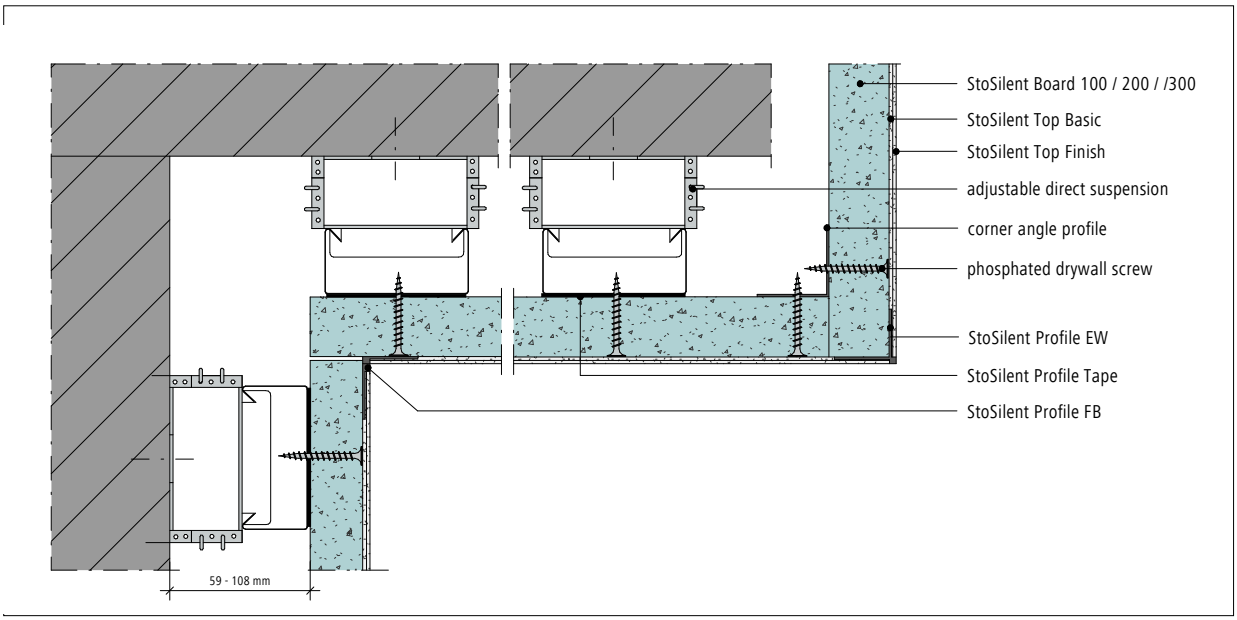
StoSilent Distance

Construction details: wall
Coating: StoSilent Top

Wall (vertical section): wall covering with top-hat profile



Wall (vertical section): wall covering with adjustable direct suspension



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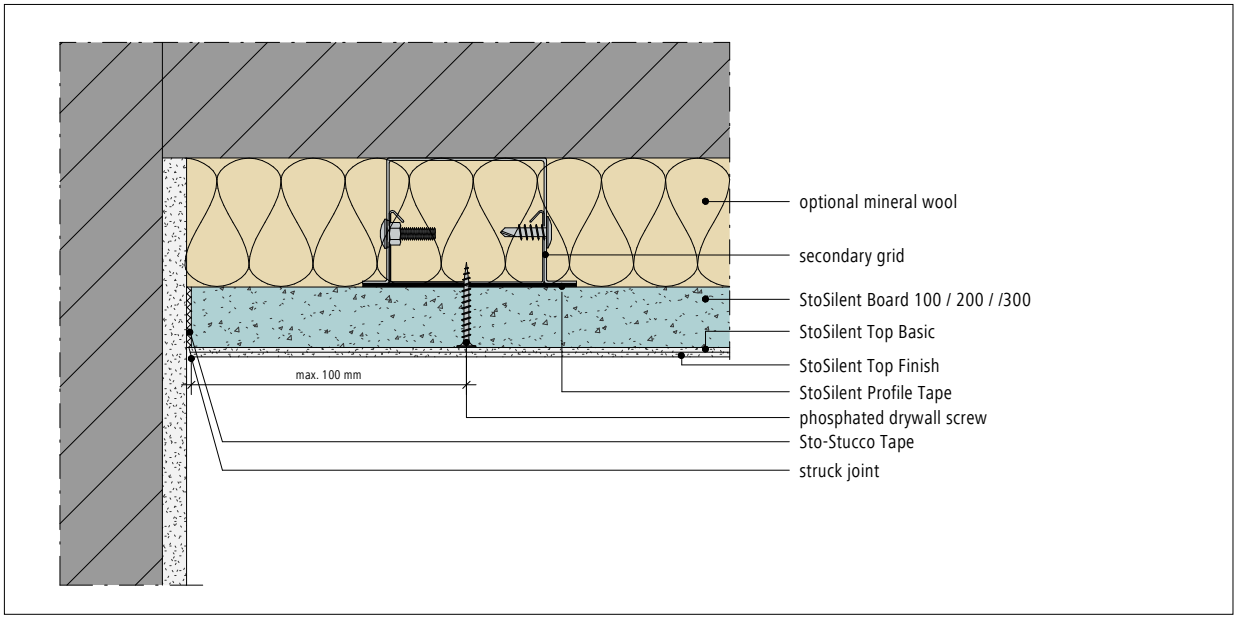
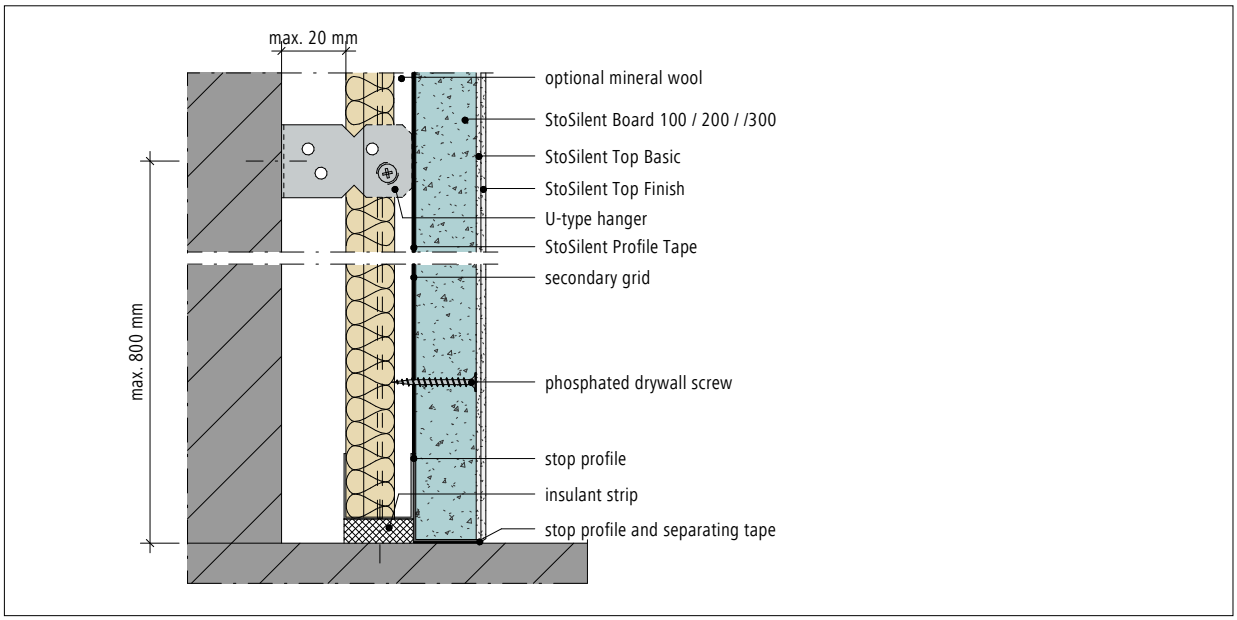
Wall (horizontal section): lateral connection to wall covering



Wall (vertical section): base point of wall covering



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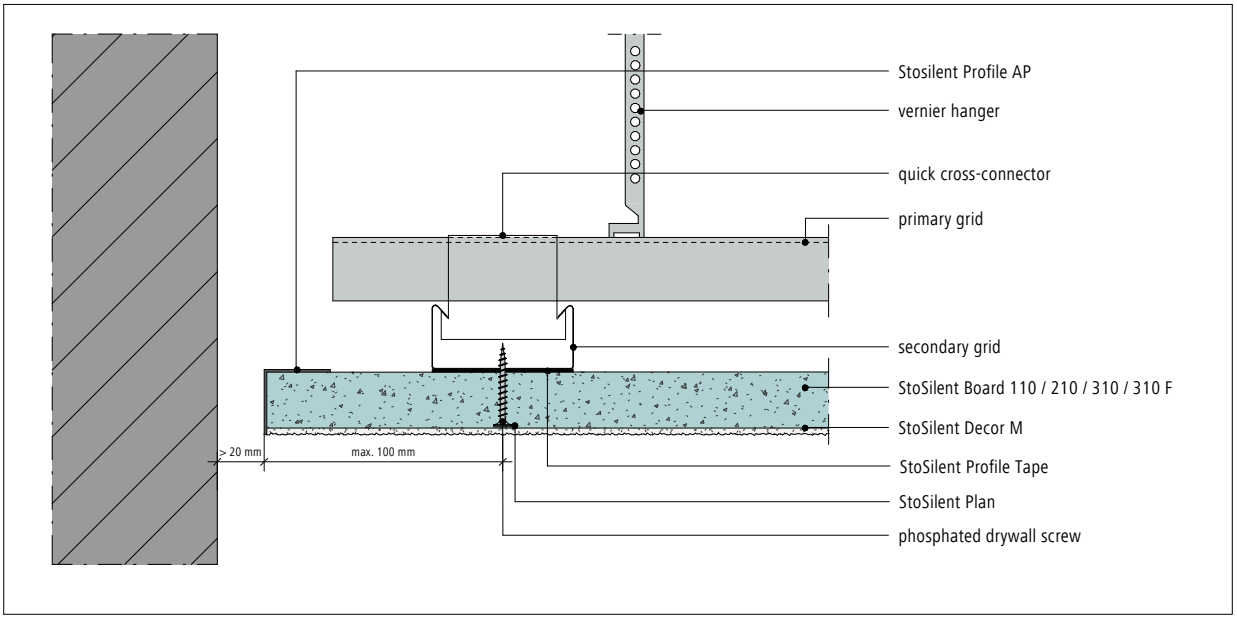
StoSilent Distance

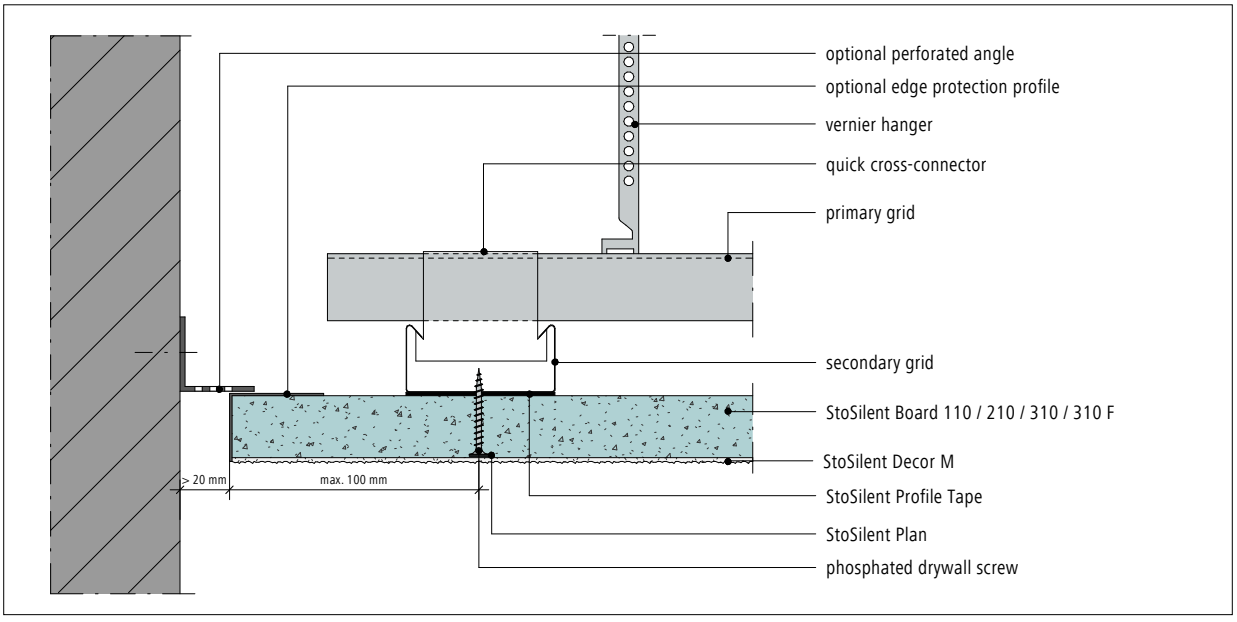
Construction details: ceiling

Coating: StoSilent Decor

Ceiling (vertical section): open wall junction



Ceiling (vertical section): wall junction with hole angle



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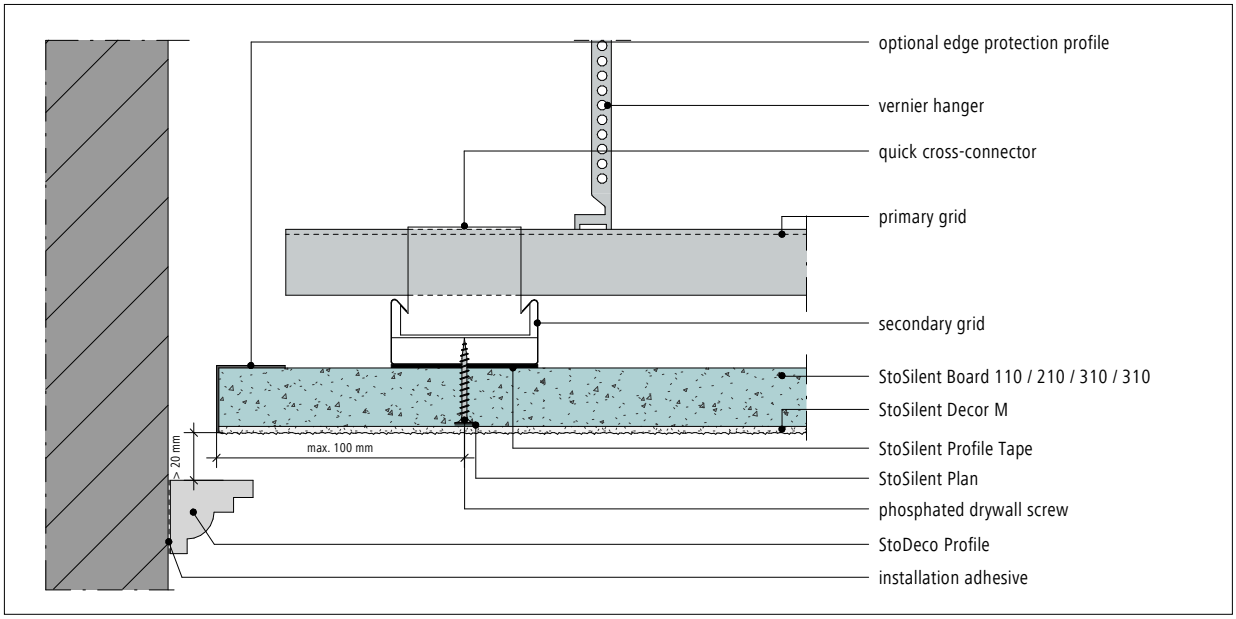
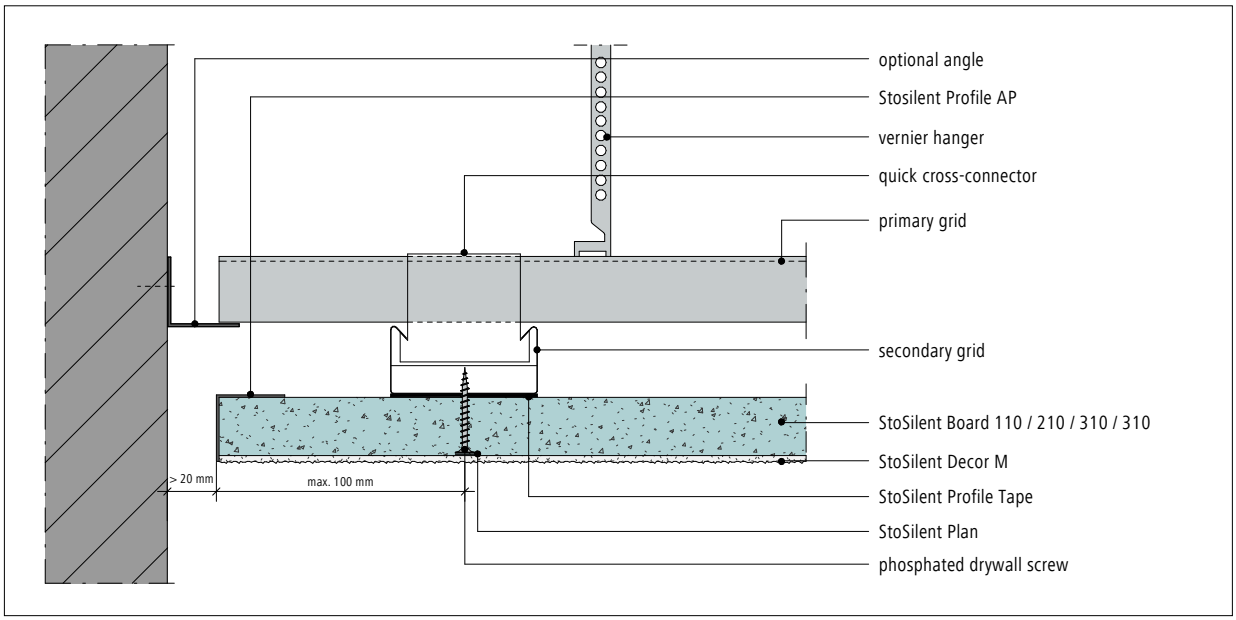
Ceiling (vertical section): wall junction with StoDeco profile



Ceiling (vertical section): wall junction with hole angle



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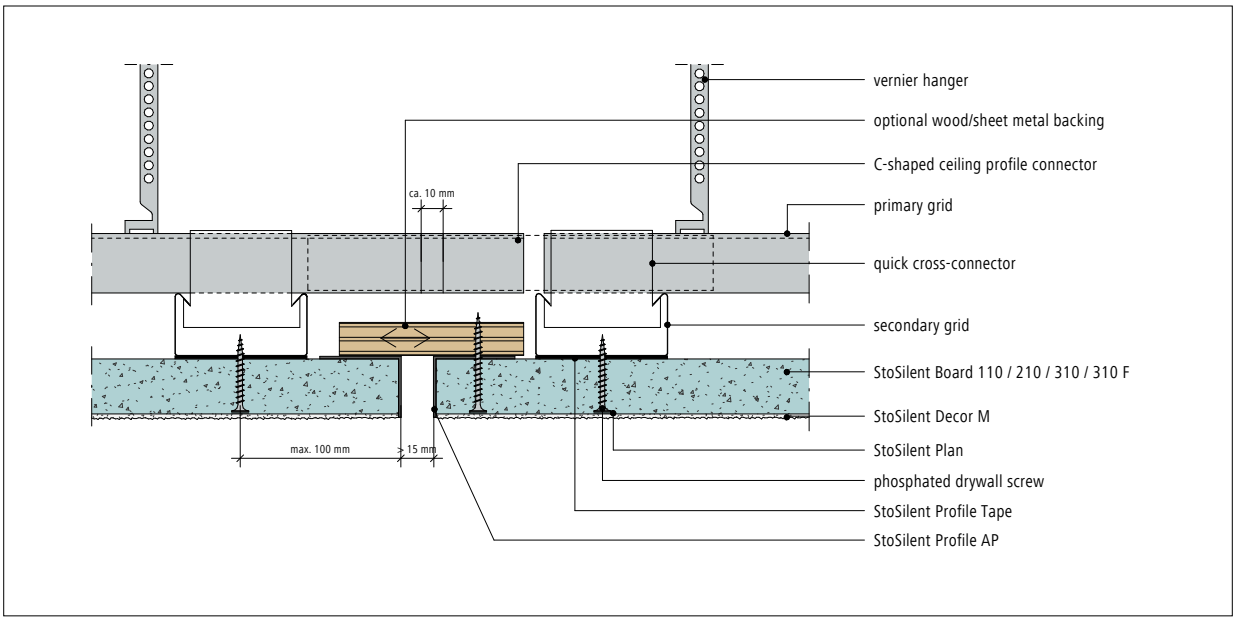
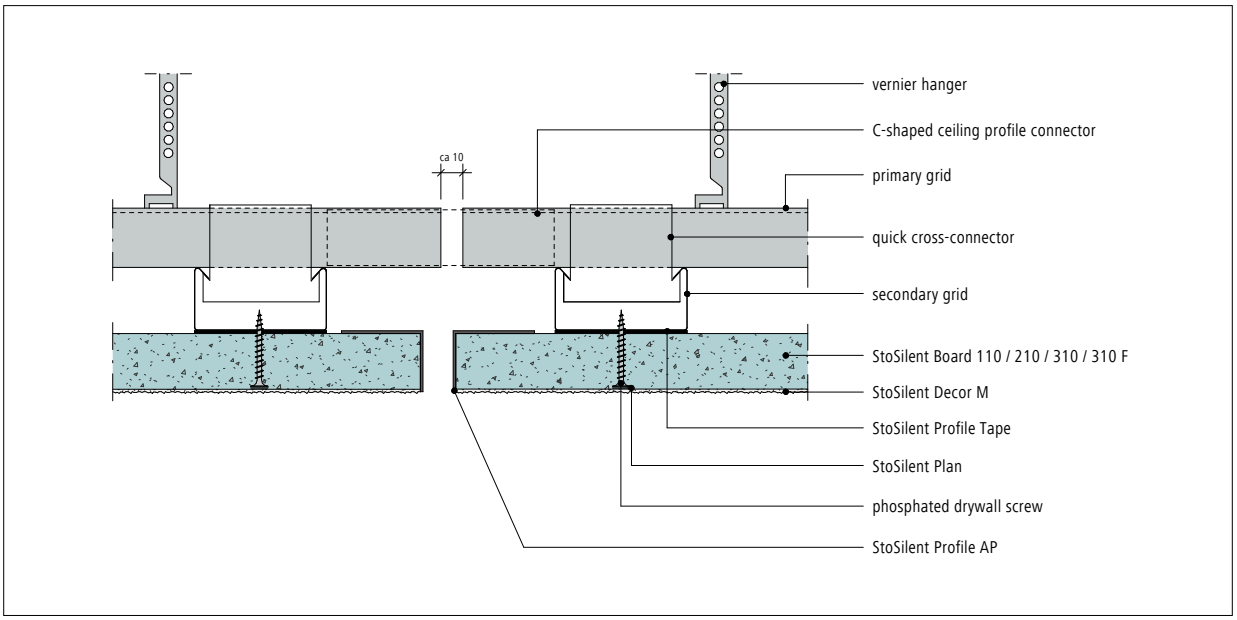
StoSilent Distance

Construction details: ceiling
Coating: StoSilent Decor

Ceiling (vertical section): expansion joint formation, backed



Ceiling (vertical section): expansion joint formation, open



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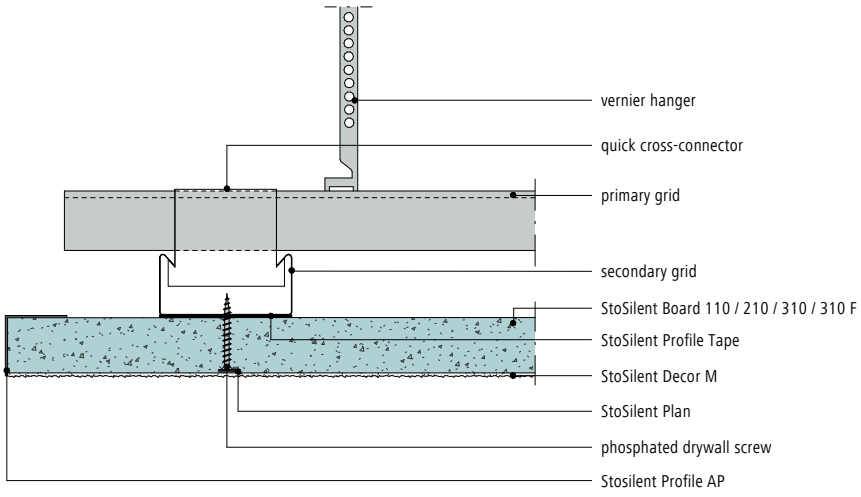
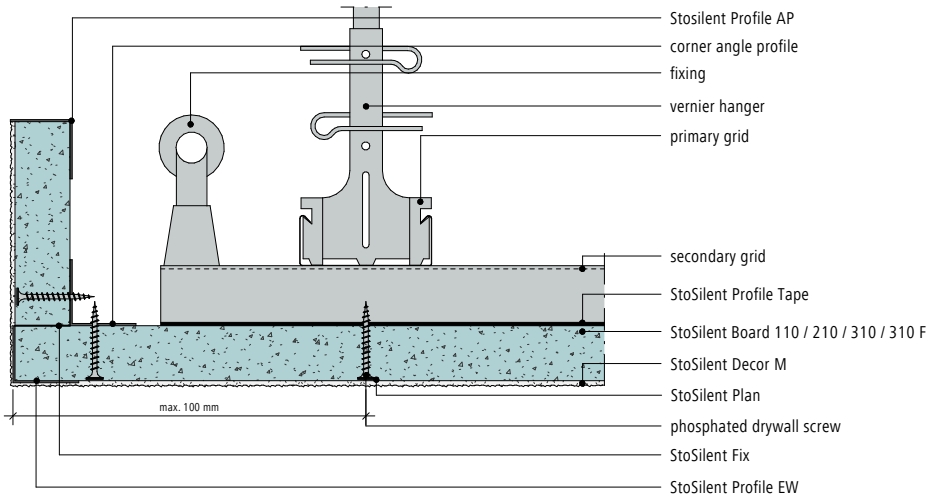
Ceiling (vertical section): projection without load



Ceiling (vertical section): projection with load



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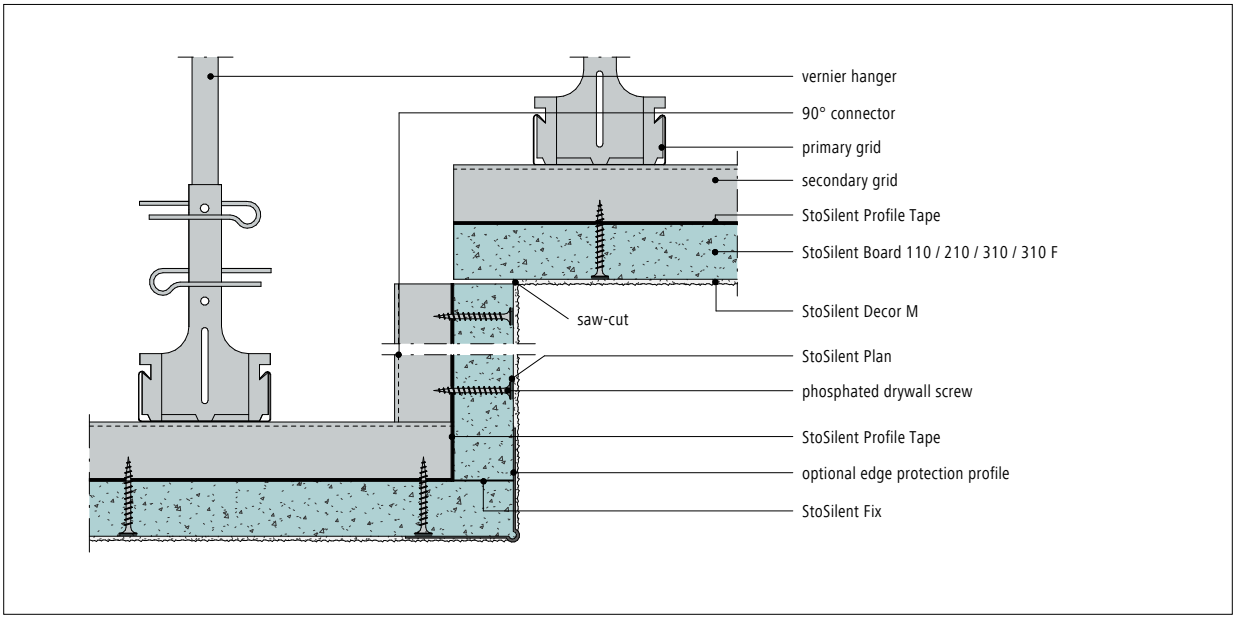
StoSilent Distance

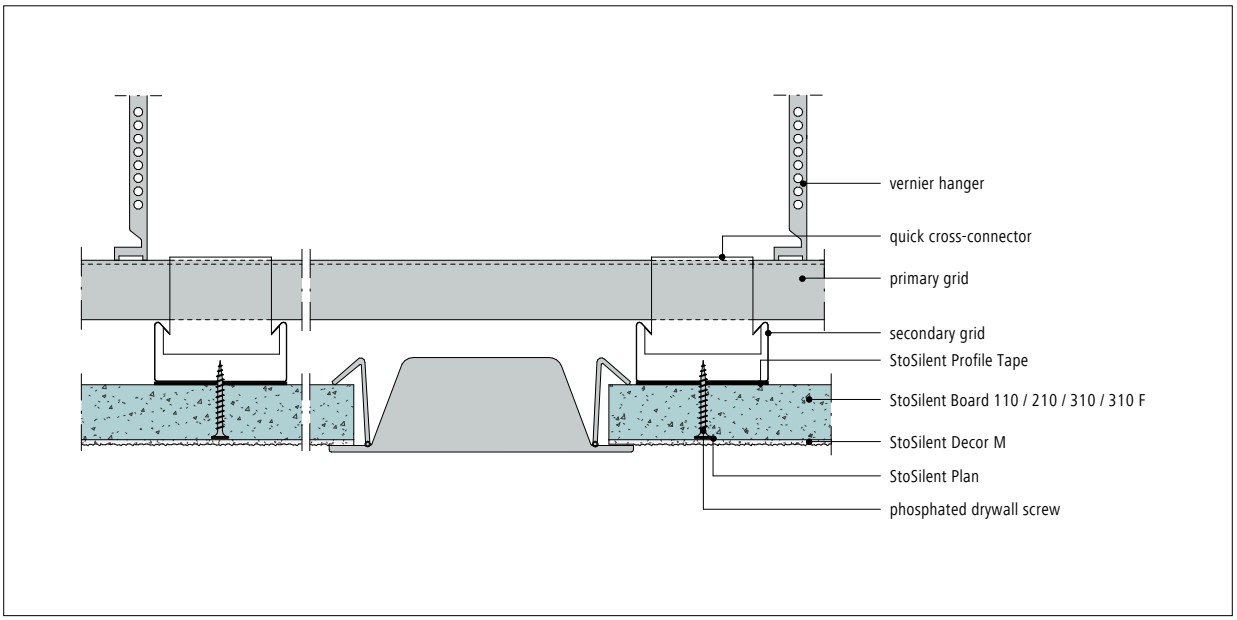
Construction details: ceiling

Coating: StoSilent Decor

Ceiling (vertical section): stepped structure in straight-edged application



Ceiling (vertical section): installation of lamps



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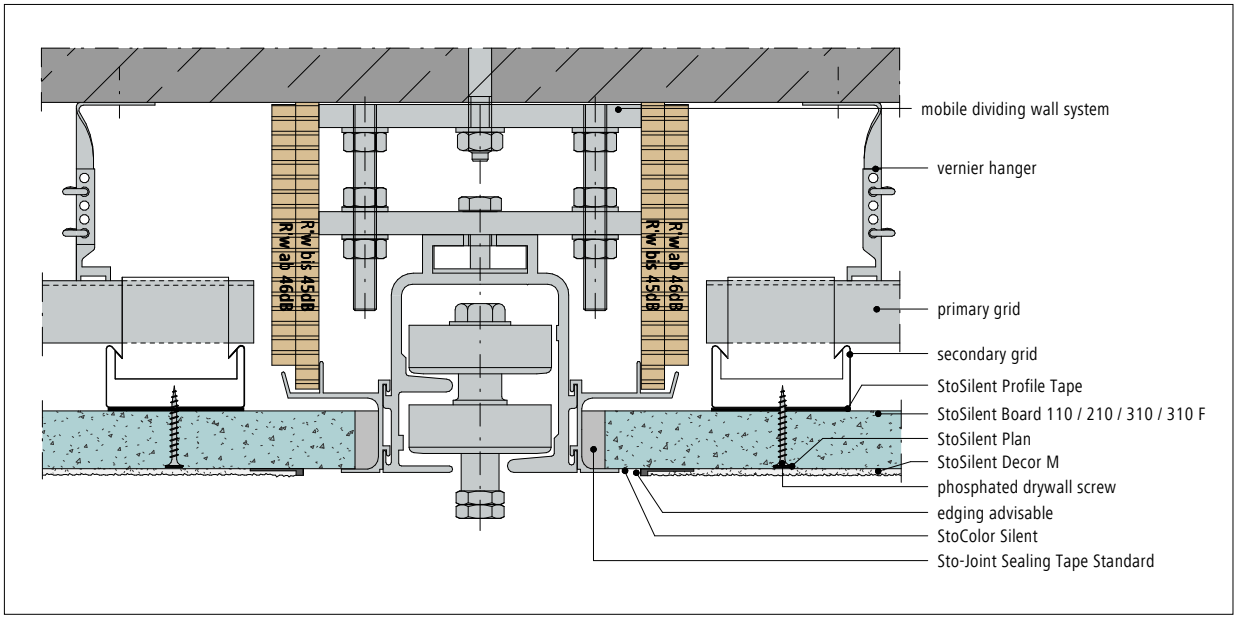
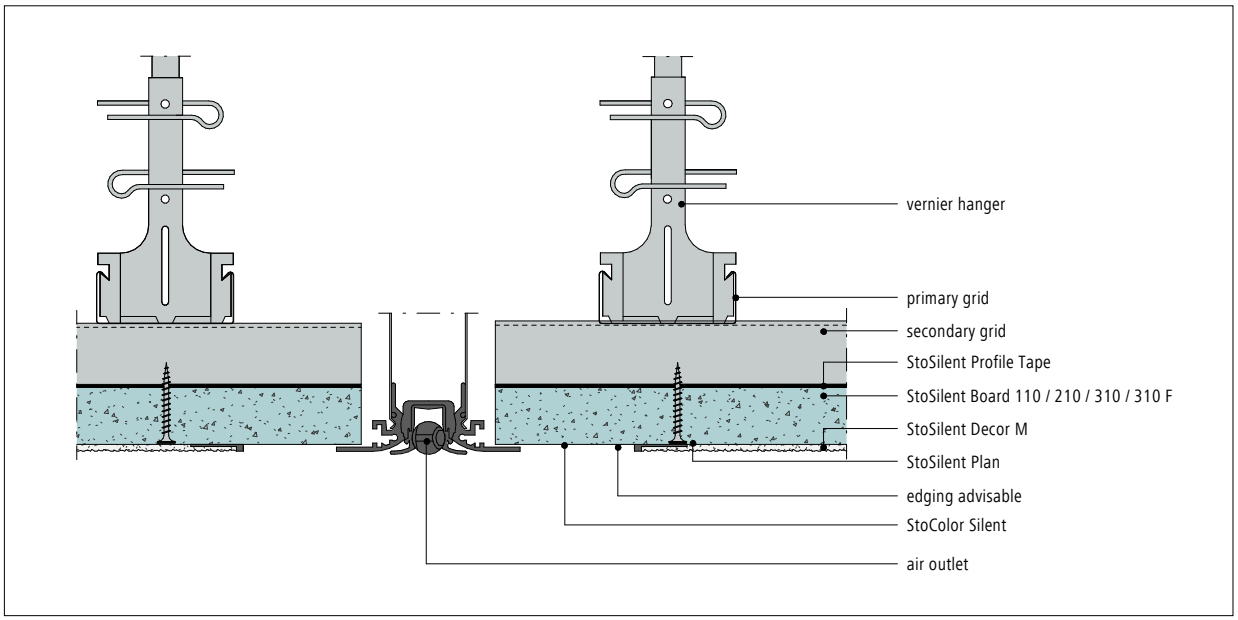
Ceiling (vertical section): mobile separating wall



Ceiling (vertical section): air outlet



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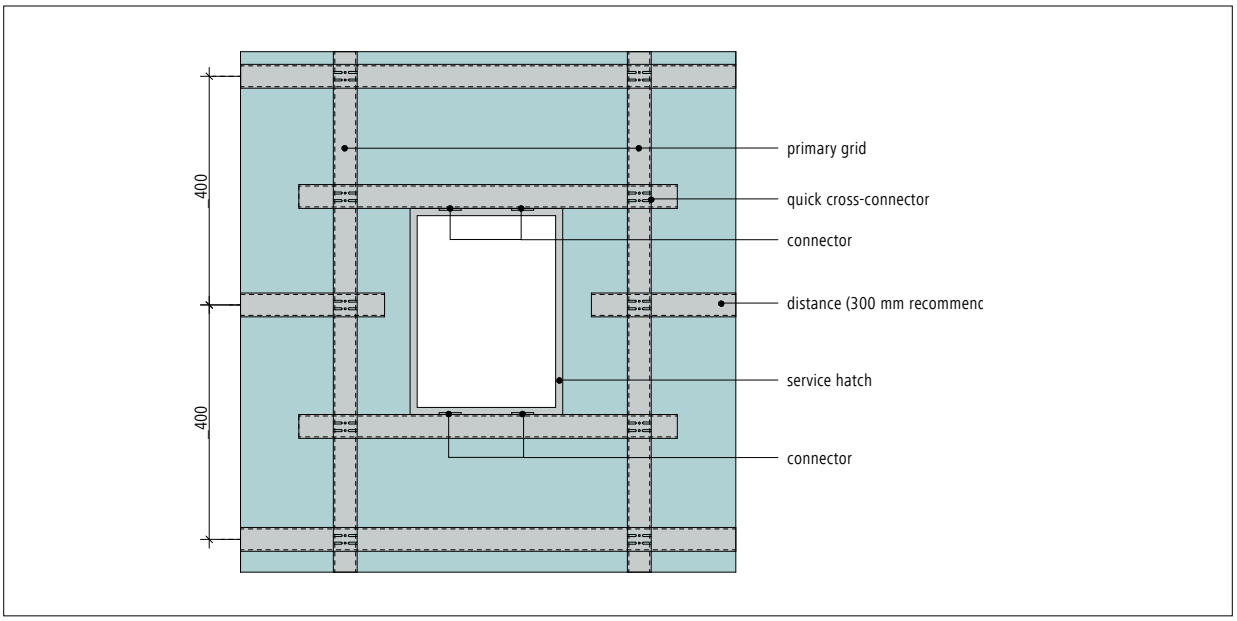
StoSilent Distance

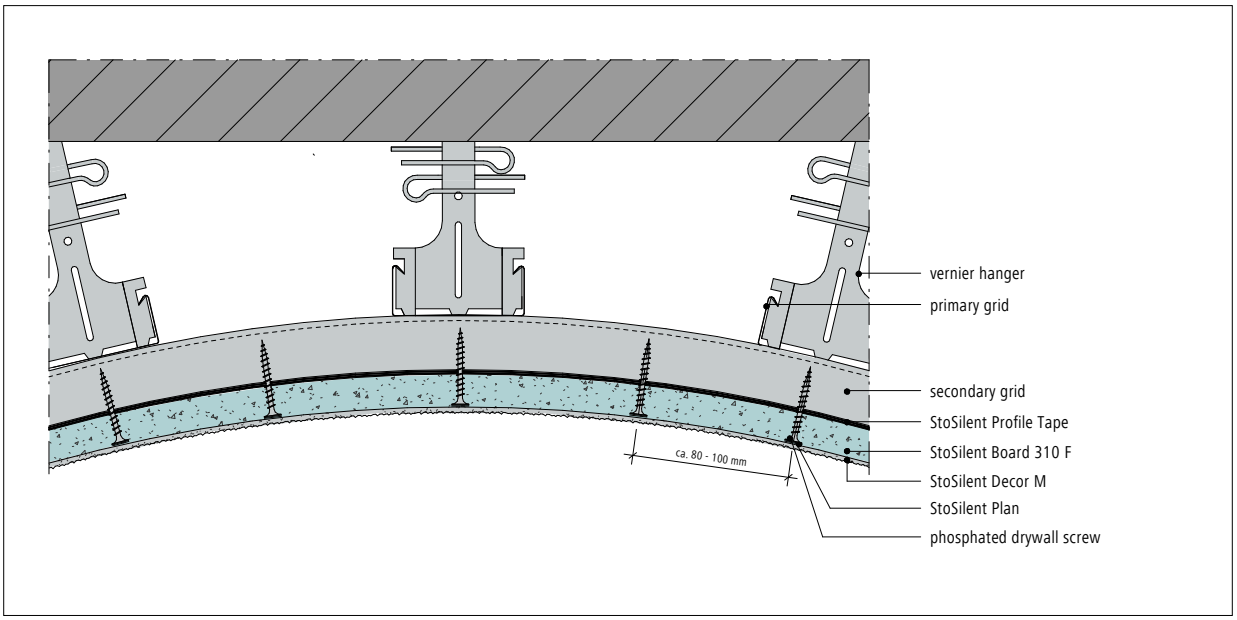
Construction details: ceiling

Coating: StoSilent Decor

Ceiling (horizontal section): service hatch with trimmer in the sub-construction



Ceiling (vertical section): curved ceiling and wall surface areas for R > 5 m



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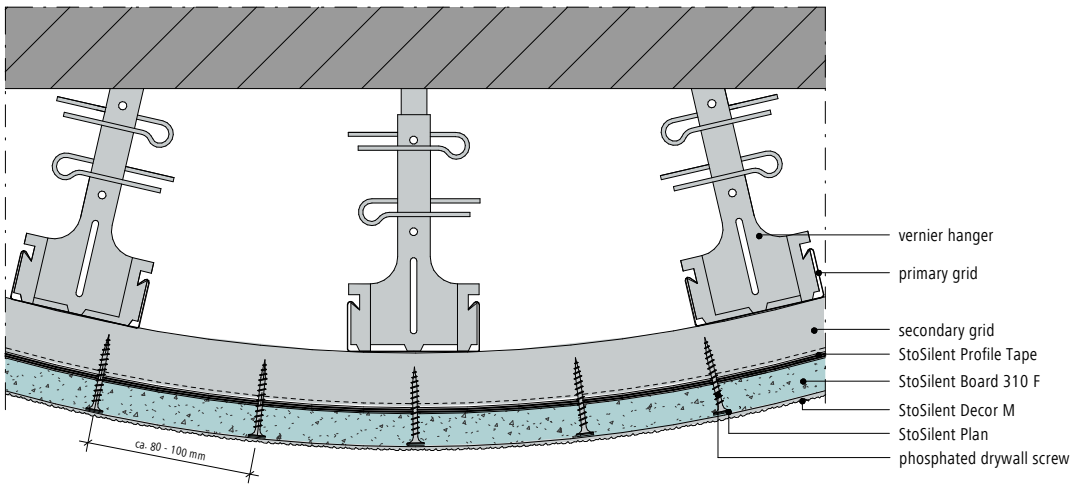
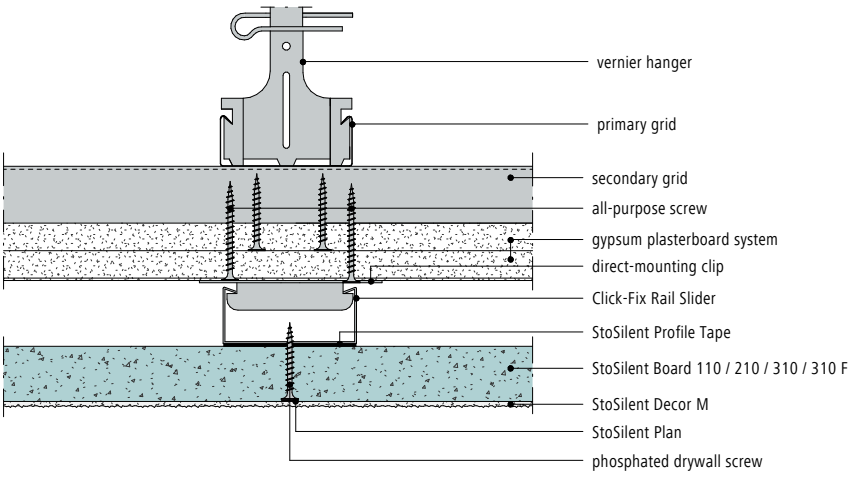
Ceiling (vertical section): curved ceiling and wall surface areas for R > 5 m



Ceiling (vertical section): ceiling under ceiling



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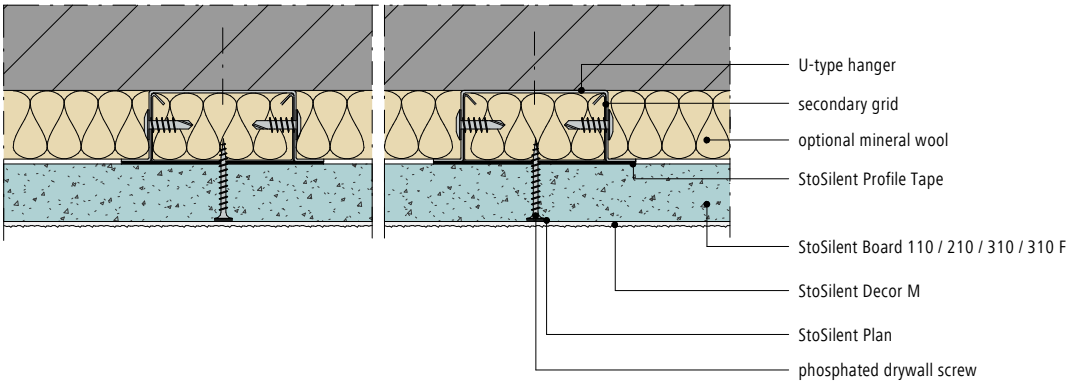
StoSilent Distance

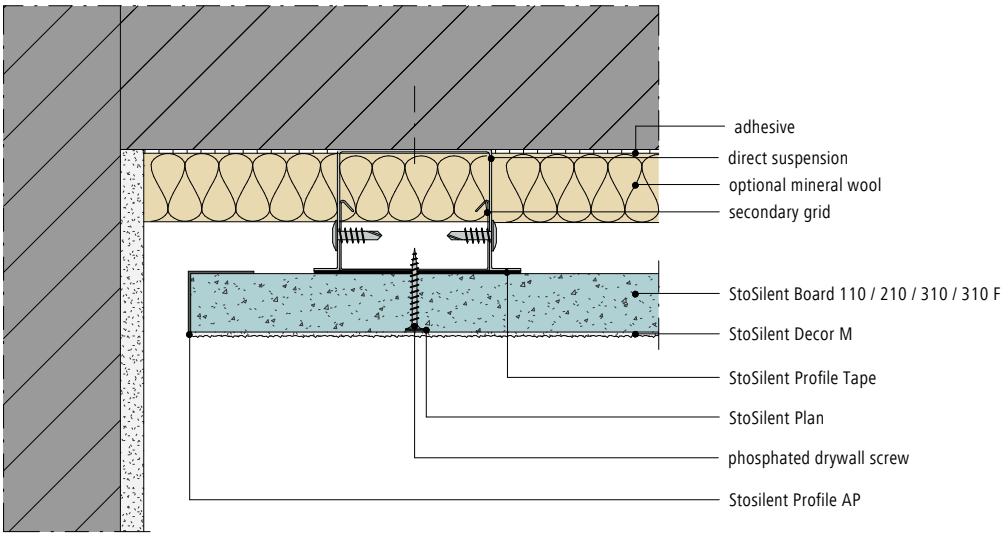
Construction details: wall
Coating: StoSilent Decor

StoSilent Distance
The suspended panel system

Wall (vertical section): wall covering with U-type hanger



Wall (vertical section): lateral connection to wall covering



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StoSilent Direct

The easy direct system

StoSilent Direct
The easy direct system

Sto Logistics Centre, DE-Stühlingen

This space-saving direct system is very easy to assemble, manages without a sub-construction, and is suitable for virtually any substrate. This makes StoSilent Direct particularly suitable for old building fabrics. StoSilent Direct does not just have outstanding sound-absorbing properties, it also makes a multitude of different surface finishes possible. With the corresponding plaster coating, it is even possible to design seamless surfaces up to 700 m².

Important system notes

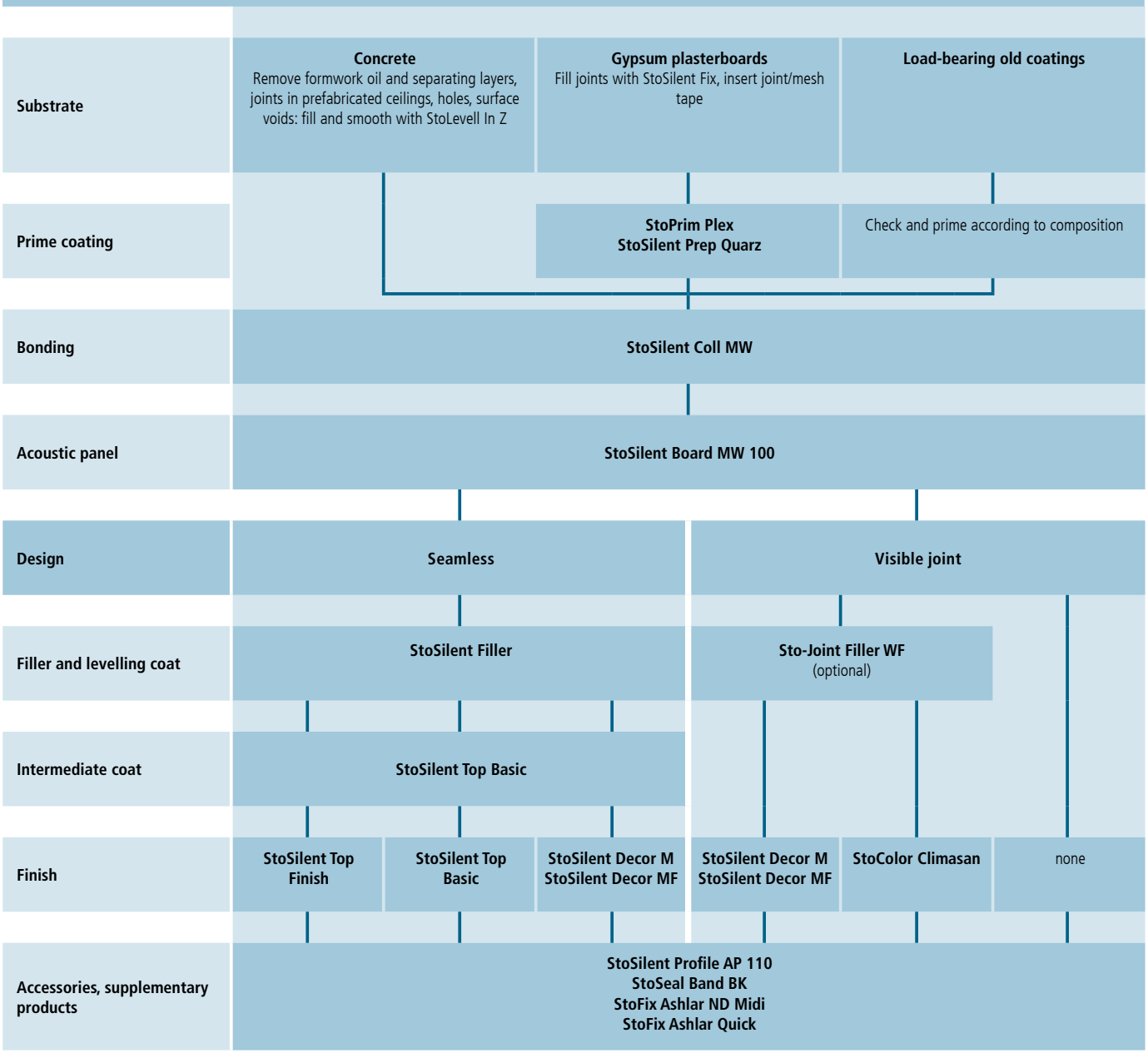
- Primarily suited to interior ceilings and walls (see table in "Application fields arranged by ambient interior climate" section)
- Fixing by bonding
- For level and curved surfaces, min. radius 5 m (convex and concave)
- For direct bonding onto ceilings and walls
- Up to 700 m² possible without expansion joints, using StoSilent Decor M and StoColor Climasan as a finish
- Up to 200 m² possible without expansion joints, using StoSilent Top Basic and StoSilent Top Finish as a finish (max. side length: 20 m)
- Not suitable for areas subject to mechanical stress
- Not for use in brine pools or in areas subject to a risk of splash water.
- The substrate must be able to bear a load of ≥ 5 kPa.
- Movement and separating joints must be incorporated. Further specifications can be found in the application guideline.
- Lowest application and substrate temperature: +12 °C at max. 70 % relative humidity; installation after adjusting the equilibrium humidity in the room
- In order to avoid an uncontrolled occurrence of condensate in the system build-up, building physical verification must be provided in the planning phase for use on external walls and exterior ceilings.

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Direct

The easy direct system

System description of StoSilent Direct



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StoSilent Direct

System overview

StoSilent Direct
The easy direct system

1. Bonding
2. Acoustic panel
3. Filler and levelling coat
4. Intermediate coat
5. Finish

StoSilent Direct
Bonded acoustic system made of coated acoustic panels

System advantages

- Non-combustible, class A2-s1, d0, in accordance with EN 13501-1
- Shortened reverberation time, reduced noise
- Installation without sub-construction
- Easy to apply

Areas of application

- Interior
- For ceilings and upper wall areas
- Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- Especially suited for ceilings and upper wall areas of escape routes, corridors, staircases, or meeting places

Fixing

- Full-surface bonding directly to substrate

Reaction to fire

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

Sound absorption

- StoSilent Top Finish coating α_w in accordance with EN 11654 max. 0.60, NRC in accordance with ASTM C 423 max. 0.60, values depend on the thickness of the system
- StoSilent Top Basic coating α_w in accordance with EN 11654 max. 0.75, NRC in accordance with ASTM C 423 max. 0.85, values depend on the thickness of the system
- StoSilent Decor M coating on StoSilent Top Basic α_w in accordance with EN 11654 max. 0.80, NRC in accordance with ASTM C 423 max. 0.90, values depend on the thickness of the system
- StoSilent Decor M coating (visible joints) α_w in accordance with EN 11654 max. 1.00, NRC in accordance with ASTM C 423 max. 0.95, values depend on the thickness of the system
- StoColor Climasan coating (visible joints) α_w in accordance with EN 11654 max. 0.95, NRC in accordance with ASTM C 423 max. 1.00, values depend on the thickness of the system
- No coating (visible joints) α_w in accordance with EN 11654 max. 1.00, NRC in accordance with ASTM C 423 max. 1.00, values depend on the thickness of the system

Design options

- Fine surface
- Textured surface

Application

- By trained specialists

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

Sound characteristics

It's all about the right sound absorption

Systems built over an area (seamless/with visible joints)

System	Board/product	Coating	Build-up acc. to ISO 354	Structural height in mm
StoSilent Direct	StoSilent Board MW100, 46 mm	Without finish (visible joints)	Type A	46
	StoSilent Board MW100, 46 mm	Without finish (visible joints)	E-200	200
	StoSilent Board MW100, 66 mm	Without finish (visible joints)	Type A	66
	StoSilent Board MW100, 66 mm	Without finish (visible joints)	E-200	200
	StoSilent Board MW100, 46 mm	StoColor Climasan (visible joints)	Type A	46
	StoSilent Board MW100, 46 mm	StoColor Climasan (visible joints)	E-200	200
	StoSilent Board MW100, 66 mm	StoColor Climasan (visible joints)	Type A	66
	StoSilent Board MW100, 66 mm	StoColor Climasan (visible joints)	E-200	200
	StoSilent Board MW100, 46 mm	StoSilent Decor M (visible joints)	Type A	46
	StoSilent Board MW100, 46 mm	StoSilent Decor M (visible joints)	E-200	200
	StoSilent Board MW100, 66 mm	StoSilent Decor M (visible joints)	Type A	66
	StoSilent Board MW100, 66 mm	StoSilent Decor M (visible joints)	E-200	200
	StoSilent Board MW100, 46 mm	StoSilent Top Basic & StoSilent Decor M	Type A	46
	StoSilent Board MW100, 46 mm	StoSilent Top Basic & StoSilent Decor M	E-200	200
	StoSilent Board MW100, 66 mm	StoSilent Top Basic & StoSilent Decor M	Type A	66
	StoSilent Board MW100, 66 mm	StoSilent Top Basic & StoSilent Decor M	E-200	200
	StoSilent Board MW100, 46 mm	StoSilent Top Basic & Top Basic, white	Type A	46
	StoSilent Board MW100, 46 mm	StoSilent Top Basic & Top Basic, white	E-200	200
	StoSilent Board MW100, 66 mm	StoSilent Top Basic & Top Basic, white	Type A	66
	StoSilent Board MW100, 66 mm	StoSilent Top Basic & Top Basic, white	E-200	200
	StoSilent Board MW100, 46 mm	StoSilent Top Basic & Top Finish	Type A	46
	StoSilent Board MW100, 46 mm	StoSilent Top Basic & Top Finish	E-200	200
	StoSilent Board MW100, 66 mm	StoSilent Top Basic & Top Finish	Type A	66
	StoSilent Board MW100, 66 mm	StoSilent Top Basic & Top Finish	E-200	200

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

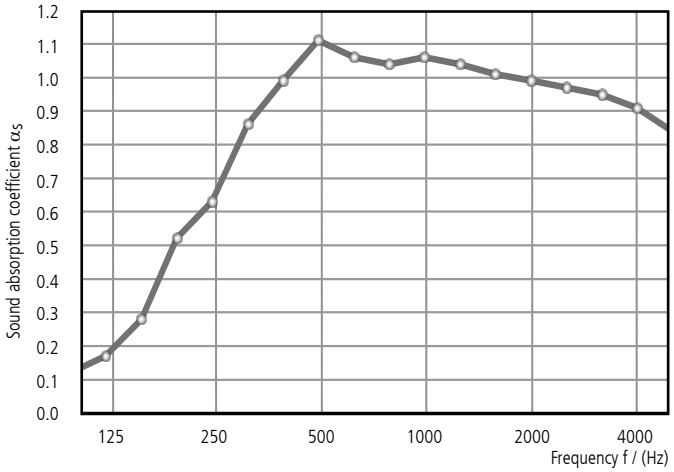
StoSilent Direct
The easy direct system

	Thickness of board/ plaster in mm	α_w EN ISO 11654	*NRC* ASTM C 423	*SAA* ASTM C 423	Absorber class EN ISO 11654	Test report
	46	0.95	0.95	0.94	A	M100960/15
	46	0.95	0.90	0.90	A	M100960/15
	66	1.00	1.00	1.01	A	M100960/15
	66	1.00	0.95	0.96	A	M100960/15
	46	0.95	0.95	0.93	A	M100960/15
	46	0.90	0.85	0.89	A	M100960/15
	66	0.95	1.00	0.99	A	M100960/15
	66	0.95	0.95	0.94	A	M100960/15
	46	1.00	0.90	0.92	A	M100960/14
	46	0.90	0.85	0.89	A	M100960/14
	66	1.00	0.95	0.97	A	M100960/14
	66	1.00	0.95	0.95	A	M100960/14
	46	0.75 (M)	0.85	0.80	C	M100960/15
	46	0.75	0.75	0.75	C	M100960/15
	66	0.80 (L)	0.90	0.88	B	M100960/15
	66	0.80	0.80	0.83	B	M100960/15
	46	0.75 (M)	0.80	0.82	C	M100960/15
	46	0.75	0.75	0.77	C	M100960/15
	66	0.75 (L)	0.85	0.85	C	M100960/15
	66	0.75	0.80	0.80	C	M100960/15
	46	0.60	0.60	0.63	C	M100960/14
	46	0.60	0.60	0.59	C	M100960/14
	66	0.60 (L)	0.60	0.60	C	M100960/14
	66	0.60	0.60	0.57	C	M100960/14

StoSilent Direct

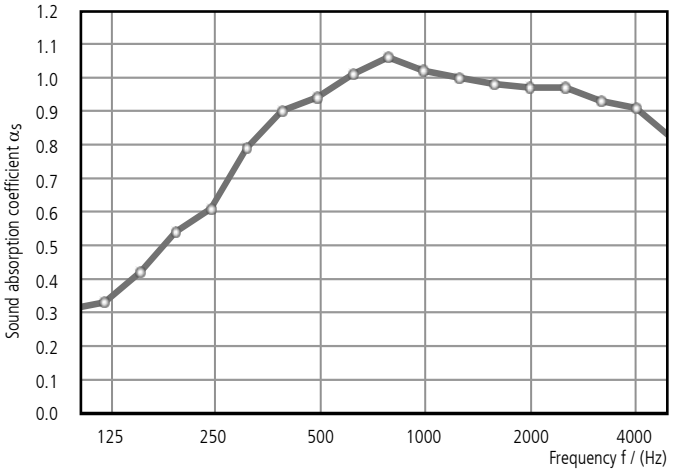
Sound absorption in detail

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: Without finish (visible joints)
Thickness: 46 mm
Structural height: 46 mm
α_w: 0.95
***NRC*:** 0.95



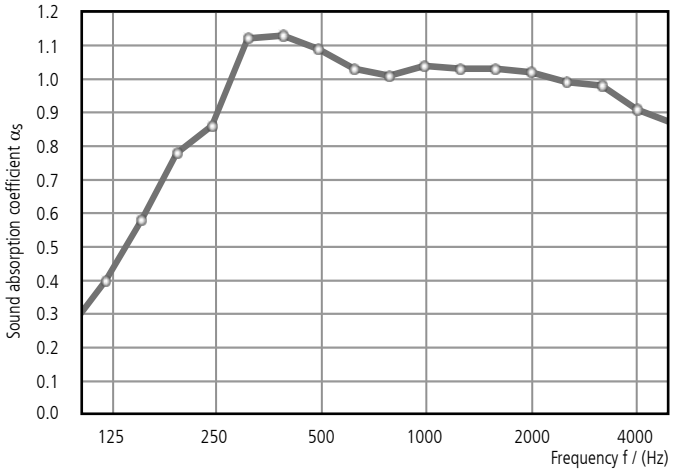
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.12	0.52	0.99	1.04	1.01	0.95
Octave band	0.17	0.63	1.11	1.06	0.99	0.91
Third-octave band	0.28	0.86	1.06	1.04	0.97	0.84
α_p	0.20	0.65	1.00	1.00	1.00	0.90

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: Without finish (visible joints)
Thickness: 46 mm
Structural height: 200 mm
α_w: 0.95
***NRC*:** 0.90



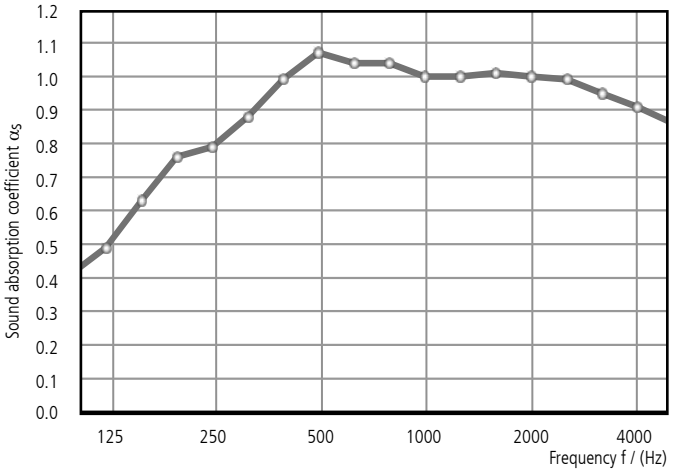
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.31	0.54	0.90	1.06	0.98	0.93
Octave band	0.33	0.61	0.94	1.02	0.97	0.91
Third-octave band	0.42	0.79	1.01	1.00	0.97	0.82
α_p	0.35	0.65	0.95	1.00	0.95	0.90

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: Without finish (visible joints)
Thickness: 66 mm
Structural height: 66 mm
α_w: 1.00
***NRC*:** 1.00



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.26	0.78	1.13	1.01	1.03	0.98
Octave band	0.40	0.86	1.09	1.04	1.02	0.91
Third-octave band	0.58	1.12	1.03	1.03	0.99	0.87
α_p	0.40	0.90	1.00	1.00	1.00	0.90

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: Without finish (visible joints)
Thickness: 66 mm
Structural height: 200 mm
α_w: 1.00
***NRC*:** 0.95

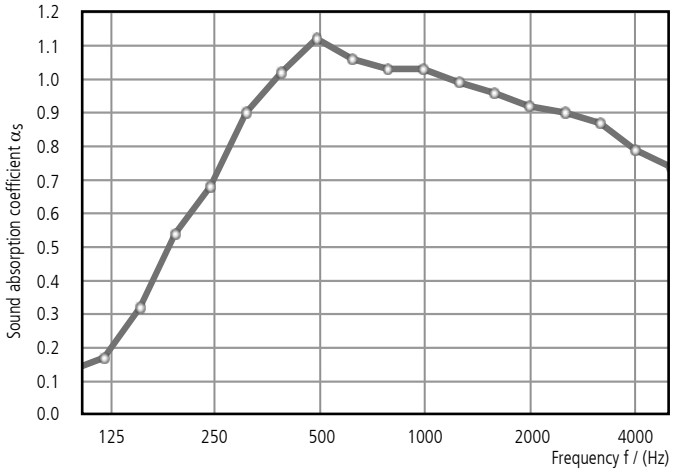


Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.41	0.76	0.99	1.04	1.01	0.95
Octave band	0.49	0.79	1.07	1.00	1.00	0.91
Third-octave band	0.63	0.88	1.04	1.00	0.99	0.86
α_p	0.50	0.80	1.00	1.00	1.00	0.90

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

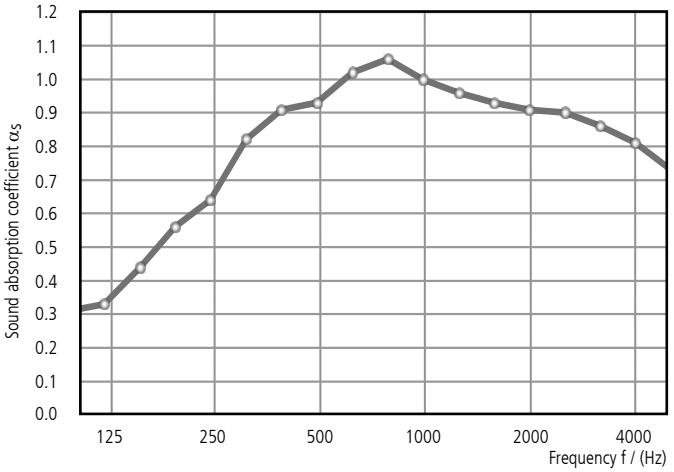
StoSilent Direct
The easy direct system

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoColor Climasan (visible joints)
Thickness: 46 mm
Structural height: 46 mm
α_w: 0.95
***NRC*:** 0.95



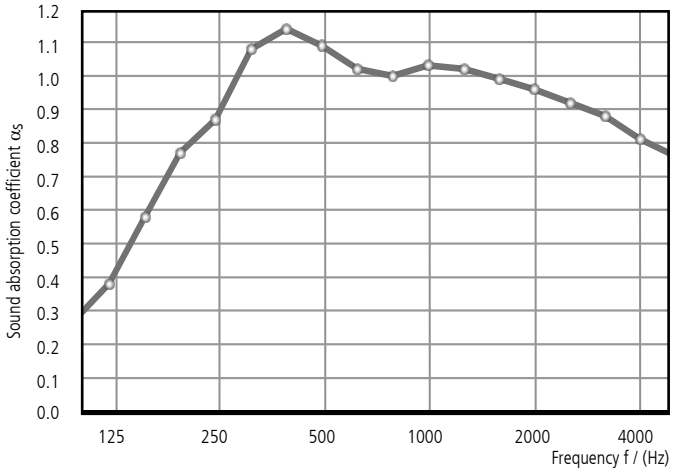
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.13	0.54	1.02	1.03	0.96	0.87
Octave band	0.17	0.68	1.12	1.03	0.92	0.79
Third-octave band	0.32	0.90	1.06	0.99	0.90	0.74
α_p	0.20	0.70	1.00	1.00	0.95	0.80

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoColor Climasan (visible joints)
Thickness: 46 mm
Structural height: 200 mm
α_w: 0.90
***NRC*:** 0.85



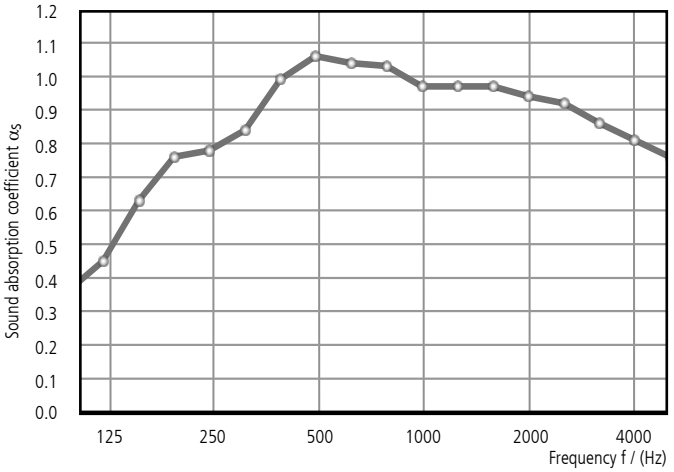
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.31	0.56	0.91	1.06	0.93	0.86
Octave band	0.33	0.64	0.93	1.00	0.91	0.81
Third-octave band	0.44	0.82	1.02	0.96	0.90	0.73
α_p	0.35	0.65	0.95	1.00	0.90	0.80

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoColor Climasan (visible joints)
Thickness: 66 mm
Structural height: 66 mm
α_w: 0.95
***NRC*:** 1.00



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.27	0.77	1.14	1.00	0.99	0.88
Octave band	0.38	0.87	1.09	1.03	0.96	0.81
Third-octave band	0.58	1.08	1.02	1.02	0.92	0.76
α_p	0.40	0.90	1.00	1.00	0.95	0.80

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoColor Climasan (visible joints)
Thickness: 66 mm
Structural height: 200 mm
α_w: 0.95
***NRC*:** 0.95



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.36	0.76	0.99	1.03	0.97	0.86
Octave band	0.45	0.78	1.06	0.97	0.94	0.81
Third-octave band	0.63	0.84	1.04	0.97	0.92	0.76
α_p	0.50	0.80	1.00	1.00	0.95	0.80

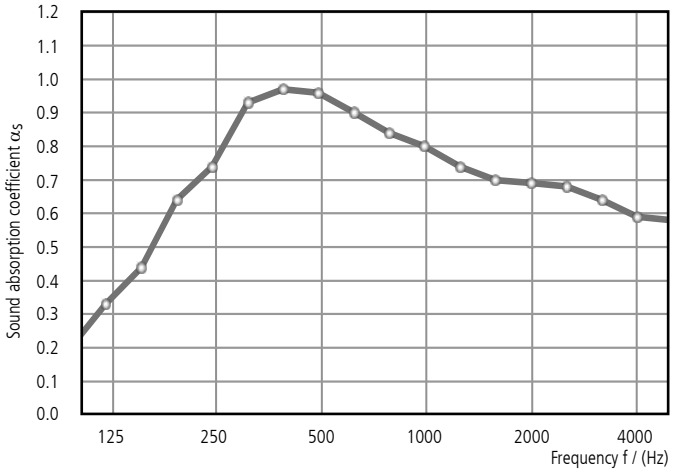
The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Direct

Sound absorption in detail

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & StoSilent Decor M

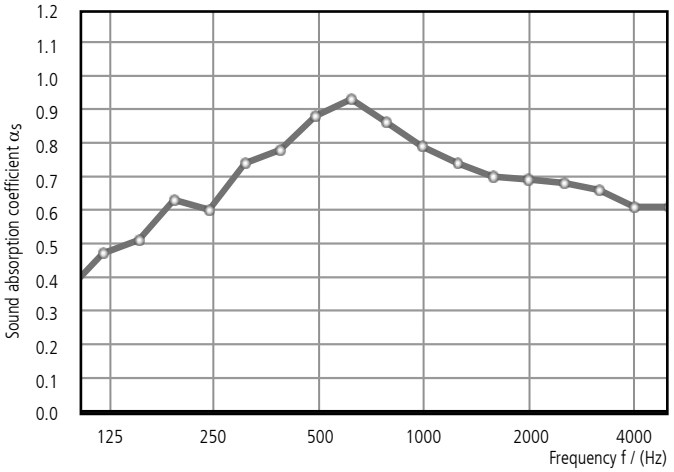
Thickness: 46 mm
Structural height: 46 mm
α_w: 0.75
***NRC*:** 0.85



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.20	0.64	0.97	0.84	0.70	0.64
Octave band	0.33	0.74	0.96	0.80	0.69	0.59
Third-octave band	0.44	0.93	0.90	0.74	0.68	0.58
α_p	0.30	0.75	0.95	0.80	0.70	0.60

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & StoSilent Decor M

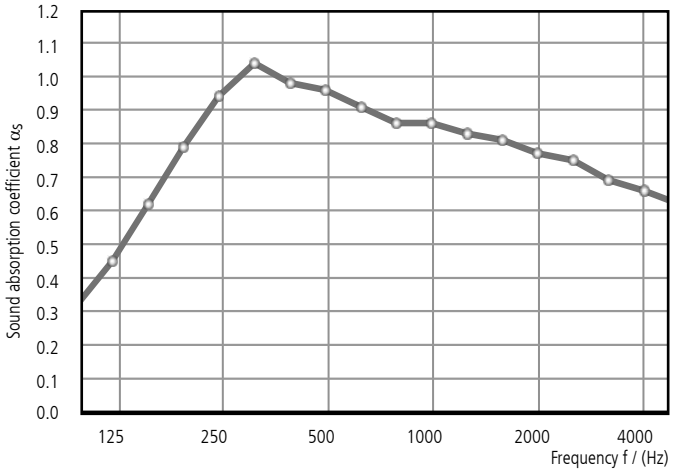
Thickness: 46 mm
Structural height: 200 mm
α_w: 0.75
***NRC*:** 0.75



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.36	0.63	0.78	0.86	0.70	0.66
Octave band	0.47	0.60	0.88	0.79	0.69	0.61
Third-octave band	0.51	0.74	0.93	0.74	0.68	0.61
α_p	0.45	0.65	0.85	0.80	0.70	0.65

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Top Basic & StoSilent Decor M

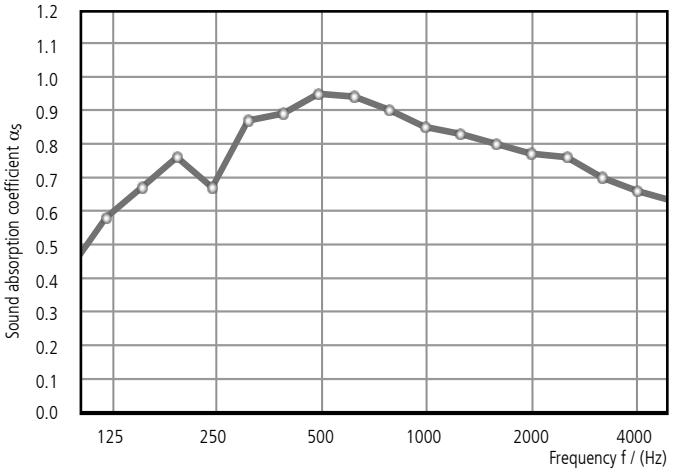
Thickness: 66 mm
Structural height: 66 mm
α_w: 0.80 (L)
***NRC*:** 0.90



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.32	0.79	0.98	0.86	0.81	0.69
Octave band	0.45	0.94	0.96	0.86	0.77	0.66
Third-octave band	0.62	1.04	0.91	0.83	0.75	0.62
α_p	0.45	0.90	0.95	0.85	0.80	0.65

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Top Basic & StoSilent Decor M

Thickness: 66 mm
Structural height: 200 mm
α_w: 0.80
***NRC*:** 0.80



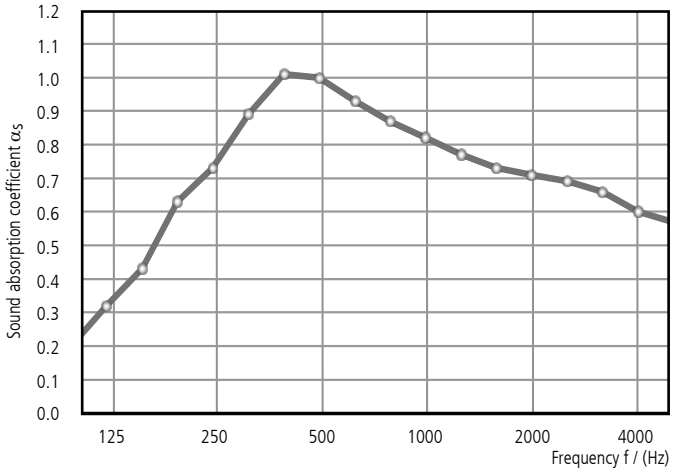
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.43	0.76	0.89	0.90	0.80	0.70
Octave band	0.58	0.67	0.95	0.85	0.77	0.66
Third-octave band	0.67	0.87	0.94	0.83	0.76	0.63
α_p	0.55	0.75	0.95	0.85	0.80	0.65

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Direct
The easy direct system

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & Top Basic, white

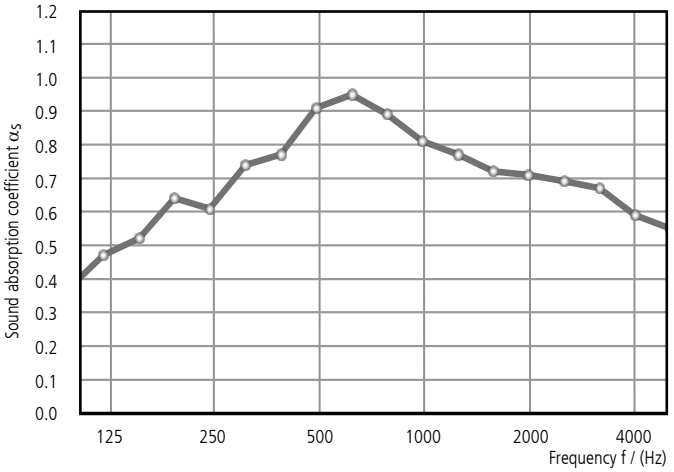
Thickness: 46 mm
Structural height: 46 mm
α_w**:** 0.75 (M)
***NRC*:** 0.80



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.20	0.63	1.01	0.87	0.73	0.66
Octave band	0.32	0.73	1.00	0.82	0.71	0.60
Third-octave band	0.43	0.89	0.93	0.77	0.69	0.57
α_p	0.30	0.75	1.00	0.80	0.70	0.60

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & Top Basic, white

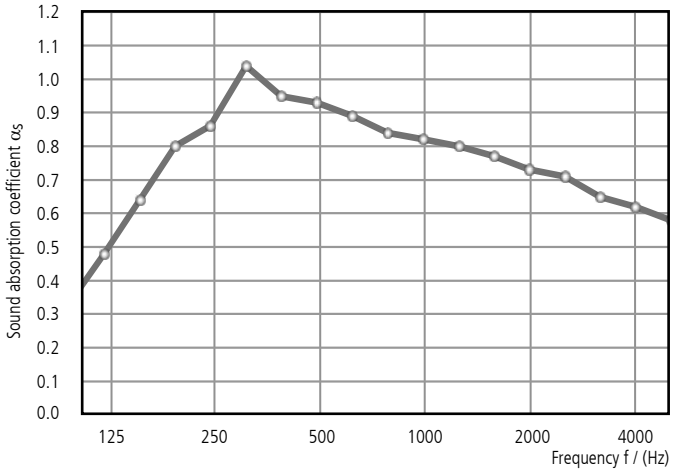
Thickness: 46 mm
Structural height: 200 mm
α_w**:** 0.75
***NRC*:** 0.75



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.37	0.64	0.77	0.89	0.72	0.67
Octave band	0.47	0.61	0.91	0.81	0.71	0.59
Third-octave band	0.52	0.74	0.95	0.77	0.69	0.55
α_p	0.45	0.65	0.90	0.80	0.70	0.60

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & Top Basic, white

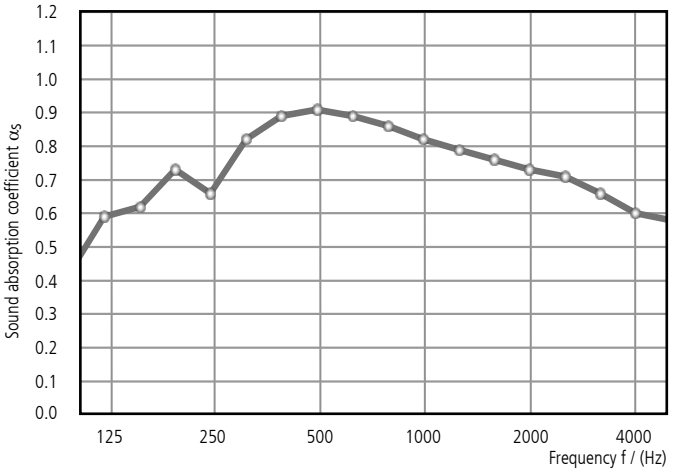
Thickness: 66 mm
Structural height: 66 mm
α_w**:** 0.75 (L)
***NRC*:** 0.85



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.33	0.80	0.95	0.84	0.77	0.65
Octave band	0.48	0.86	0.93	0.82	0.73	0.62
Third-octave band	0.64	1.04	0.89	0.80	0.71	0.58
α_p	0.50	0.90	0.90	0.80	0.75	0.60

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Top Basic & Top Basic, white

Thickness: 66 mm
Structural height: 200 mm
α_w**:** 0.75
***NRC*:** 0.80



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.42	0.73	0.89	0.86	0.76	0.66
Octave band	0.59	0.66	0.91	0.82	0.73	0.60
Third-octave band	0.62	0.82	0.89	0.79	0.71	0.58
α_p	0.55	0.75	0.90	0.80	0.75	0.60

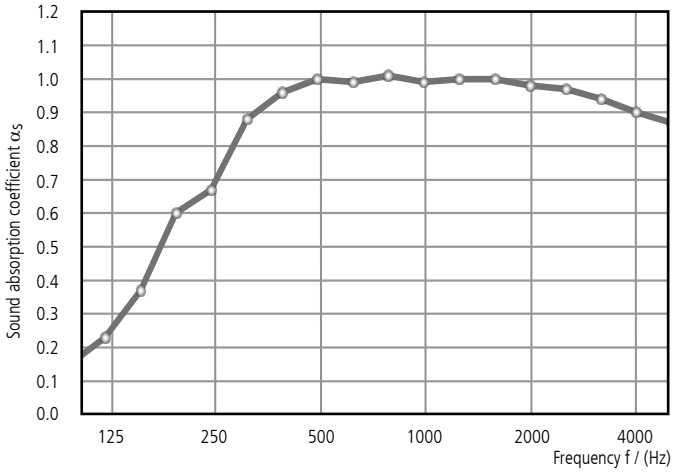
The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Direct

Sound absorption in detail

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Decor M (visible joints)
Thickness: 46 mm

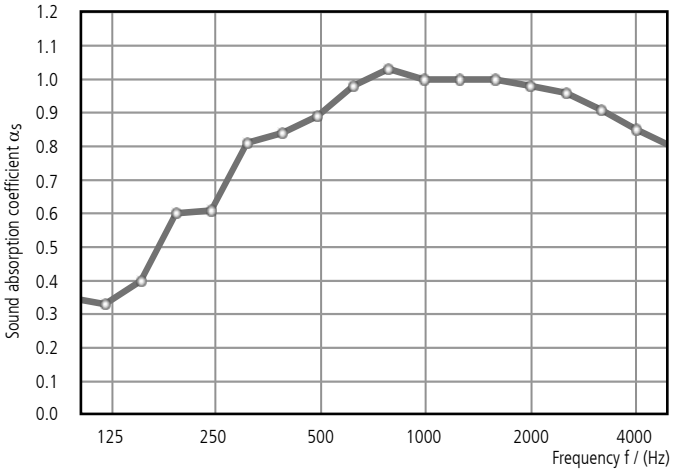
Structural height: 46 mm
α_w: 1.00
***NRC*:** 0.90



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.15	0.60	0.96	1.01	1.00	0.94
Octave band	0.23	0.67	1.00	0.99	0.98	0.90
Third-octave band	0.37	0.88	0.99	1.00	0.97	0.87
α_p	0.25	0.70	1.00	1.00	1.00	0.90

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Decor M (visible joints)
Thickness: 46 mm

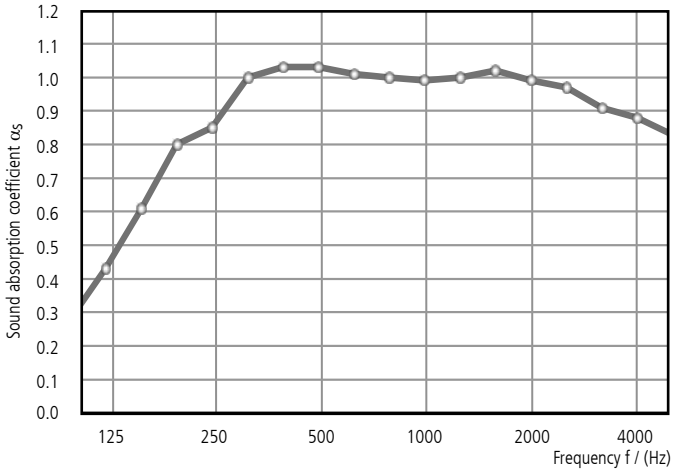
Structural height: 200 mm
α_w: 0.90
***NRC*:** 0.85



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.35	0.60	0.84	1.03	1.00	0.91
Octave band	0.33	0.61	0.89	1.00	0.98	0.85
Third-octave band	0.40	0.81	0.98	1.00	0.98	0.80
α_p	0.35	0.65	0.90	1.00	1.00	0.85

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Decor M (visible joints)
Thickness: 66 mm

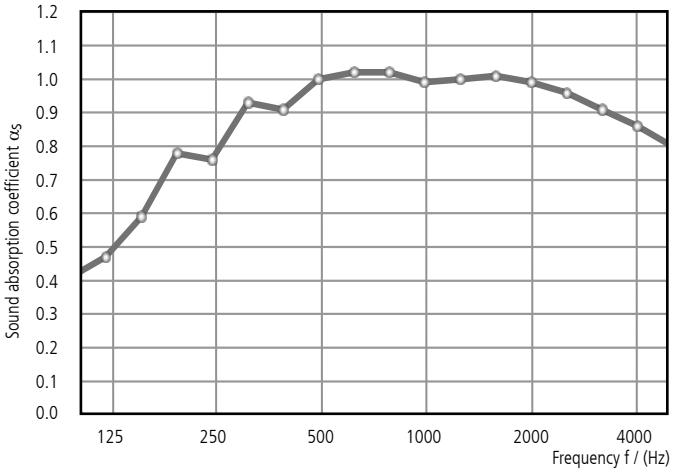
Structural height: 66 mm
α_w: 1.00
***NRC*:** 0.95



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.28	0.80	1.03	1.00	1.02	0.91
Octave band	0.43	0.85	1.03	0.99	0.99	0.88
Third-octave band	0.61	1.00	1.01	1.00	0.97	0.83
α_p	0.45	0.90	1.00	1.00	1.00	0.85

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Decor M (visible joints)

Thickness: 66 mm
Structural height: 200 mm
α_w: 1.00
***NRC*:** 0.95



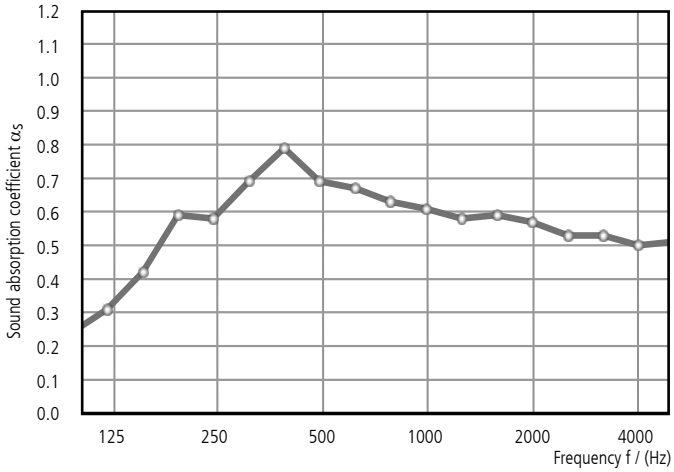
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.41	0.78	0.91	1.02	1.01	0.91
Octave band	0.47	0.76	1.00	0.99	0.99	0.86
Third-octave band	0.59	0.93	1.02	1.00	0.96	0.80
α_p	0.50	0.80	1.00	1.00	1.00	0.85

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Direct
The easy direct system

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & Top Finish

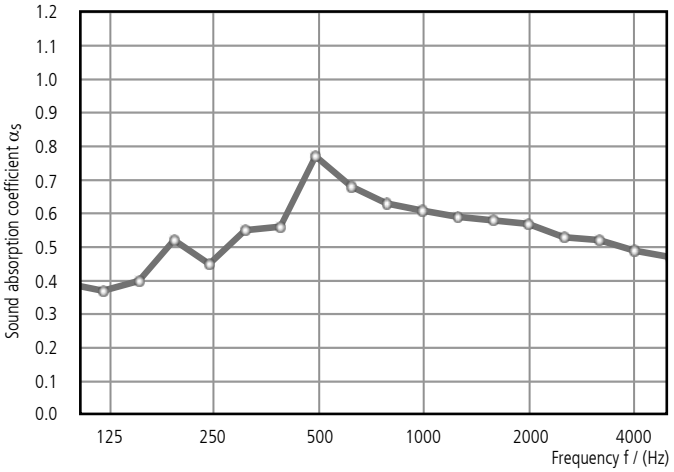
Thickness: 46 mm
Structural height: 46 mm
α_w**:** 0.60
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.24	0.59	0.79	0.63	0.59	0.53
Octave band	0.31	0.58	0.69	0.61	0.57	0.50
Third-octave band	0.42	0.69	0.67	0.58	0.53	0.51
α_p	0.30	0.60	0.70	0.60	0.55	0.50

System: StoSilent Direct
Build-up: StoSilent Board MW100, 46 mm
Coating: StoSilent Top Basic & Top Finish

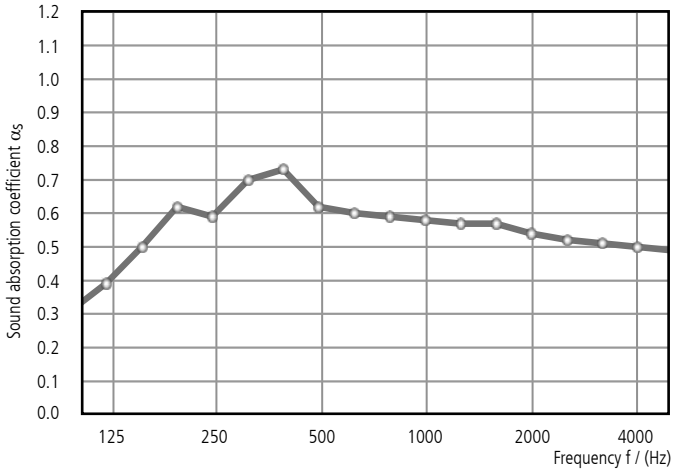
Thickness: 46 mm
Structural height: 200 mm
α_w**:** 0.60
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.39	0.52	0.56	0.63	0.58	0.52
Octave band	0.37	0.45	0.77	0.61	0.57	0.49
Third-octave band	0.40	0.55	0.68	0.59	0.53	0.47
α_p	0.40	0.50	0.65	0.60	0.55	0.50

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Top Basic & Top Finish

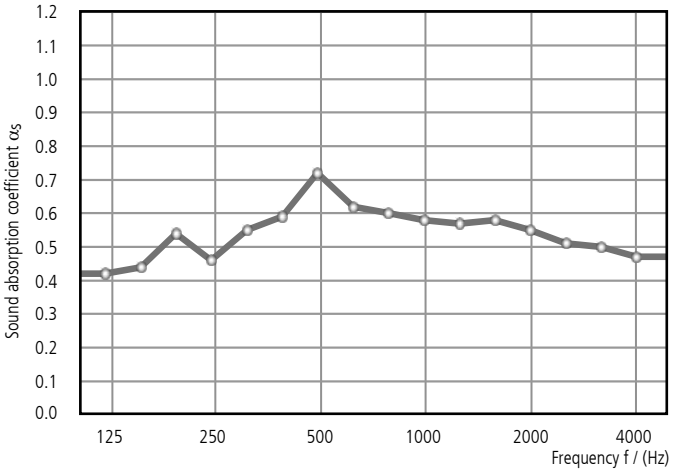
Thickness: 66 mm
Structural height: 66 mm
α_w**:** 0.60 (L)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.31	0.62	0.73	0.59	0.57	0.51
Octave band	0.39	0.59	0.62	0.58	0.54	0.50
Third-octave band	0.50	0.70	0.60	0.57	0.52	0.49
α_p	0.40	0.65	0.65	0.60	0.55	0.50

System: StoSilent Direct
Build-up: StoSilent Board MW100, 66 mm
Coating: StoSilent Top Basic & Top Finish

Thickness: 66 mm
Structural height: 200 mm
α_w**:** 0.60
***NRC*:** 0.60



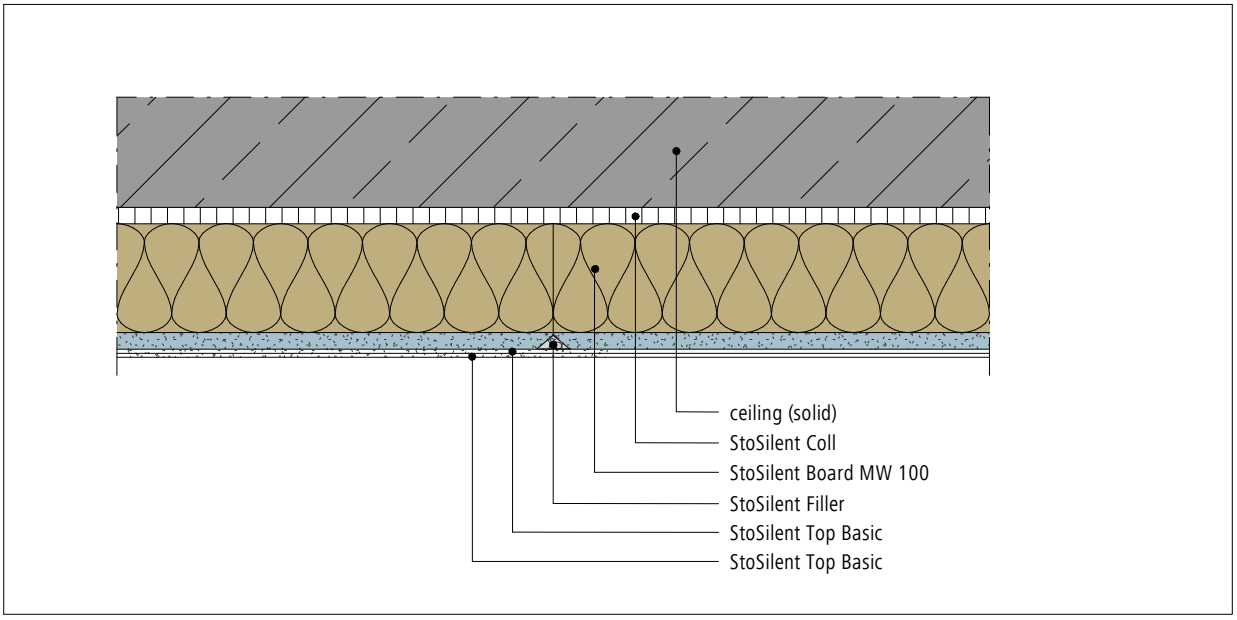
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.42	0.54	0.59	0.60	0.58	0.50
Octave band	0.42	0.46	0.72	0.58	0.55	0.47
Third-octave band	0.44	0.55	0.62	0.57	0.51	0.47
α_p	0.45	0.50	0.65	0.60	0.55	0.50

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

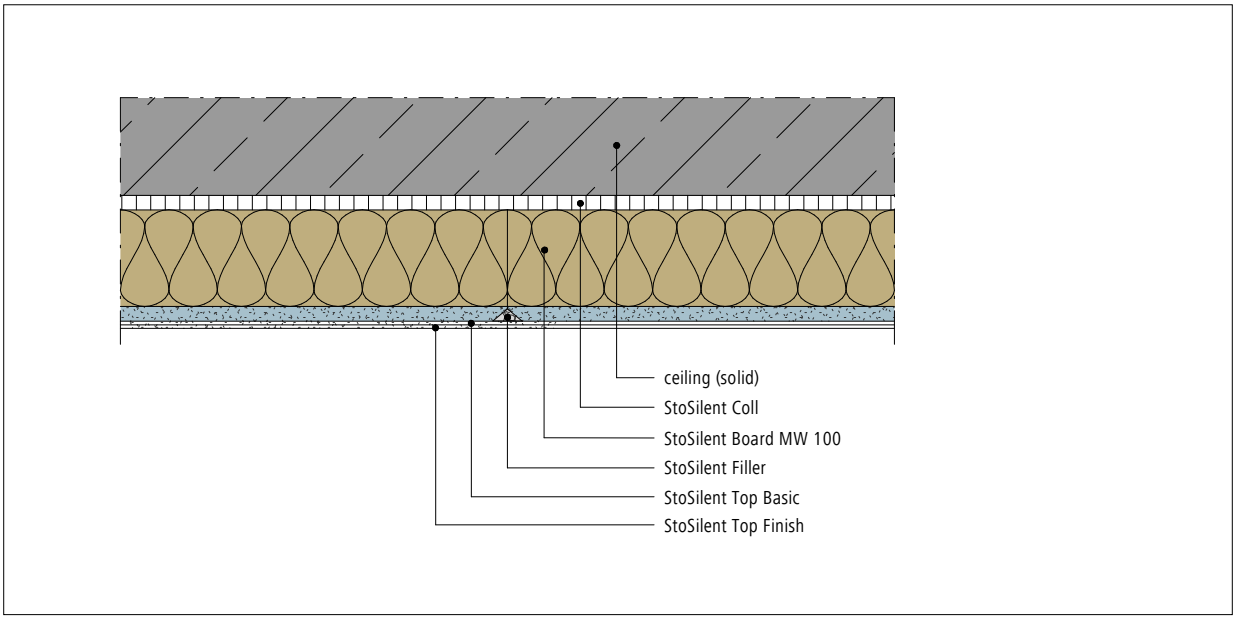
StoSilent Direct

Construction details – ceiling

Ceiling (section): system build-up with bonding



Ceiling (section): system build-up with bonding, with StoSilent Top Finish coating



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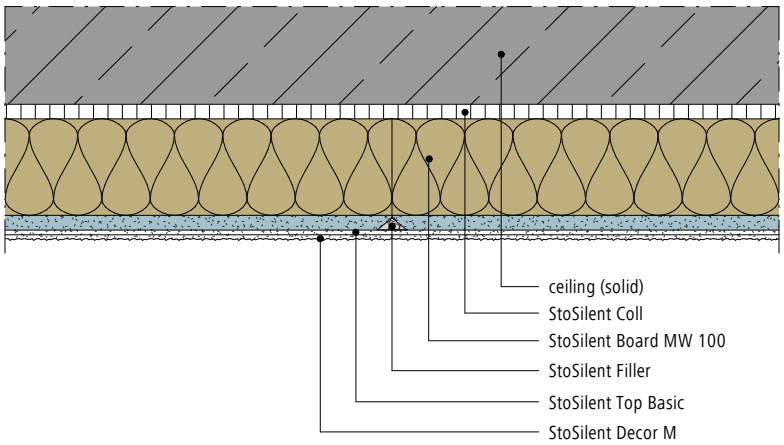
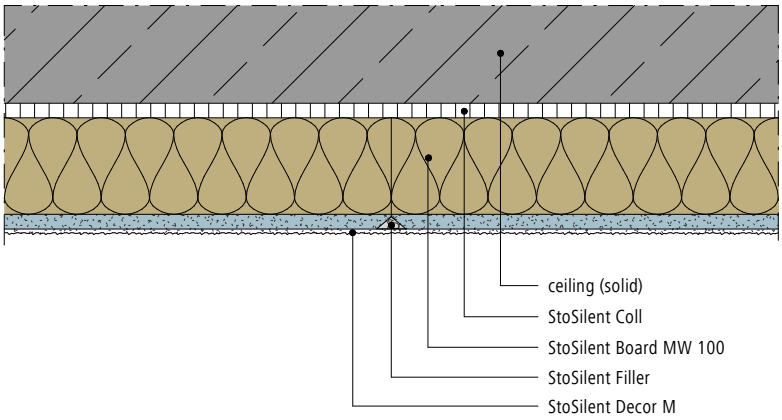
Ceiling (section): system build-up with bonding, with StoSilent Top Basic and StoSilent Decor M as coatings



Ceiling (section): system build-up with bonding, with StoSilent Decor M coating



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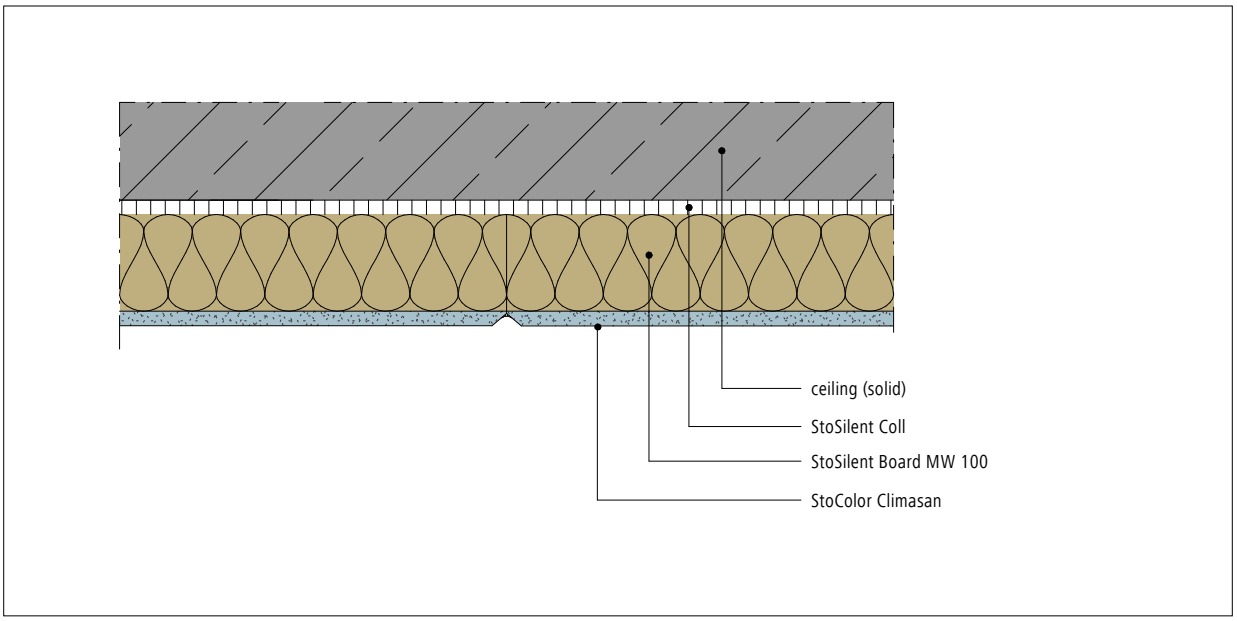
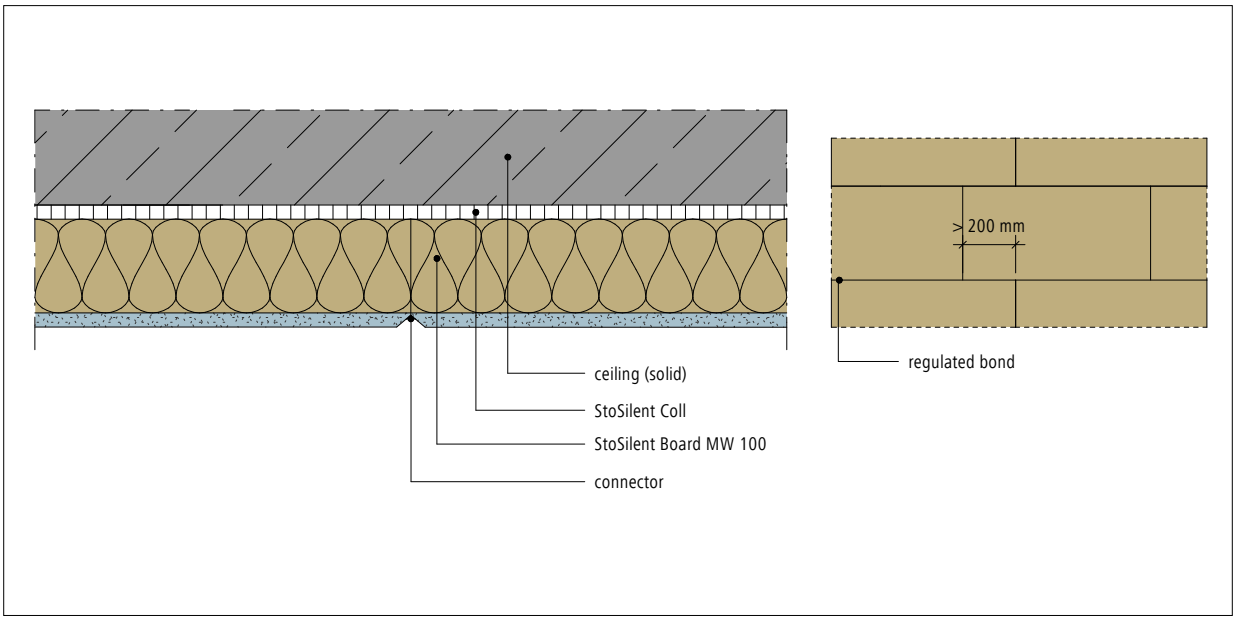
StoSilent Direct
Construction details – ceiling

Ceiling (section): system build-up with bonding, with StoColor Climasan coating



Ceiling (section): system build-up with bonding, without coating



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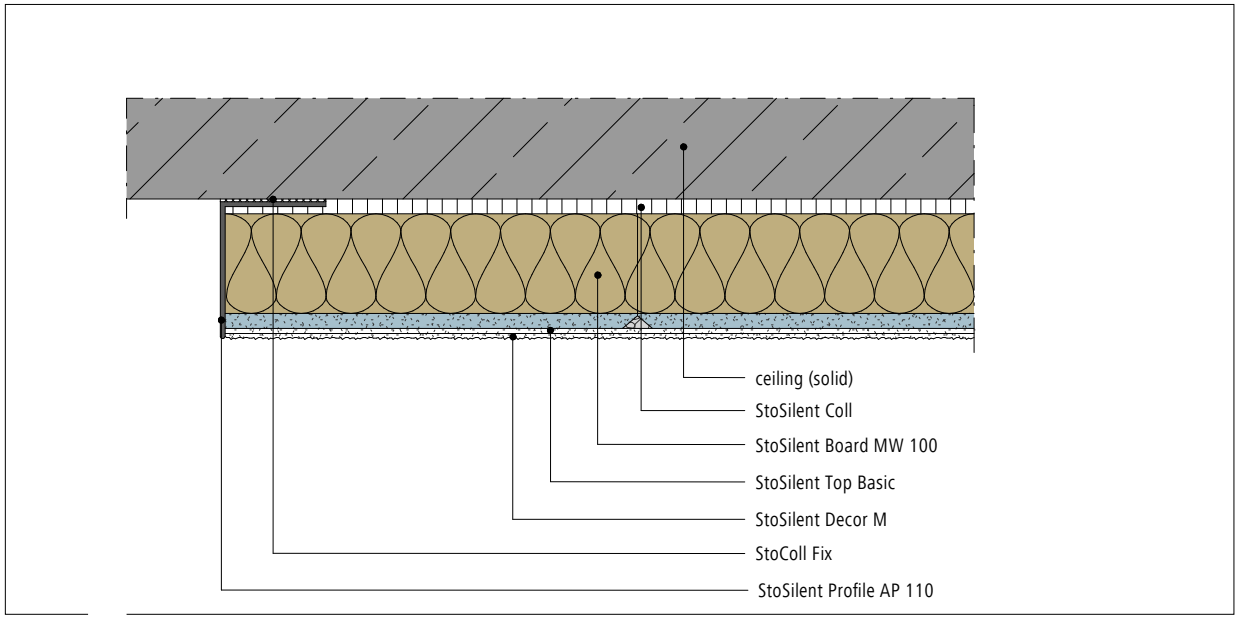
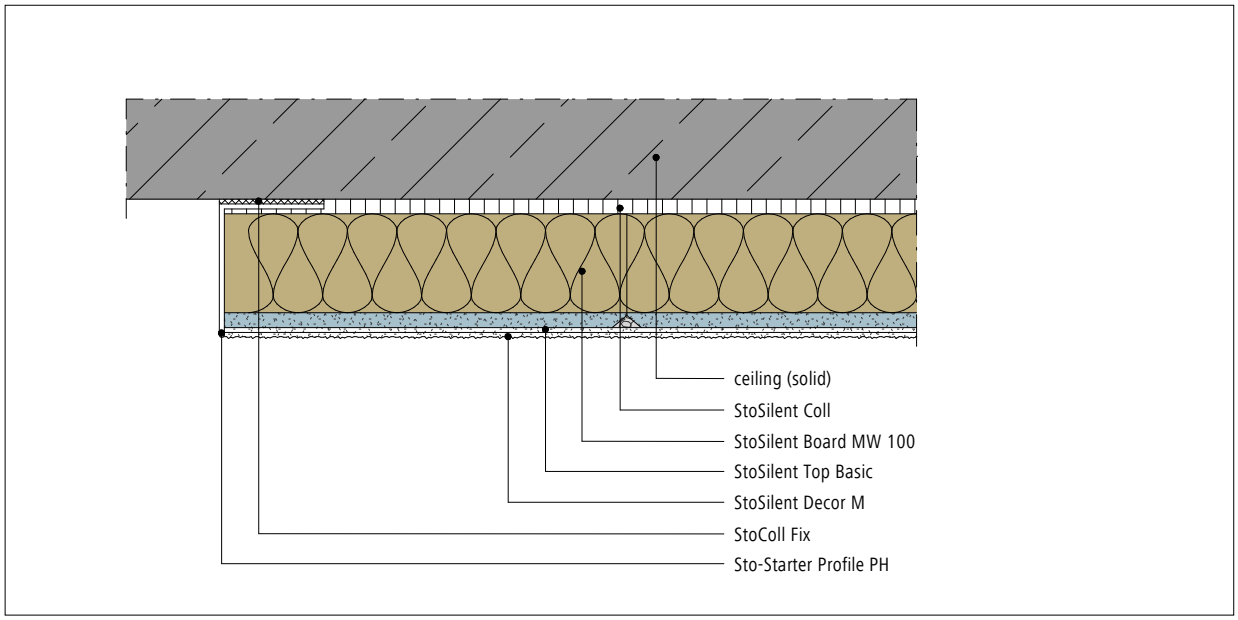
Ceiling (section): connection to a partially insulated ceiling with StoSilent Profile AP 110



Ceiling (section): connection to a partially insulated ceiling with Sto-Starter Profile PH



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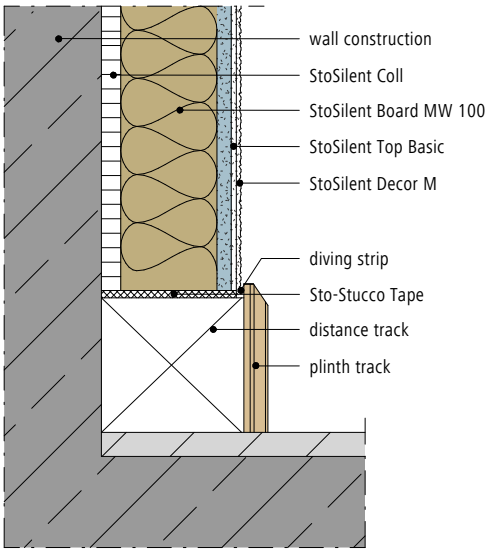
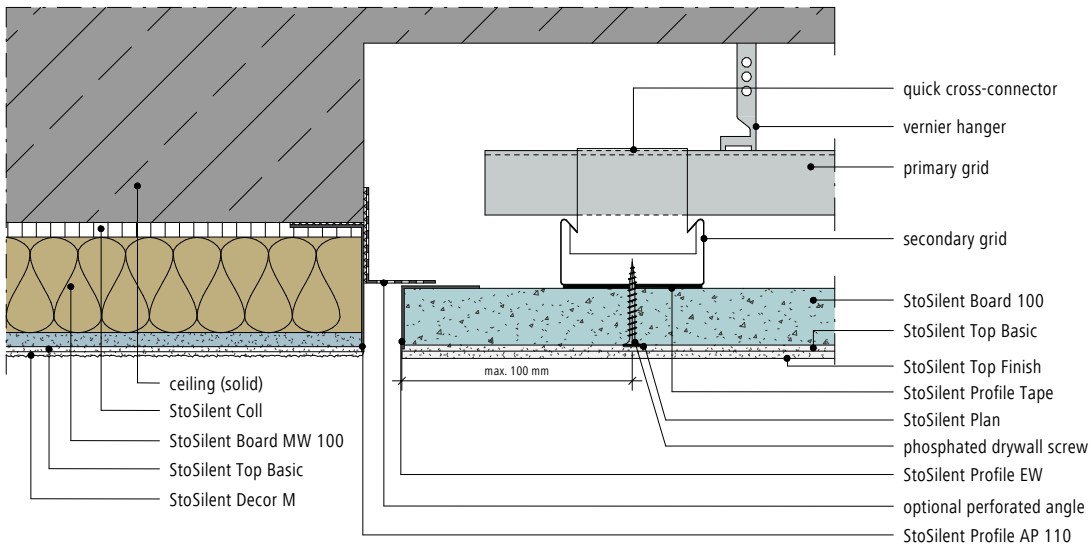
StoSilent Direct
Construction details – ceiling/wall

Wall (section): connection of base point



Ceiling (section): connection to a suspended ceiling



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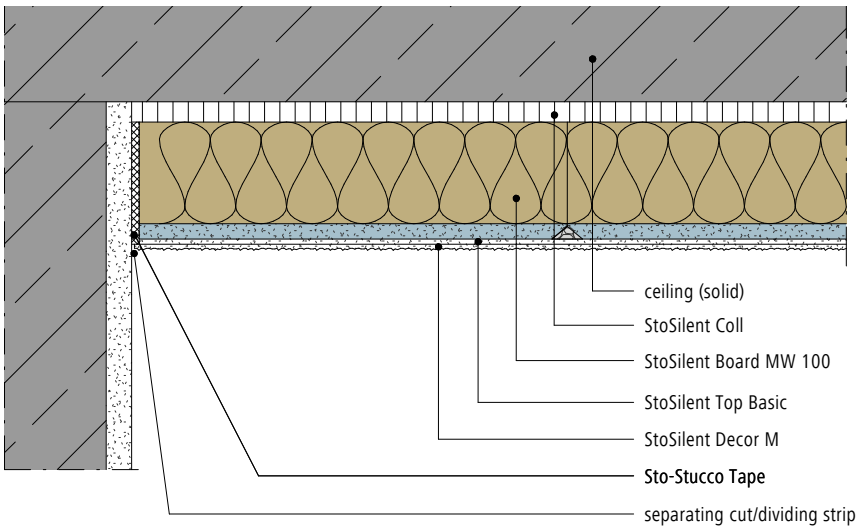
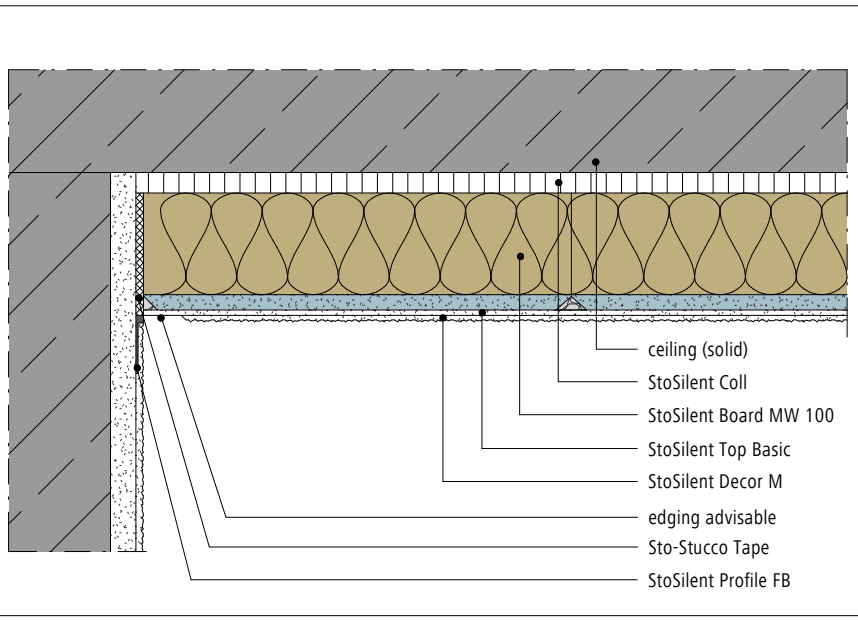
Ceiling (section): connection to old plaster with dividing strip/separating cut



Ceiling (section): connection to old plaster with StoSilent Profile FB and formation of edging



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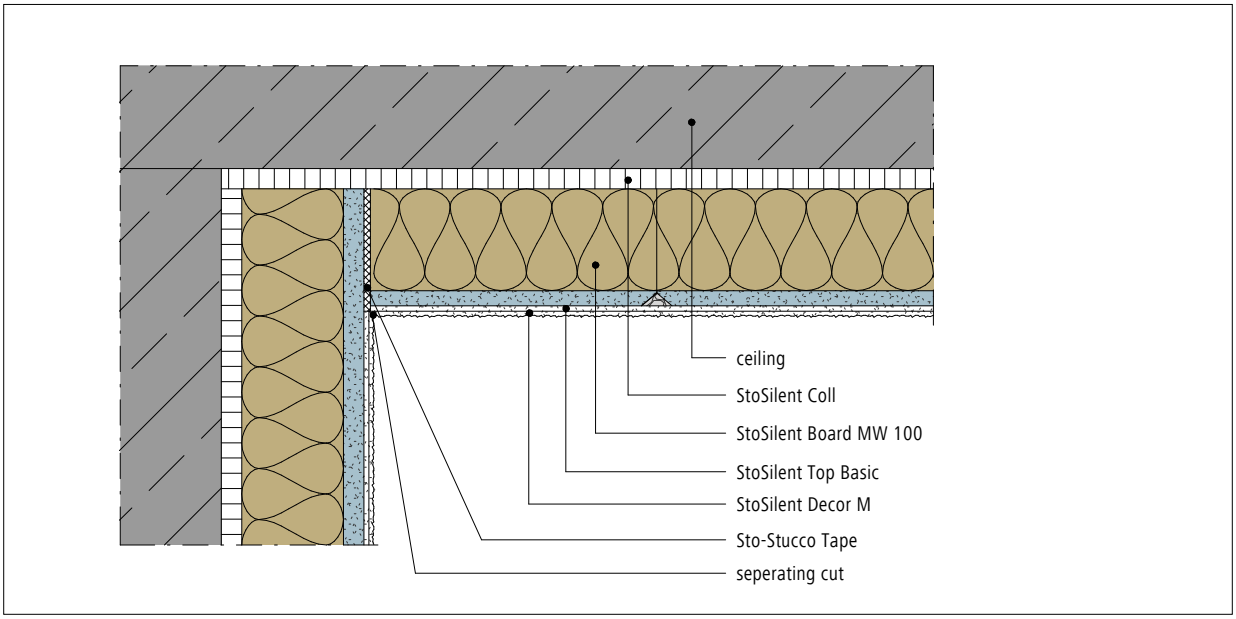
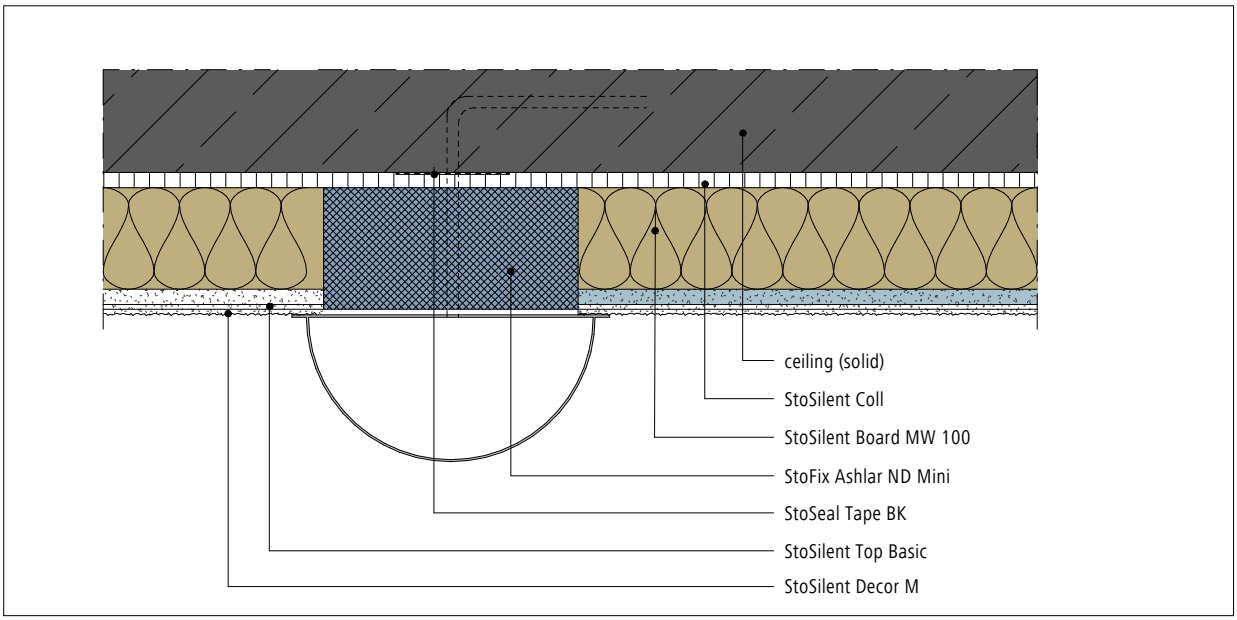
StoSilent Direct
Construction details – ceiling

Ceiling (section): connection to an internal corner with separating cut



Ceiling (section): lamp fixing



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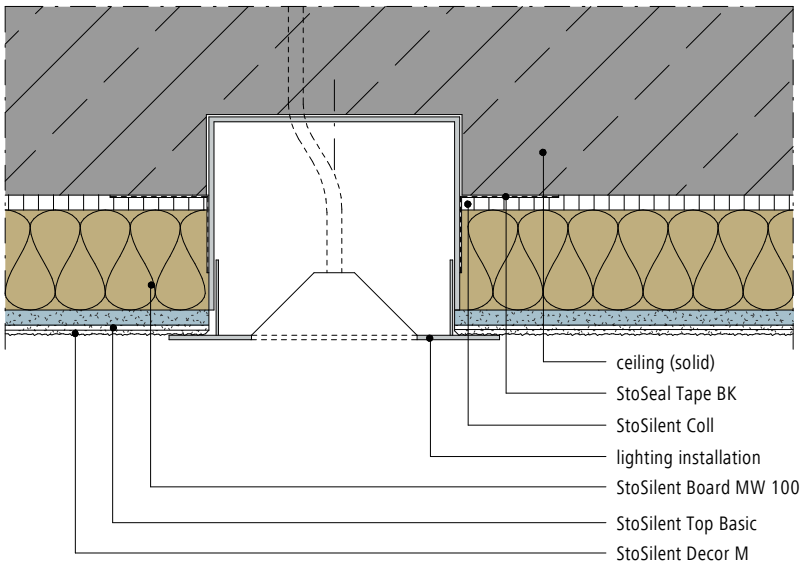
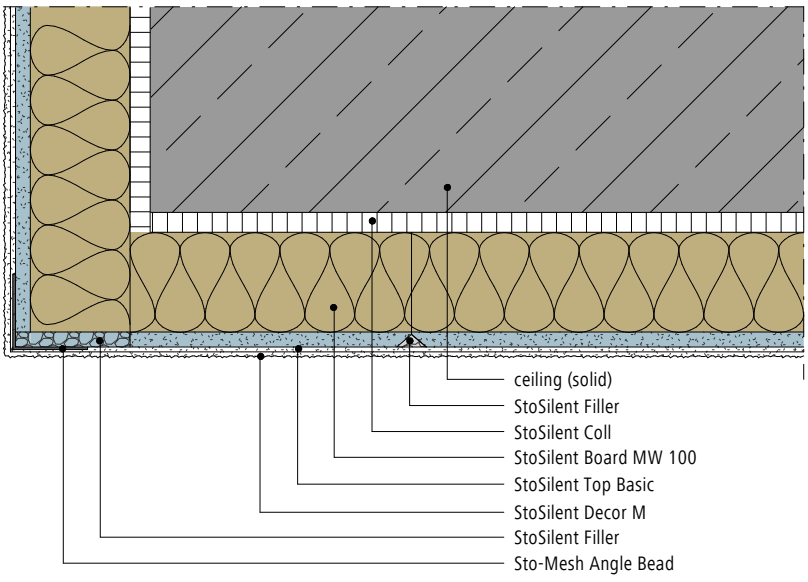
Ceiling (section): lamp fixing



Ceiling (section): corner formation in the case of an offset ceiling



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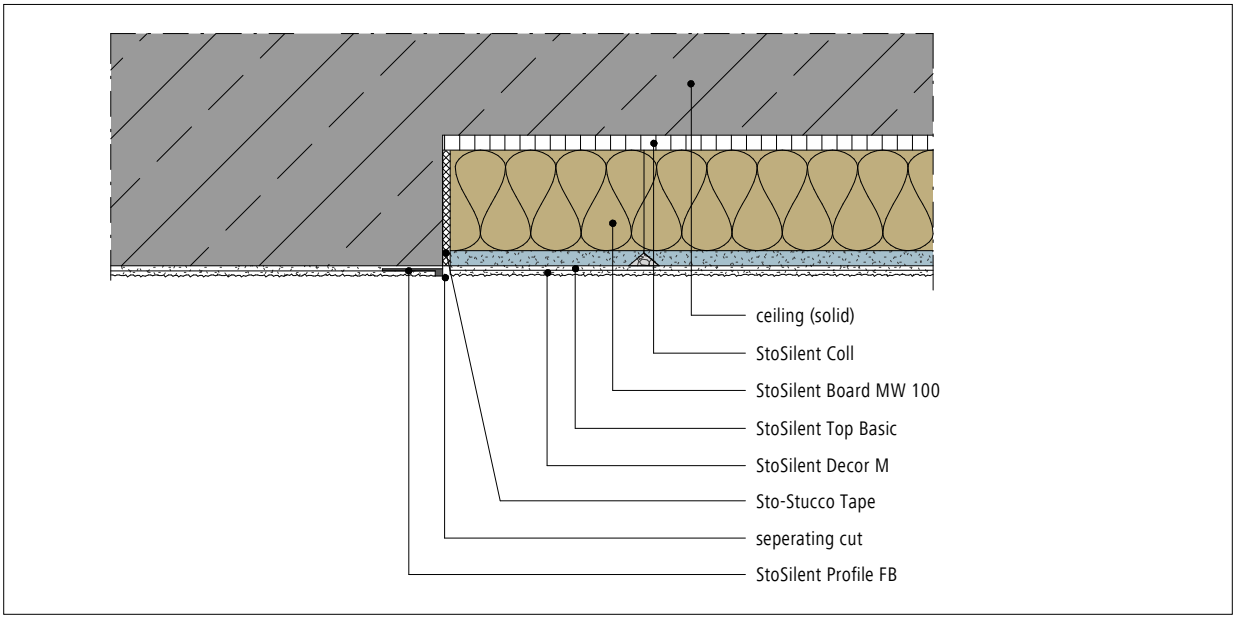
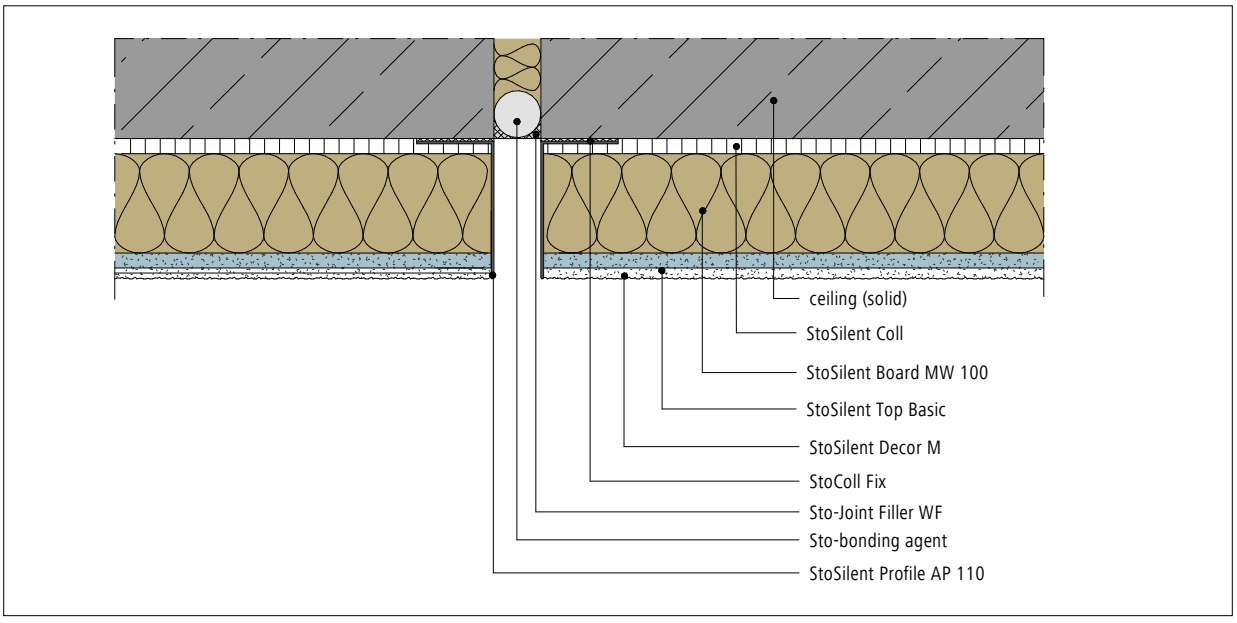
StoSilent Direct
Construction details – ceiling

Ceiling (section): connection to a transition for a change in material using Silent Profile FB



Ceiling (section): structural expansion joint with Sto-Backing Rod



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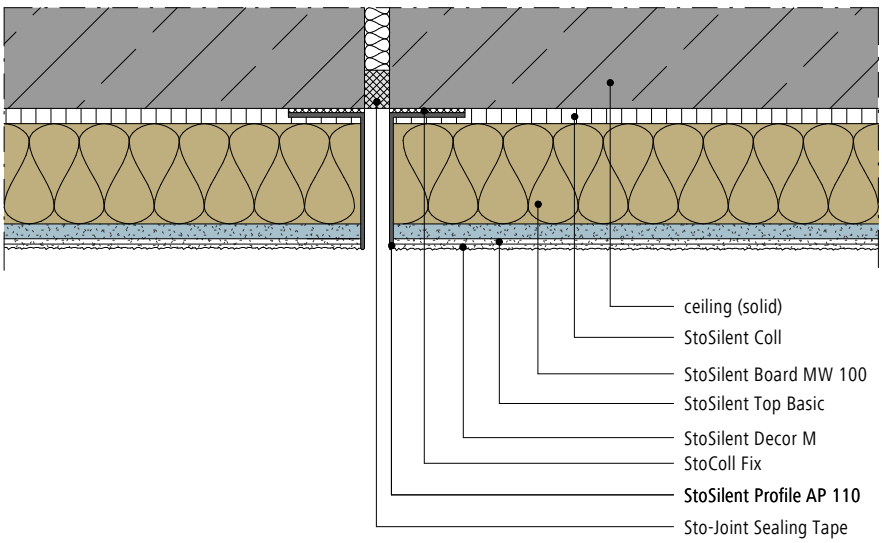
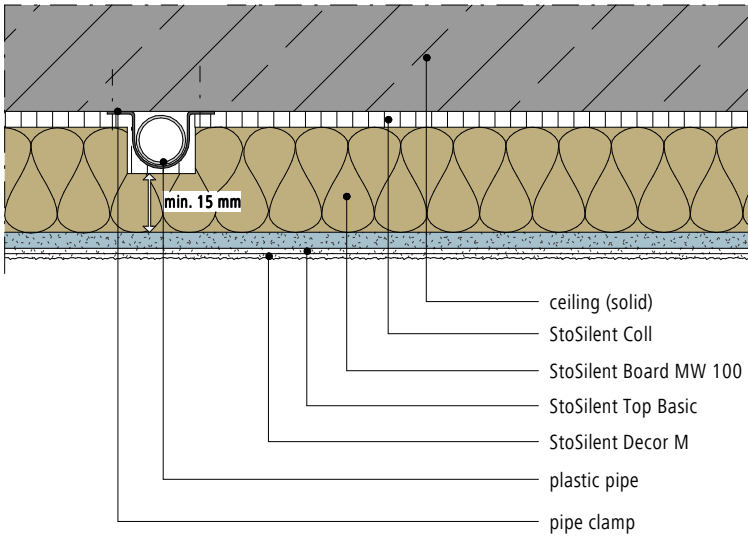
Ceiling (section): structural expansion joint with Sto-Expansion Joint Tape



Ceiling (section): integration of a duct for installations



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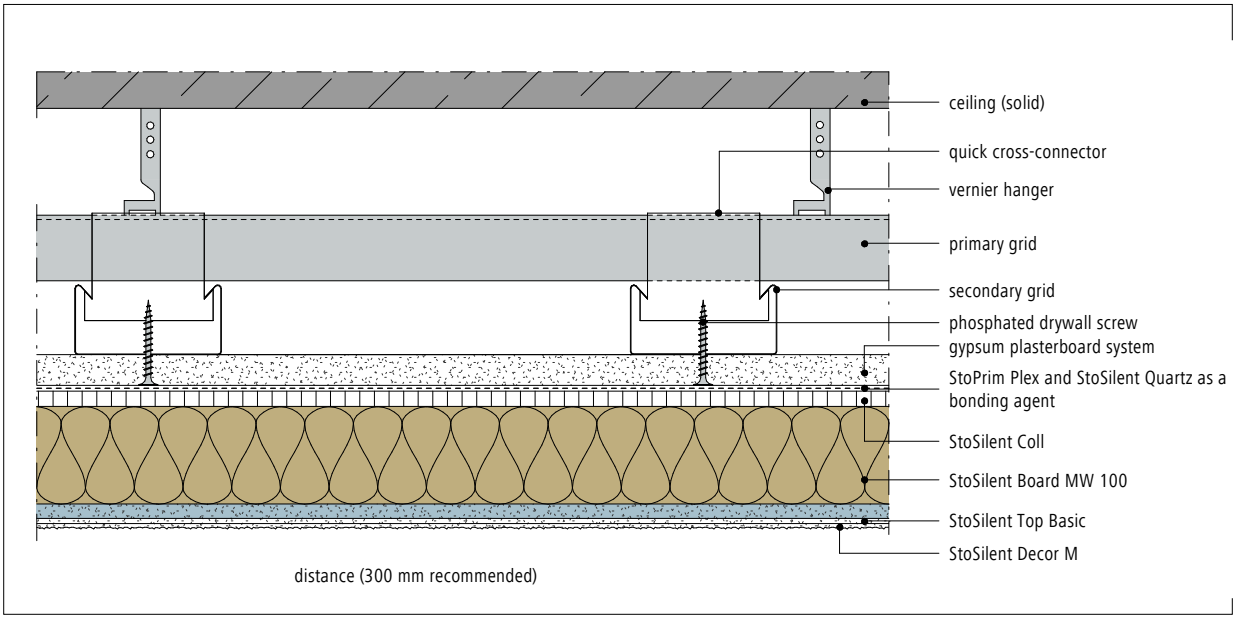
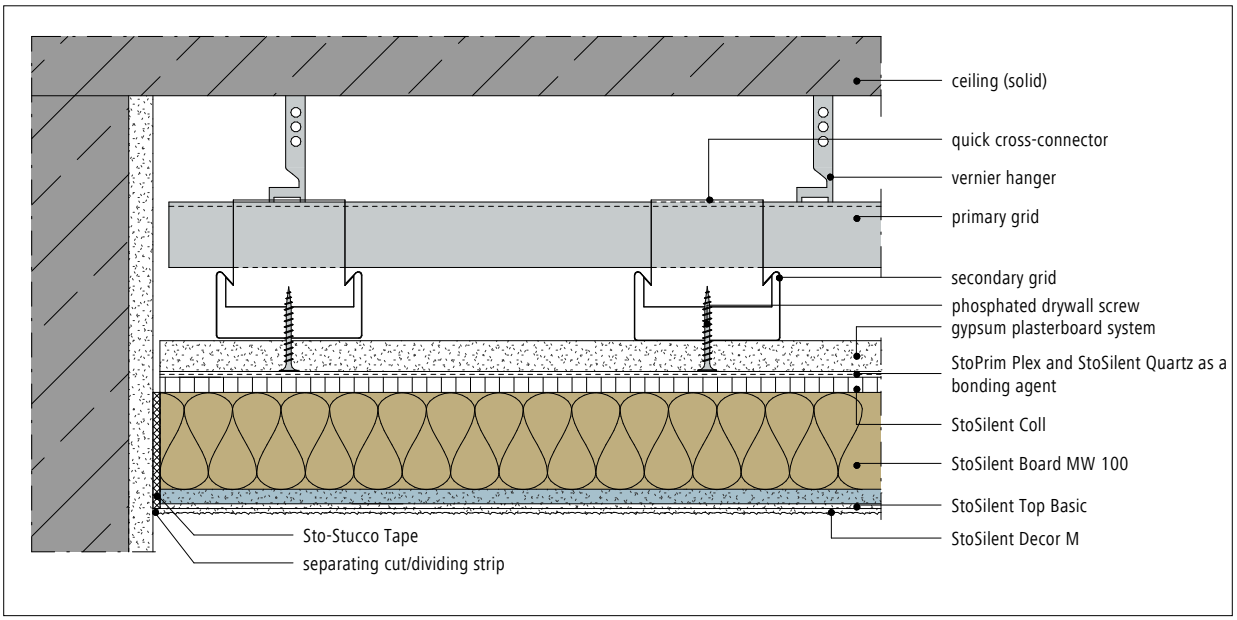
StoSilent Direct
Construction details – ceiling

Ceiling (section): system build-up for a suspended ceiling



Ceiling (section): wall junction for a suspended concrete ceiling



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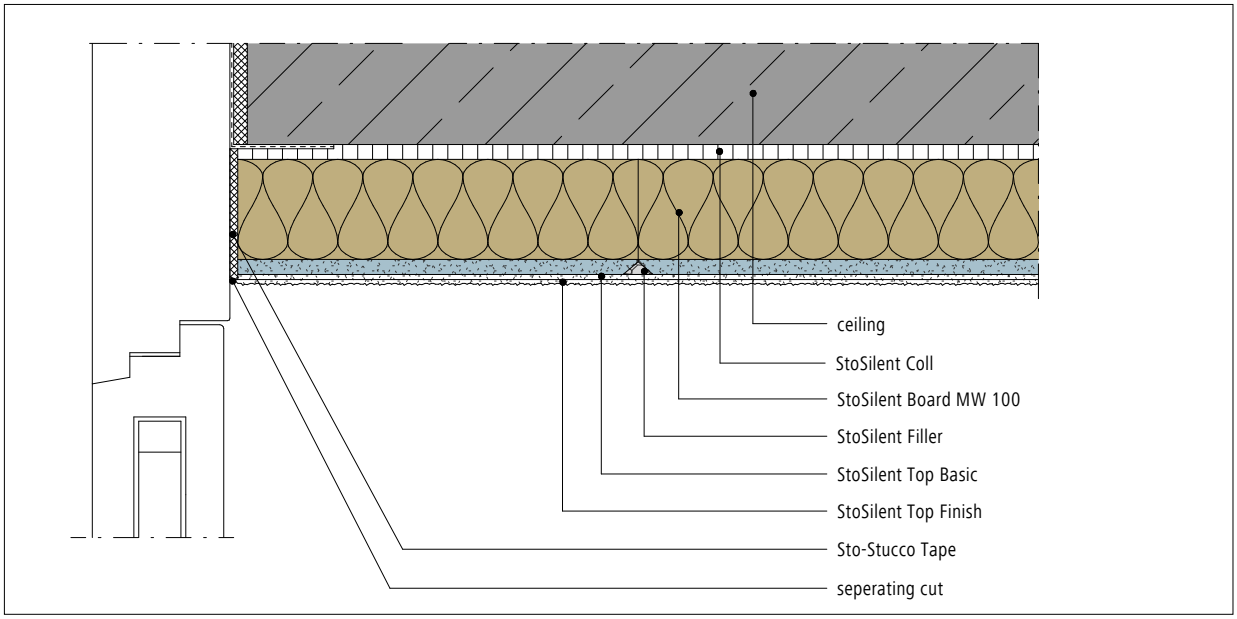
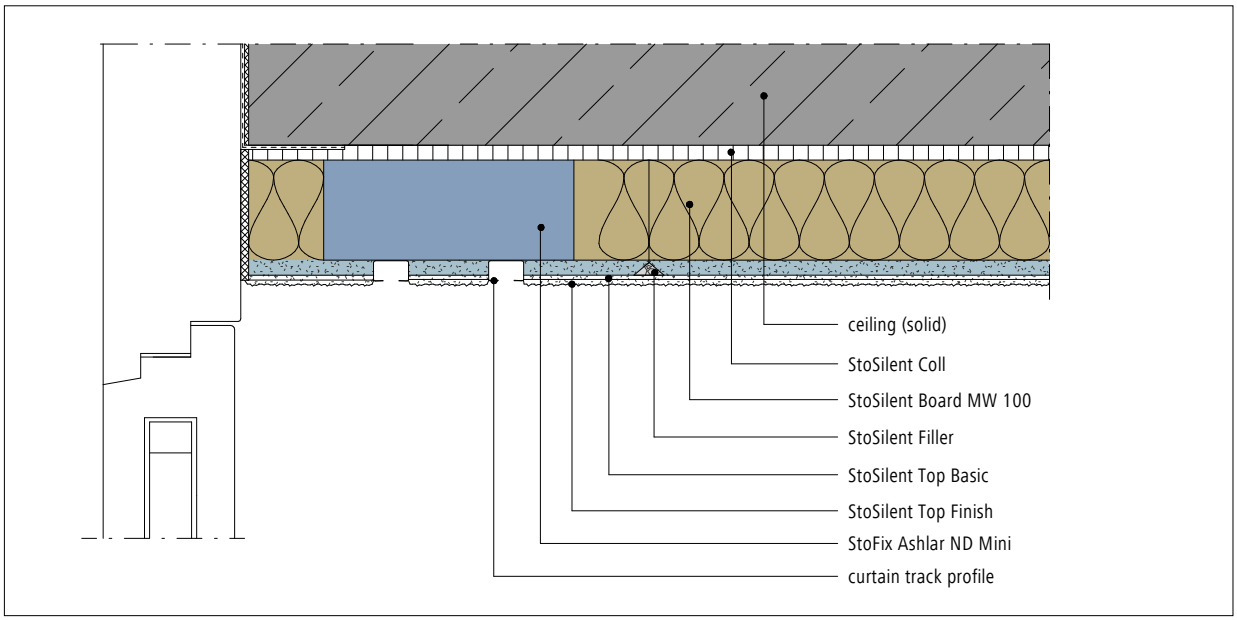
Ceiling (section): connection to a window



Ceiling (section): window connection with integrated curtain rail (type VS 57)



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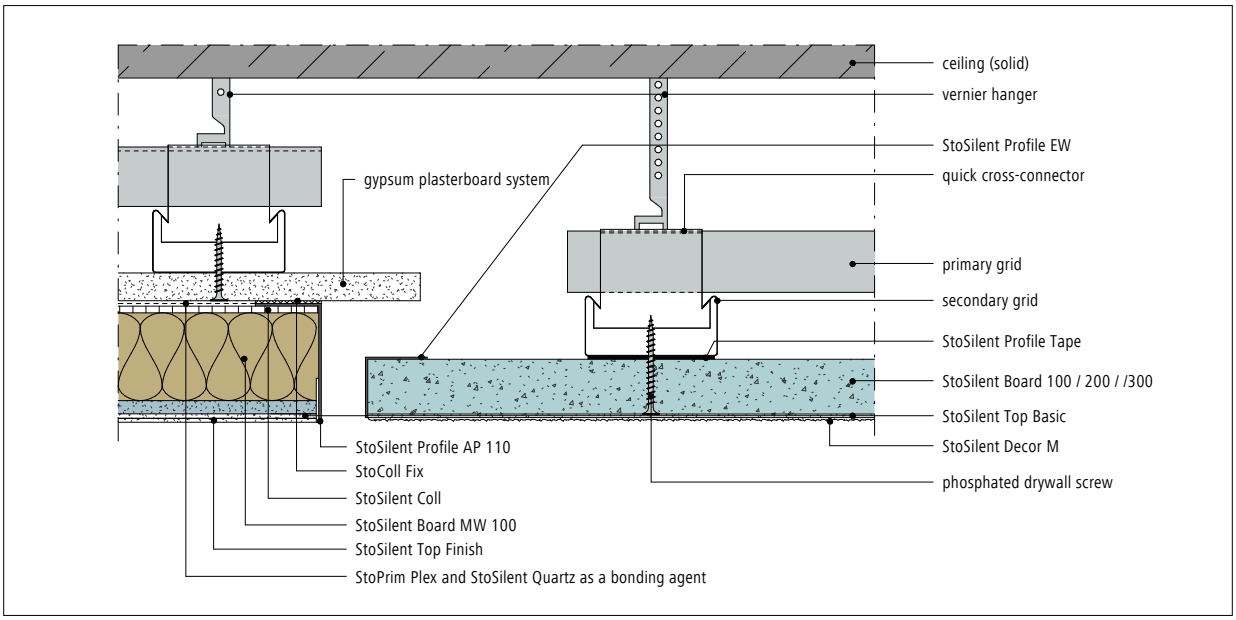
StoSilent Direct
Construction details – ceiling

StoSilent Direct
The easy direct system

Ceiling (section): connection of joint formation from StoSilent Distance to StoSilent Direct



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StoSilent Modular
The adjustable ceiling system

StoSilent Modular
The adjustable ceiling system

System description of StoSilent Modular

Product range	StoSilent Modular 100	StoSilent Modular 200	StoSilent Modular 300	StoSilent Modular 400
Technology	PET fibres	Expanded glass granulate	Polystyrene fibres	Expanded glass granulate
Surface	PET nonwoven fibre	StoSilent Decor, StoSilent Top	Polystyrene fibres	StoSilent Decor, StoSilent Top
Colour design	White	StoColor System	Range: 8 colour shades	StoColor System

StoSilent Modular 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. This innovative acoustic system is so variable in form that it enables you to consciously set visual accents.

StoSilent Modular 100

StoSilent Modular 100
This affordable system features acoustically efficient absorber panels and anodised aluminium frames and is primarily used to regulate reverberations and reduce noise. StoSilent Modular stands out from the usual products on the market thanks to its material and extremely thin profile edge.
The StoSilent Modular 100 ceiling element has been awarded the Oeko-Tex® certificate and meets particularly high quality standards.

Canon/Cancom, DE-Jettingen-Scheppach, StoSilent Modular 400

StoSilent Modular

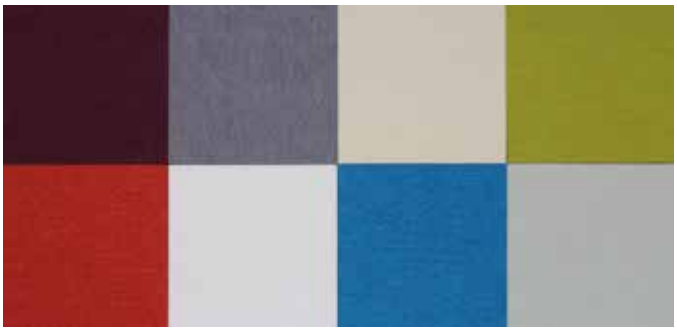
The adjustable ceiling system

StoSilent Modular 200
The carrier boards of the StoSilent Modular system are made from expanded glass granulate and are available with a fine or textured plaster coating – the 200 version with StoSilent Top and the 210 version with StoSilent Decor. Both versions can be produced in almost all colours in the StoColor System and in a wide range of special forms within the specified format.

StoSilent Modular 300
This sophisticated absorber solution boasts a high-quality appearance. The slim polyester fibre board, which is only eight millimetres thick, can be used to create elegant surfaces in eight selected colour shades and ensures excellent sound absorption. 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 stylishly completes the element.

StoSilent Modular 400
StoSilent Modular 400 offers an unlimited range of shapes and colours. The system can be custom-made on the construction site according to specific requirements from architects and building owners in practically any size. Even very large building elements can be produced professionally on site.
The basis of this version of StoSilent Modular is the StoSilent Board carrier board, which is made from expanded glass granulate, combined with the StoSilent Decor and StoSilent Top finishes.

Sto Italia SalesCentre,
IT-Cortaccia, StoSilent Modular 200



StoSilent Modular 300;
colour range

StoSilent Modular 300;
corner formation with 40 mm radius

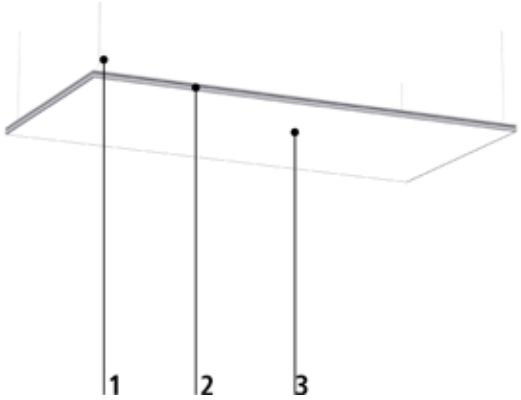
StoSilent Modular 300 example of use

StoSilent Modular 300;
corner formation with 90° corner

StoSilent Modular 100

System overview

StoSilent Modular
The adjustable ceiling system



1. Suspension system
2. Frame made of anodised aluminium
3. Carrier board, acoustically effective

StoSilent Modular 100
Sound-absorbing ceiling element made of recycled PET fibres on an aluminium frame

System advantages
- High degree of sound absorption
- Simple to install
- Low weight
- System pre-assembled at the factory

Areas of application
- Interior
- For reduction of noise and reverberation
- For a bespoke acoustic room treatment

Fixing
- With suspension system available separately
- Suspending sets in 3 versions: vernier hanger, threaded rod, steel wire hanger

Reaction to fire
- Class B-s1, d0, in accordance with EN 13501 (PET board)

Sound absorption
- High sound absorption (depending on suspension height and format)

Sustainability
- PET board made of recycled fibres with Oeko-Tex® certificate

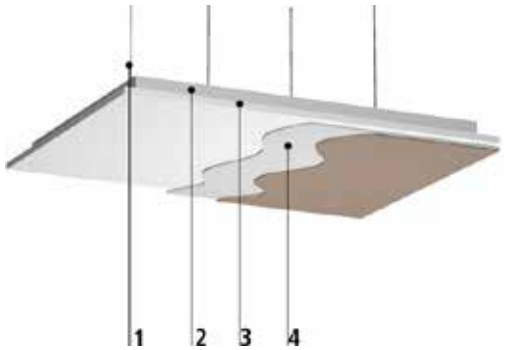
Design options
- Rectangular formats, min. 500 x 500 mm, max. 3000 x 1250 mm
- Special formats on request

Colour spectrum
- PET board: white (approx. RAL 9003), with fine, unidirectional texture
- Frame: anodised aluminium, natural, without texture, colour shade approx. RAL 9006

Application
- Simple assembly from prefabricated parts and modules in accordance with installation instructions
- Quick, clean, and easy application

StoSilent Modular 200

System overview



1. Height-adjustable steel cable suspension
2. Sub-construction made of galvanised steel sheet
3. Carrier board, acoustically effective
4. Finish, coated at the factory

StoSilent Modular 200
Sound-absorbing ceiling element made of expanded glass granulate with fine or textured coating

System advantages
- High degree of sound absorption
- Simple to install
- Low weight
- System pre-assembled at the factory

Areas of application
- Interior
- For reduction of noise and reverberation
- For a bespoke acoustic room treatment

Fixing
With included suspension system (suspension set)

Reaction to fire
- Class B-s1, d0, in accordance with EN 13501 (coated carrier board)
- Class C-s3, d0, in accordance with EN 13501, PET fibre board layer

Sound absorption
- High sound absorption (depending on suspension height and format)

Sustainability
- StoSilent Modular 210, StoSilent Decor M coating with natureplus® seal of approval
- StoSilent Modular 210, StoSilent Decor MF coating: VOC emissions class A+
- StoSilent Modular 200, StoSilent Top coating: VOC emissions class A+

Design options
- Format max. 2400 x 1200 mm
- Special formats on request
- Factory coating of: StoSilent Modular 200 – StoSilent Top Finish with a fine surface
  StoSilent Modular 210 – StoSilent Decor with textured surface
- With PET fibre board layer

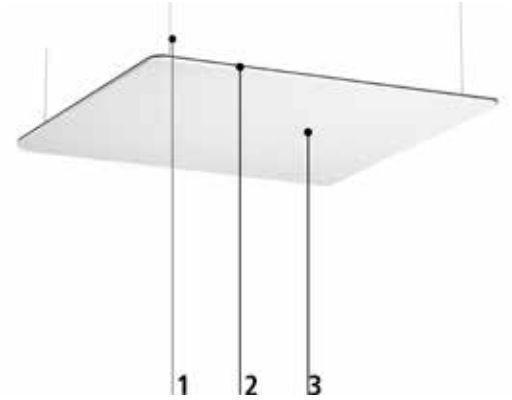
Colour spectrum
- StoSilent Modular 200 – StoSilent Top Finish, limited tintability in accordance with the StoColor System
- StoSilent Modular 210 – StoSilent Decor, full tintability in accordance with the StoColor System

Application
- Simple assembly from prefabricated parts and modules in accordance with installation instructions
- Quick, clean, and easy application

StoSilent Modular 300

System overview

StoSilent Modular
The adjustable ceiling system



1. Height-adjustable steel cable suspension
2. Sub-construction made of powder-coated aluminium
3. Carrier board, acoustically effective

StoSilent Modular 300
Sound-absorbing ceiling element made of polyester fibre board on an aluminium frame

System advantages
- High degree of sound absorption
- Simple to install
- Low weight
- System pre-assembled at the factory

Areas of application
- Interior
- For reduction of noise and reverberation
- For a bespoke acoustic room treatment

Fixing
- With included suspension system (suspension set)

Reaction to fire
- Class B-s2, d0, up to D-s3, d0, in accordance with EN 13501 (PES fibre board, depending on colour shade)

Sound absorption
- High sound absorption (depending on suspension height and format)

Sustainability
- Carrier board made from homogeneous polyester fibres (PES)

Design options
- 90° corners
- Rounded corners r = 40 mm
- Format max. 2350 x 1150 mm
- Special formats on request

Application
- Simple assembly from prefabricated parts and modules in accordance with installation instructions
- Quick, clean, and easy application

Colour spectrum
- Choice of 8 colour shades
- Special colour shades on request
- Frame: aluminium, powder-coated, silver-coloured

Sound characteristics

It's all about the right sound absorption

Individual absorbers

System	Board/product	Coating/surface	Suspension height of lower edge in mm	Element thickness in mm
StoSilent Modular 100	StoSilent Modular 100, 3000 x 1250 mm	Nonwoven surface, white	200	26
	StoSilent Modular 100, 3000 x 1250 mm	Nonwoven surface, white	400	26
	StoSilent Modular 100, 2350 x 1150 mm	Nonwoven surface, white	200	26
	StoSilent Modular 100, 2350 x 1150 mm	Nonwoven surface, white	400	26
	StoSilent Modular 100, 1250 x 1250 mm	Nonwoven surface, white	200	26
	StoSilent Modular 100, 1250 x 1250 mm	Nonwoven surface, white	400	26
StoSilent Modular 210	StoSilent Modular 210, 2406 x 1206 mm + PET*	StoSilent Decor	200	17 (without PET)
	StoSilent Modular 210, 2406 x 1206 mm + PET*	StoSilent Decor	400	17 (without PET)
	StoSilent Modular 210, 1206 x 1206 mm + PET*	StoSilent Decor	200	17 (without PET)
	StoSilent Modular 210, 1206 x 1206 mm + PET*	StoSilent Decor	400	17 (without PET)
StoSilent Modular 200	StoSilent Modular 200, 2406 x 1206 mm + PET*	StoSilent Top Basic & Finish	200	17 (without PET)
	StoSilent Modular 200, 2406 x 1206 mm + PET*	StoSilent Top Basic & Finish	400	17 (without PET)
	StoSilent Modular 200, 1206 x 1206 mm + PET*	StoSilent Top Basic & Finish	200	17 (without PET)
	StoSilent Modular 200, 1.2 x 1.2 m + PET*	StoSilent Top Basic & Finish	400	17 (without PET)
	StoSilent Modular 210 as wall element, 2406 x 1206 mm + PET**	StoSilent Decor	49	17 (without PET)
	StoSilent Modular 200 as wall element, 2406 x 1206 mm + PET**	StoSilent Top Basic & Finish	49	17 (without PET)

* PET: PET fibre board with an area of 1.68 m² per ceiling element, thickness 40 mm
** PET: PET fibre board with an area of 1.73 m² per ceiling element, thickness 30 mm

StoSilent Modular 300:
The technical characteristics for StoSilent Modular 300 were not available at the time of going to press. The values will be available on request shortly.

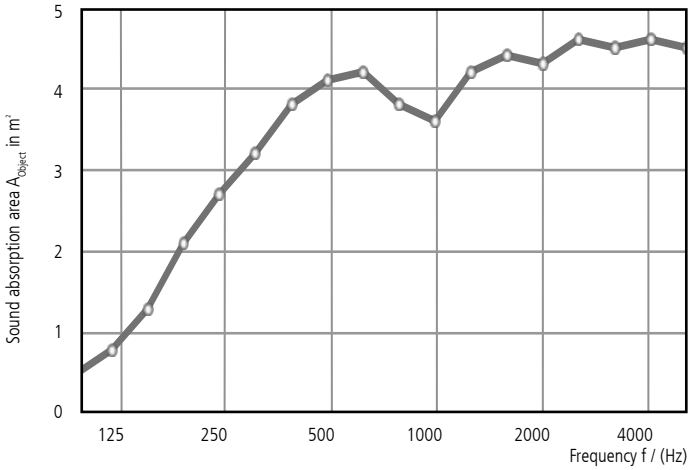
StoSilent Modular 400:
The StoSilent Modular 400 system is primarily based on the technology employed in the StoSilent Modular 200 and StoSilent Modular 210 elements. StoSilent Modular 400 is produced on the construction site in a wide range of versions according to individual requirements. Due to this diversity, it is not possible to provide sound absorption values which apply to all possible versions, surfaces, shapes, and coatings.

	Element dimensions		Element surface area in m²	Test report
	Element length in mm	Element width in mm		
	3000	1250	3.75	M100960/17
	3000	1250	3.75	M100960/17
	2350	1150	2.70	M100960/17
	2350	1150	2.70	M100960/17
	1250	1250	1.56	M100960/17
	1250	1250	1.56	M100960/17
	2406	1206	2.92	M100960/13
	2406	1206	2.92	M100960/13
	1206	1206	1.46	M100960/13
	1206	1206	1.46	M100960/13
	2406	1206	2.92	M100960/13
	2406	1206	2.92	M100960/13
	1206	1206	1.46	M100960/13
	1206	1206	1.46	M100960/13
	2406	1206	2.92	M100960/13
	2406	1206	2.92	M100960/13

StoSilent Modular

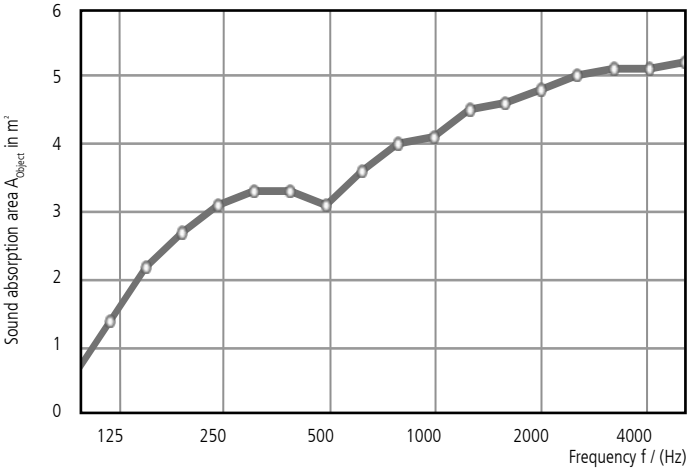
Sound absorption in detail

System: StoSilent Modular 100
Format: 3000 x 1250 mm
Coating: Nonwoven surface, white
Thickness: 26 mm
Structural height: 200 mm



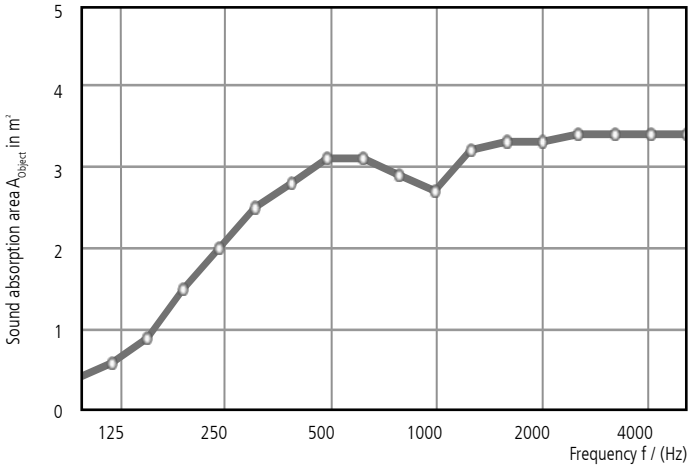
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.50	2.10	3.80	3.80	4.40	4.50
Octave band	0.80	2.70	4.10	3.60	4.30	4.60
Third-octave band	1.30	3.20	4.20	4.20	4.60	4.50

System: StoSilent Modular 100
Format: 3000 x 1250 mm
Coating: Nonwoven surface, white
Thickness: 26 mm
Structural height: 400 mm



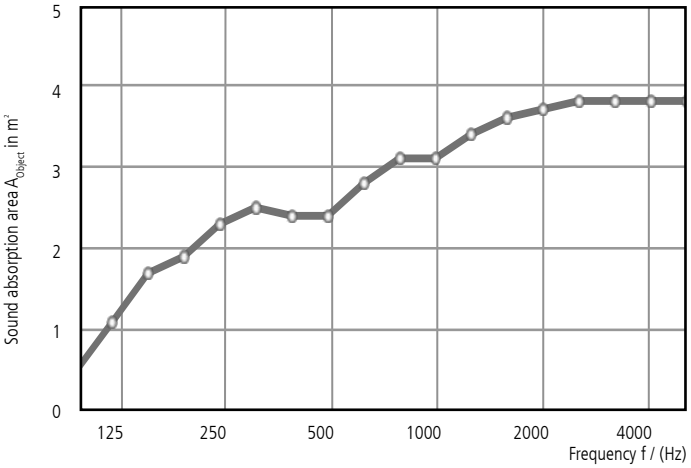
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.60	2.70	3.30	4.00	4.60	5.10
Octave band	1.40	3.10	3.10	4.10	4.80	5.10
Third-octave band	2.20	3.30	3.60	4.50	5.00	5.20

System: StoSilent Modular 100
Format: 2350 x 1150 mm
Coating: Nonwoven surface, white
Thickness: 26 mm
Structural height: 200 mm



Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.40	1.50	2.80	2.90	3.30	3.40
Octave band	0.60	2.00	3.10	2.70	3.30	3.40
Third-octave band	0.90	2.50	3.10	3.20	3.40	3.40

System: StoSilent Modular 100
Format: 2350 x 1150 mm
Coating: Nonwoven surface, white
Thickness: 26 mm
Structural height: 400 mm

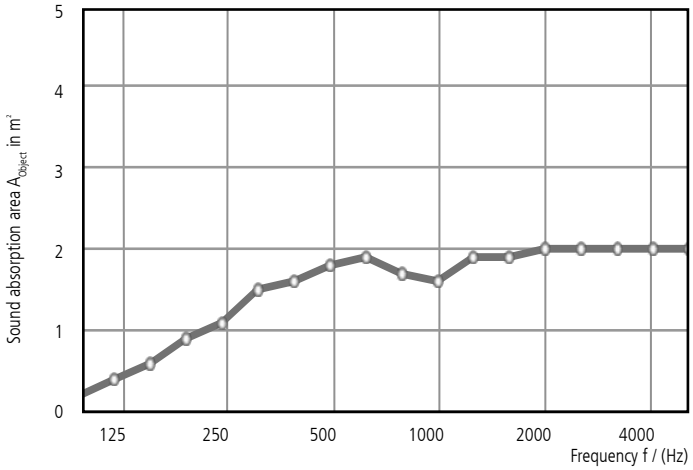


Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.50	1.90	2.40	3.10	3.60	3.80
Octave band	1.10	2.30	2.40	3.10	3.70	3.80
Third-octave band	1.70	2.50	2.80	3.40	3.80	3.80

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

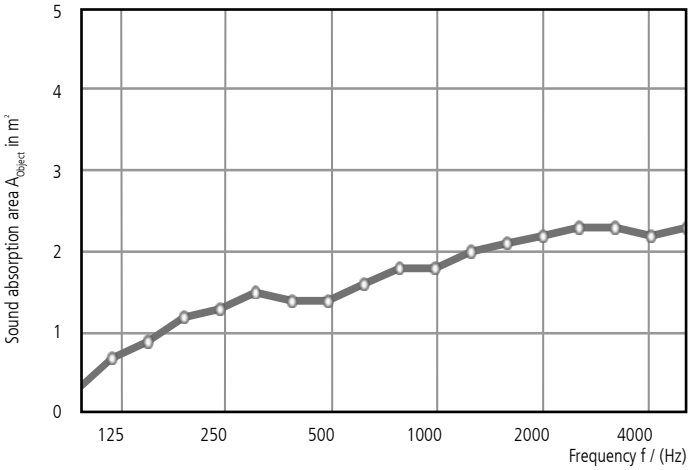
StoSilent Modular
The adjustable ceiling system

System: StoSilent Modular 100
Format: 1250 x 1250 mm
Coating: Nonwoven surface, white
Thickness: 26 mm
Structural height: 200 mm



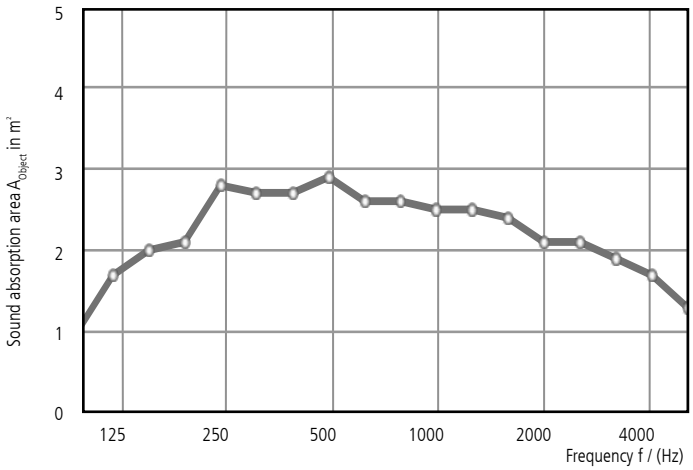
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.20	0.90	1.60	1.70	1.90	2.00
Octave band	0.40	1.10	1.80	1.60	2.00	2.00
Third-octave band	0.60	1.50	1.90	1.90	2.00	2.00

System: StoSilent Modular 100
Format: 1250 x 1250 mm
Coating: Nonwoven surface, white
Thickness: 26 mm
Structural height: 400 mm



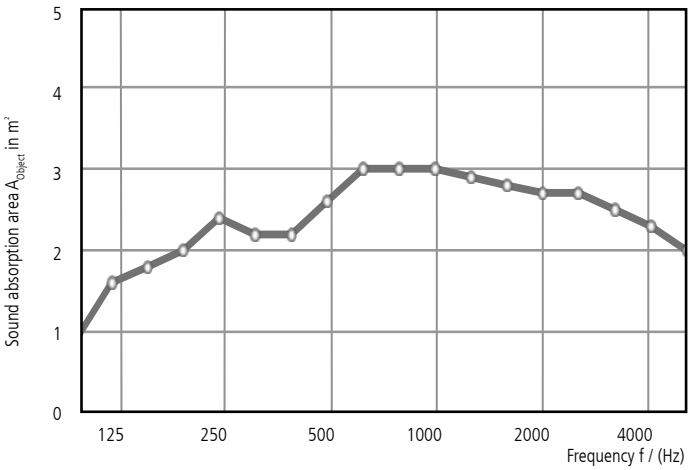
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.30	1.20	1.40	1.80	2.10	2.30
Octave band	0.70	1.30	1.40	1.80	2.20	2.20
Third-octave band	0.90	1.50	1.60	2.00	2.30	2.30

System: StoSilent Modular 200
Format: 2406 x 1206 mm
Coating: StoSilent Top Basic & Finish
Thickness: 17 (without PET)
Structural height: 200 mm



Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	1.00	2.10	2.70	2.60	2.40	1.90
Octave band	1.70	2.80	2.90	2.50	2.10	1.70
Third-octave band	2.00	2.70	2.60	2.50	2.10	1.30

System: StoSilent Modular 200
Format: 2406 x 1206 mm
Coating: StoSilent Top Basic & Finish
Thickness: 17 (without PET)
Structural height: 400 mm



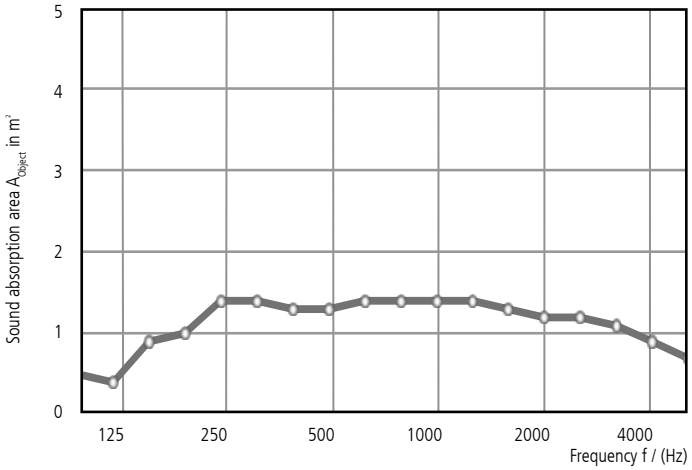
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.90	2.00	2.20	3.00	2.80	2.50
Octave band	1.60	2.40	2.60	3.00	2.70	2.30
Third-octave band	1.80	2.20	3.00	2.90	2.70	2.00

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Modular

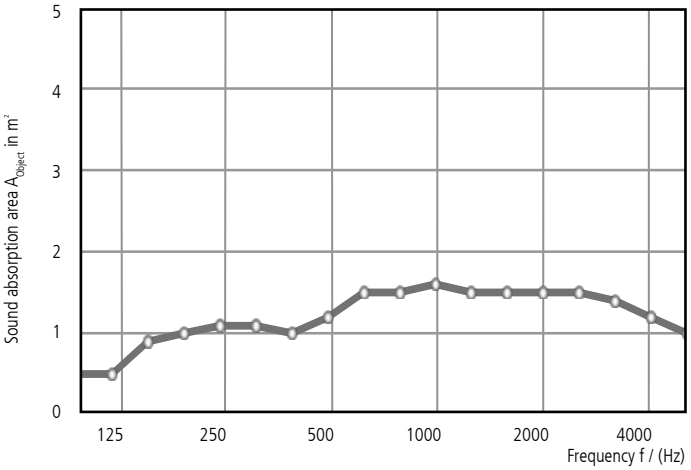
Sound absorption in detail

System: StoSilent Modular 200
Format: 1206 x 1206 mm
Coating: StoSilent Top Basic & Finish
Thickness: 17 (without PET)
Structural height: 200 mm



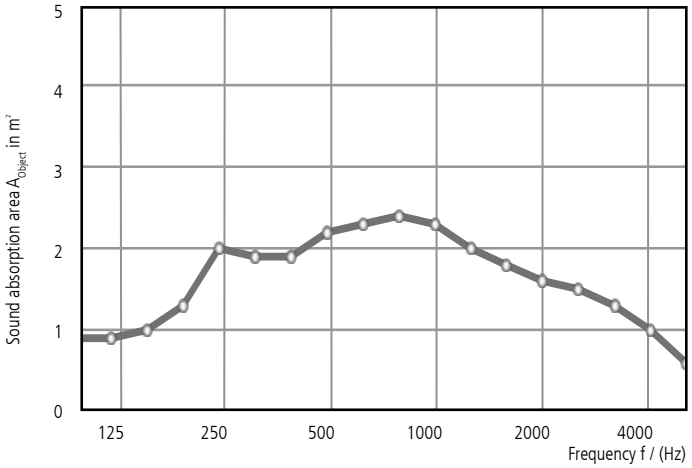
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.50	1.00	1.30	1.40	1.30	1.10
Octave band	0.40	1.40	1.30	1.40	1.20	0.90
Third-octave band	0.90	1.40	1.40	1.40	1.20	0.70

System: StoSilent Modular 200
Format: 1206 x 1206 mm
Coating: StoSilent Top Basic & Finish
Thickness: 17 (without PET)
Structural height: 400 mm



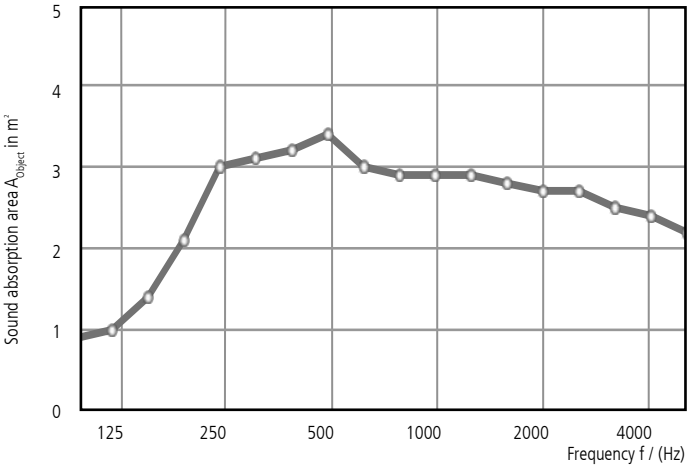
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.50	1.00	1.00	1.50	1.50	1.40
Octave band	0.50	1.10	1.20	1.60	1.50	1.20
Third-octave band	0.90	1.10	1.50	1.50	1.50	1.00

System: StoSilent Modular 200
Format: 2406 x 1206 mm
Coating: StoSilent Top Basic & Finish
Thickness: 17 (without PET)
Structural height: 49 mm



Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.90	1.30	1.90	2.40	1.80	1.30
Octave band	0.90	2.00	2.20	2.30	1.60	1.00
Third-octave band	1.00	1.90	2.30	2.00	1.50	0.60

System: StoSilent Modular 210
Format: 2406 x 1206 mm
Coating: StoSilent Decor M
Thickness: 17 (without PET)
Structural height: 200 mm

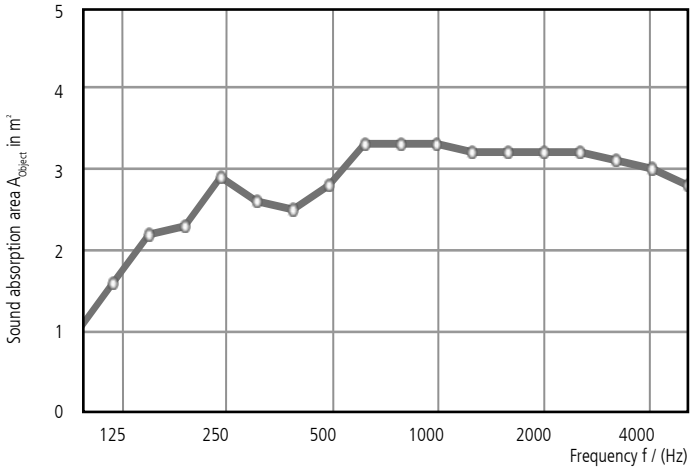


Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.90	2.10	3.20	2.90	2.80	2.50
Octave band	1.00	3.00	3.40	2.90	2.70	2.40
Third-octave band	1.40	3.10	3.00	2.90	2.70	2.20

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

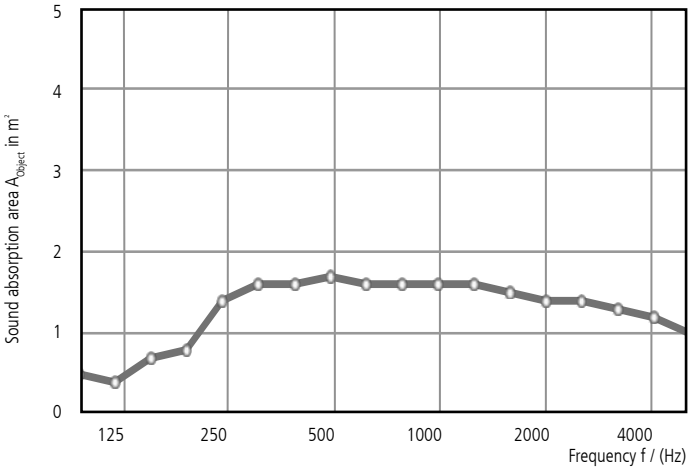
StoSilent Modular
The adjustable ceiling system

System: StoSilent Modular 210
Format: 2406 x 1206 mm
Coating: StoSilent Decor M
Thickness: 17 (without PET)
Structural height: 400 mm



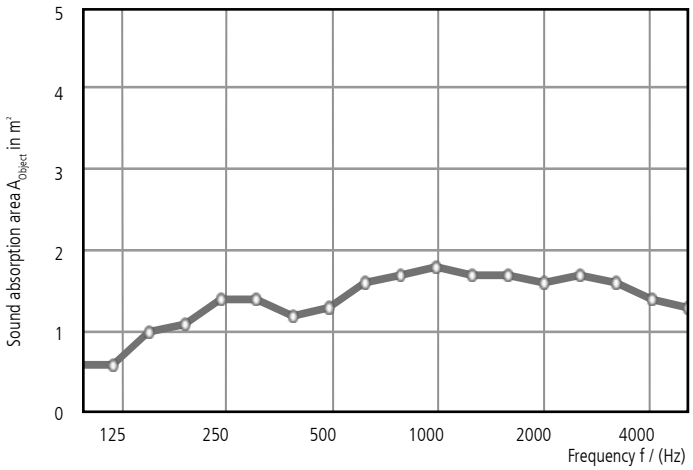
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	1.00	2.30	2.50	3.30	3.20	3.10
Octave band	1.60	2.90	2.80	3.30	3.20	3.00
Third-octave band	2.20	2.60	3.30	3.20	3.20	2.80

System: StoSilent Modular 210
Format: 1206 x 1206 mm
Coating: StoSilent Decor M
Thickness: 17 (without PET)
Structural height: 200 mm



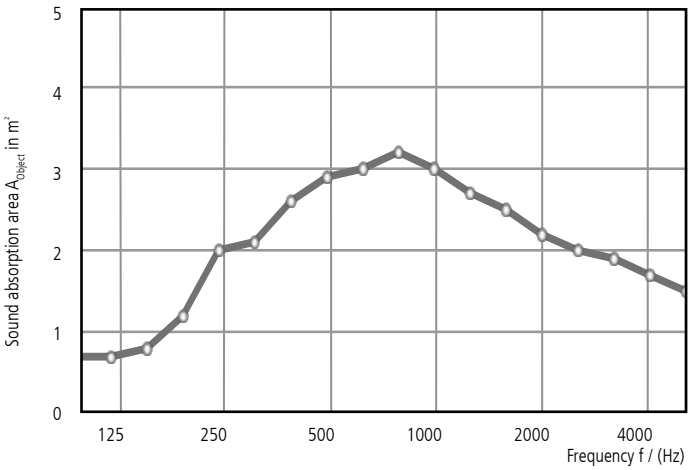
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.50	0.80	1.60	1.60	1.50	1.30
Octave band	0.40	1.40	1.70	1.60	1.40	1.20
Third-octave band	0.70	1.60	1.60	1.60	1.40	1.00

System: StoSilent Modular 210
Format: 1206 x 1206 mm
Coating: StoSilent Decor M
Thickness: 17 (without PET)
Structural height: 400 mm



Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.60	1.10	1.20	1.70	1.70	1.60
Octave band	0.60	1.40	1.30	1.80	1.60	1.40
Third-octave band	1.00	1.40	1.60	1.70	1.70	1.30

System: StoSilent Modular 210
Format: 2406 x 1206 mm
Coating: StoSilent Decor M
Thickness: 17 (without PET)
Structural height: 49 mm



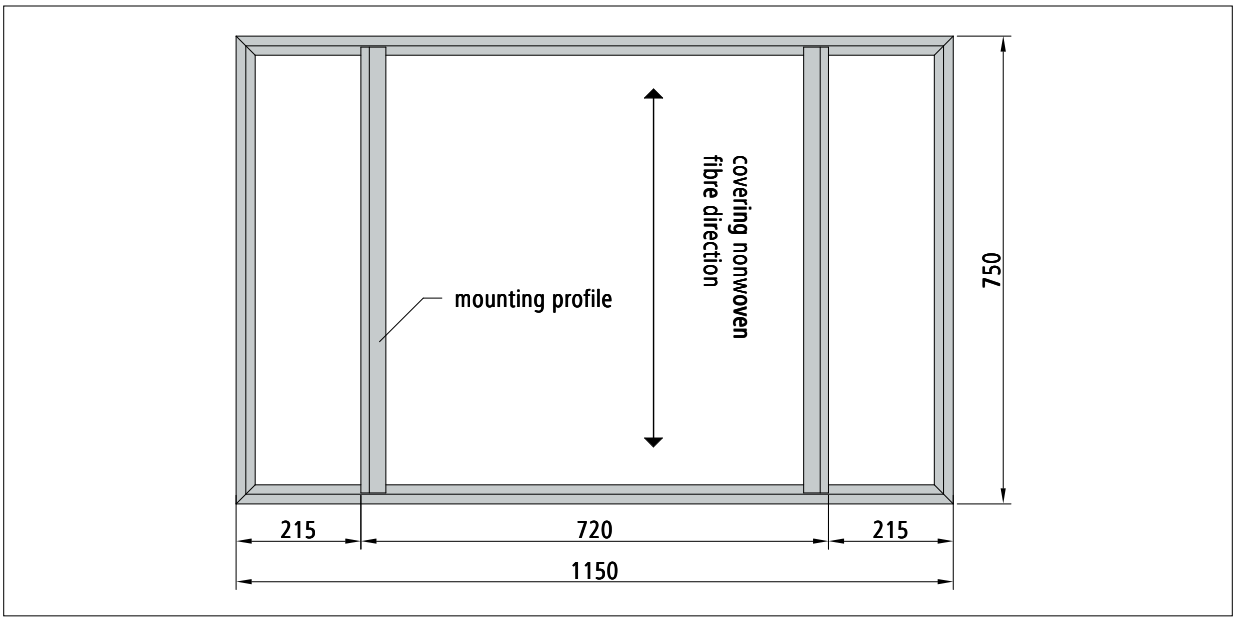
Frequency *f* in Hz	Sound absorption area A_{Object} in m²					
	125	250	500	1000	2000	4000
Third-octave band	0.70	1.20	2.60	3.20	2.50	1.90
Octave band	0.70	2.00	2.90	3.00	2.20	1.70
Third-octave band	0.80	2.10	3.00	2.70	2.00	1.50

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

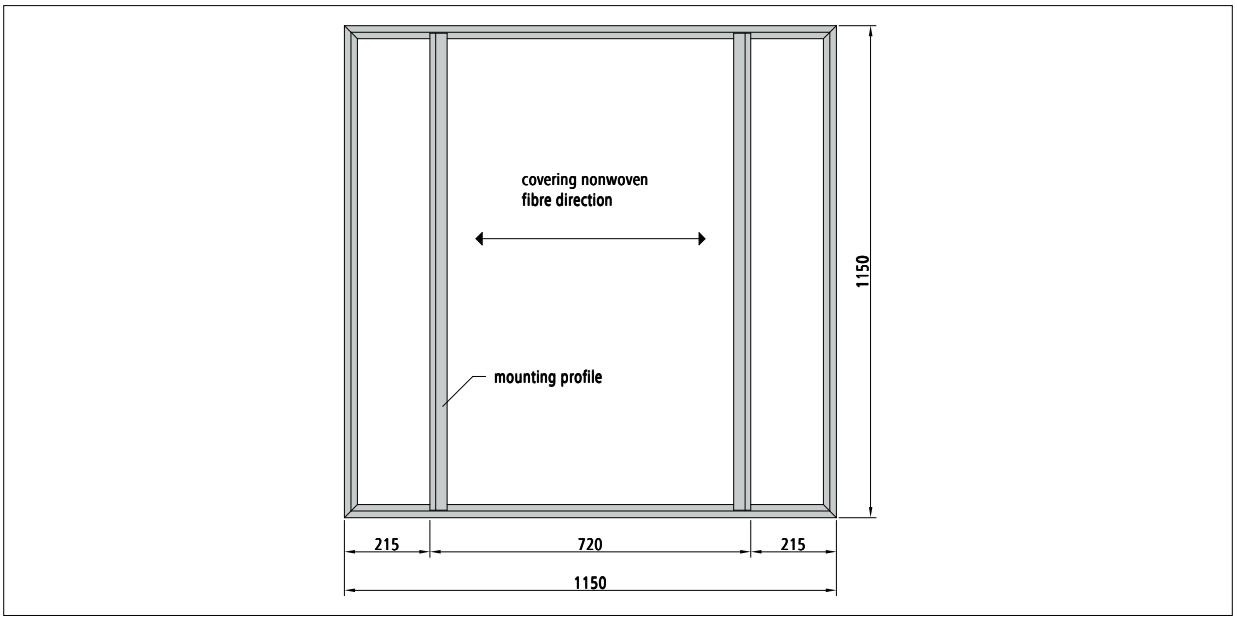
StoSilent Modular

StoSilent Modular 100 construction details

Top view: StoSilent Modular 100 ceiling element 1150 x 750 mm

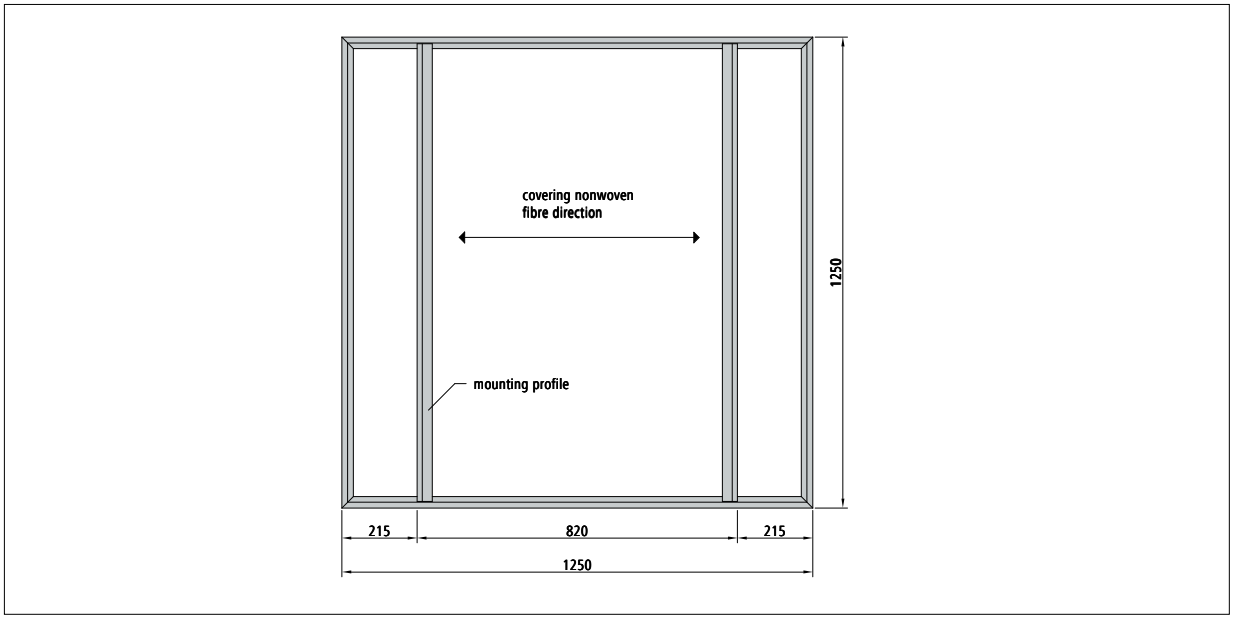


Top view: StoSilent Modular 100 ceiling element 1150 x 1150 mm

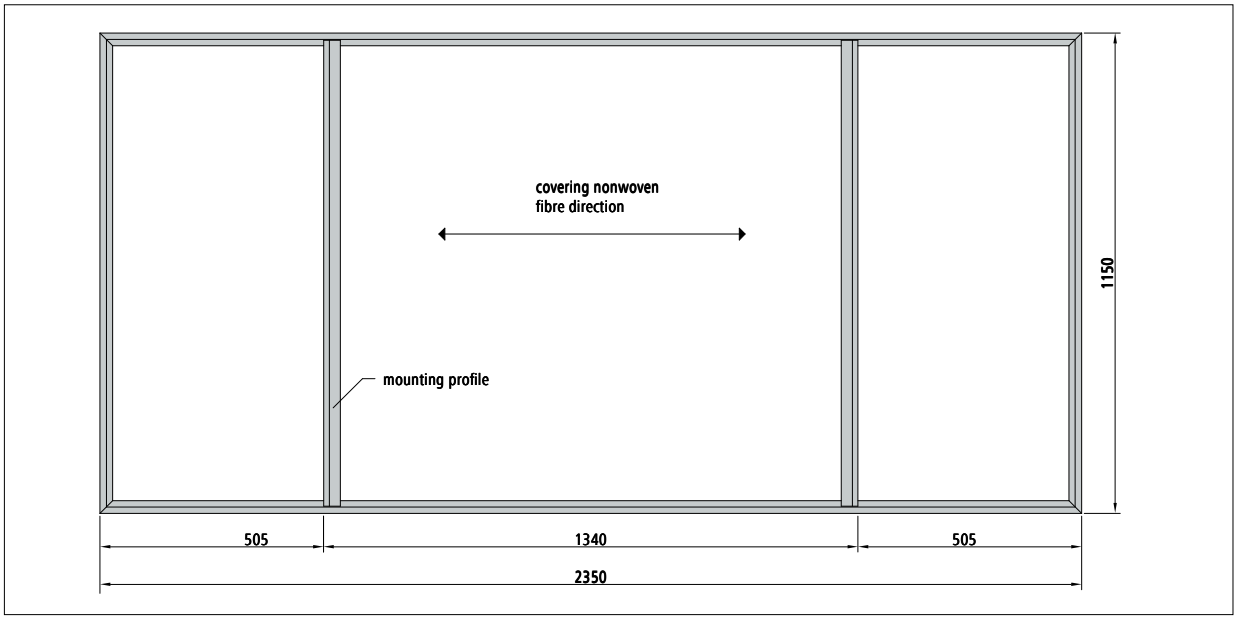


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

Top view: StoSilent Modular 100 ceiling element 1250 x 1250 mm



Top view: StoSilent Modular 100 ceiling element 2350 x 1150 mm

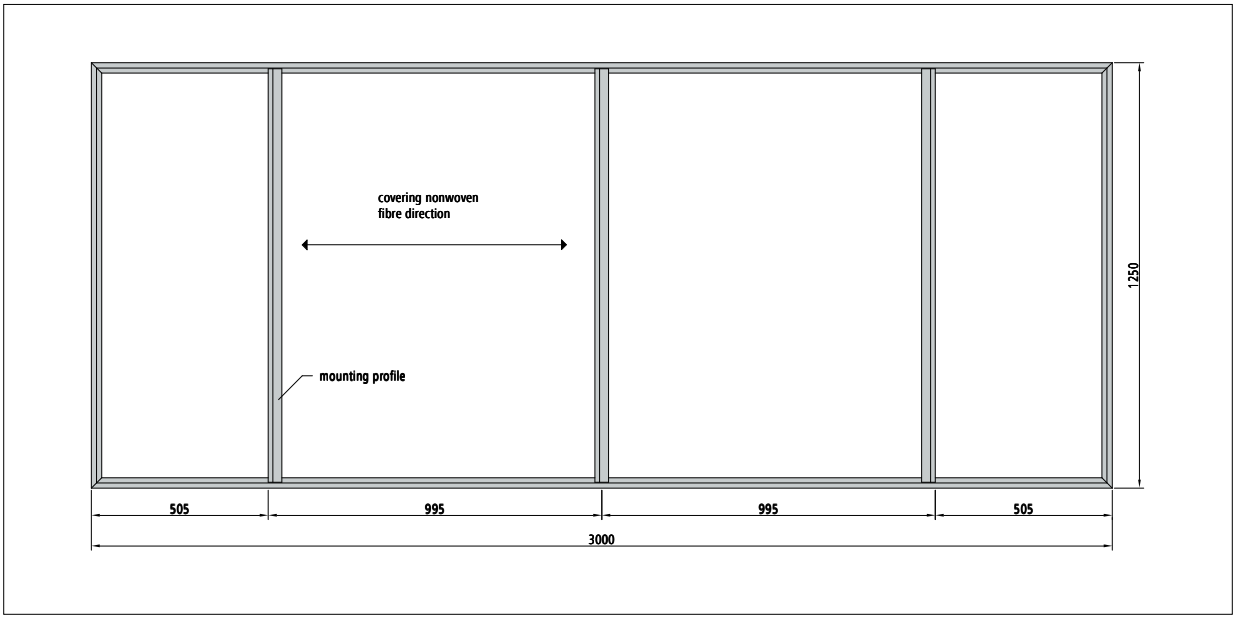


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

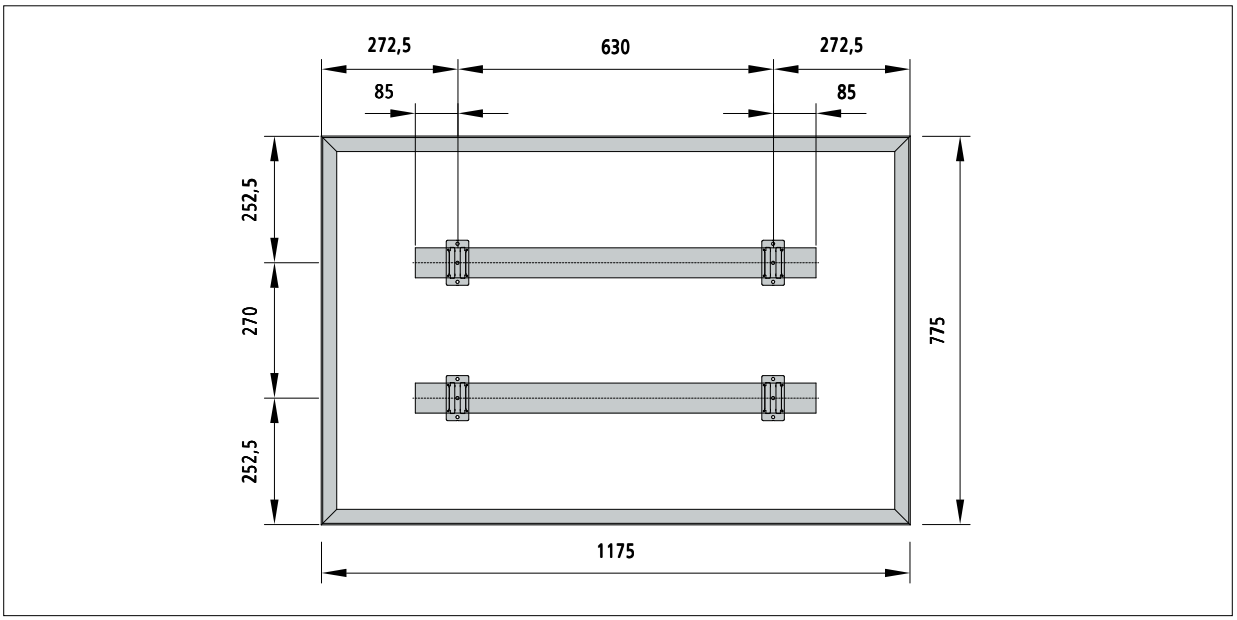
StoSilent Modular

StoSilent Modular 100/200 construction details

Top view: StoSilent Modular 100 ceiling element 3000 x 1250 mm

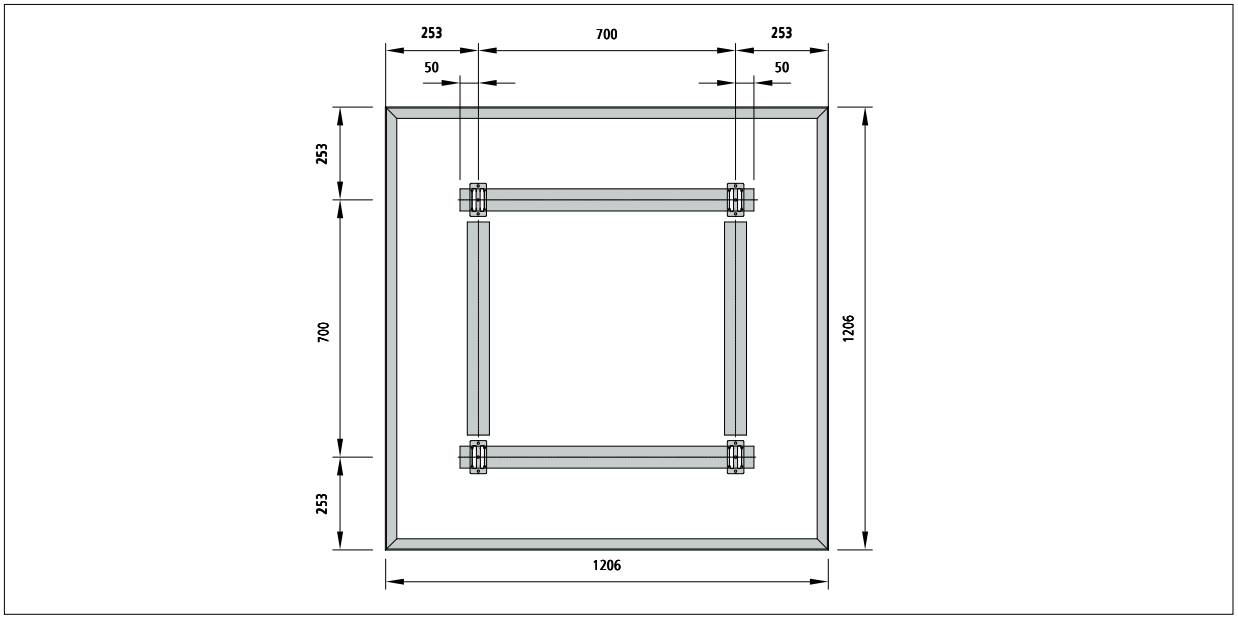


Top view: StoSilent Modular 200 ceiling element 1175 x 775 mm

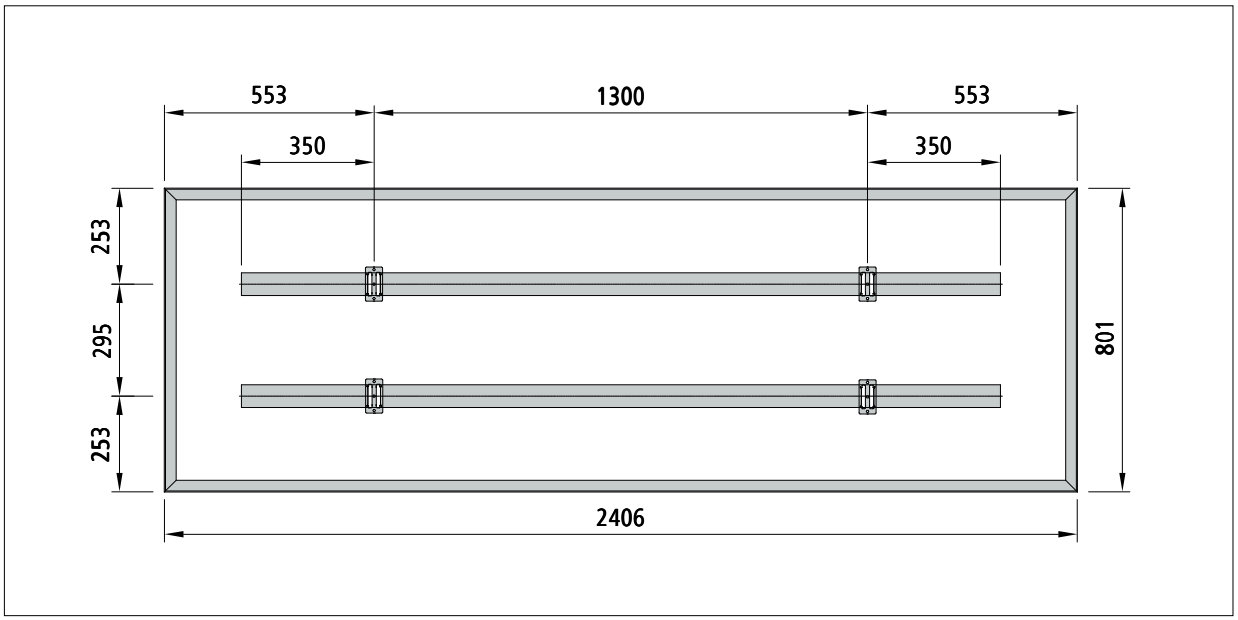


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

Top view: StoSilent Modular 200 ceiling element 1206 x 1206 mm



Top view: StoSilent Modular 200 ceiling element 2406 x 801 mm

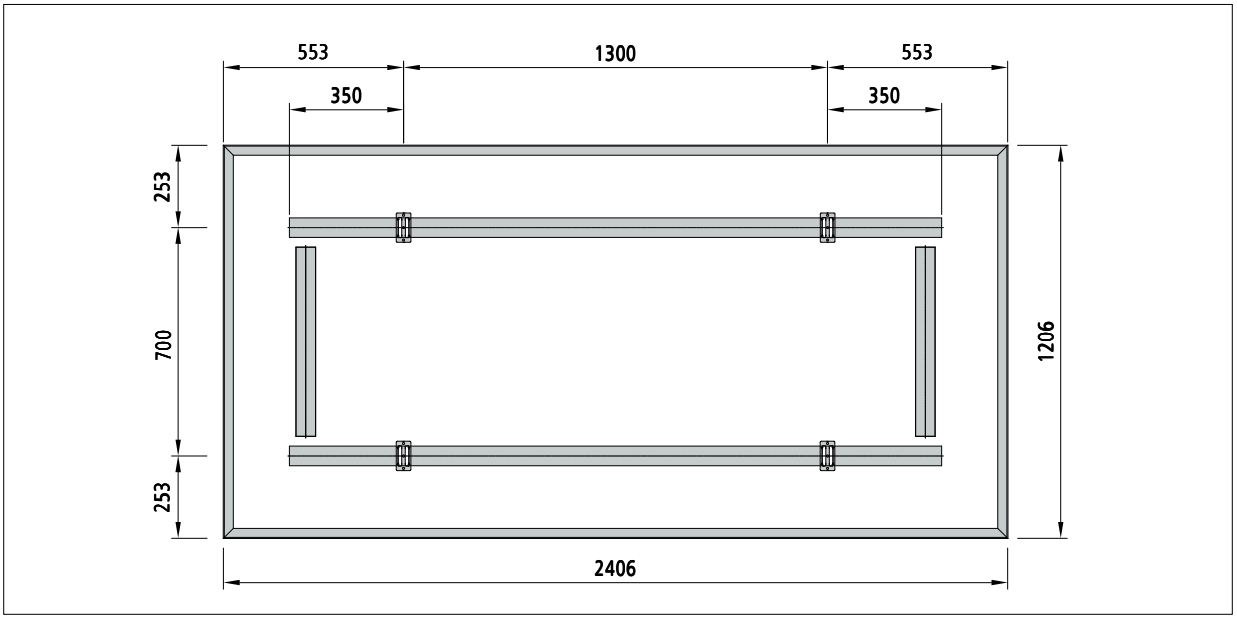


Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

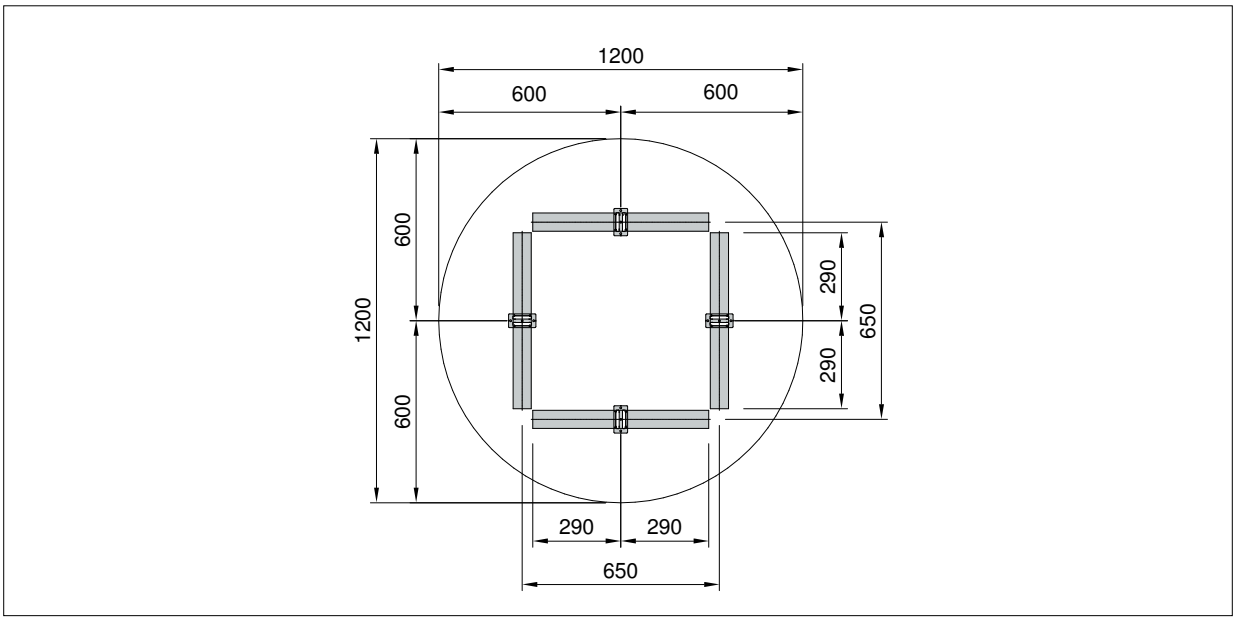
StoSilent Modular

StoSilent Modular 200 construction details

Top view: StoSilent Modular 200 ceiling element 2406 x 1206 mm



Top view: StoSilent Modular 200 ceiling element R 60 mm



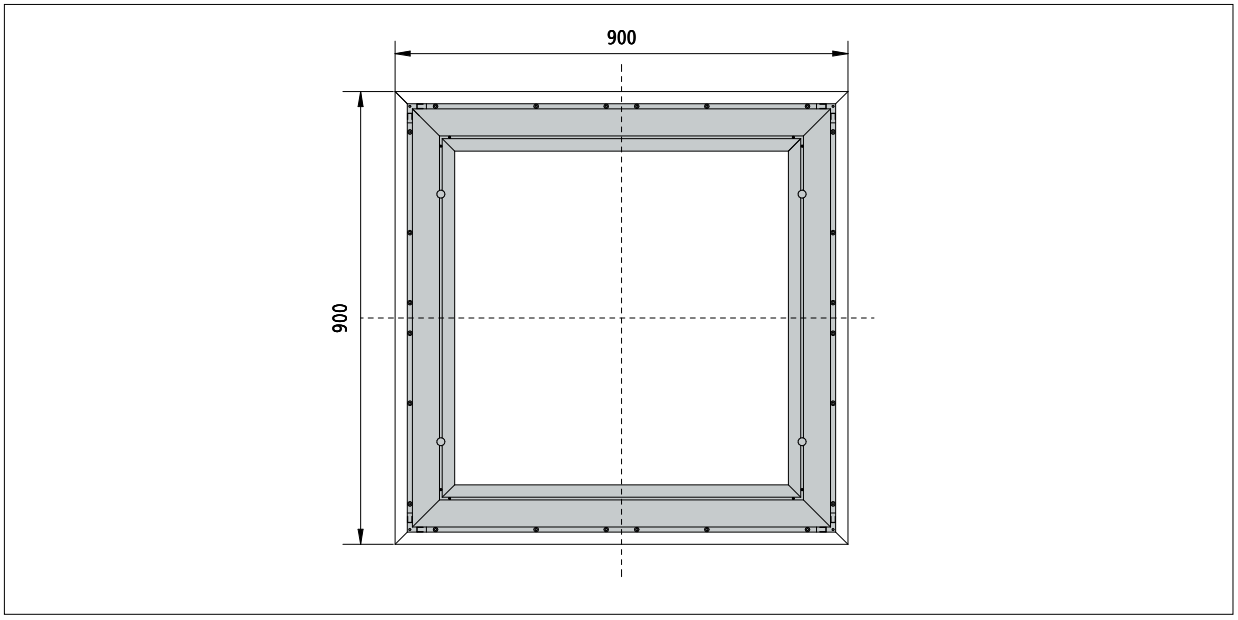
Note: This detail is a general, non-binding planning suggestion, which depicts the execution only schematically. The customer/planner/applicator is independently responsible for determining the suitability and completeness of the product for the particular construction project. Neighbouring works are only described schematically. All specifications and assumptions must be adjusted or agreed in the light of local conditions. Compliance with the technical specifications contained in the Technical Data Sheets, application guidelines, and system approvals is mandatory.

StoSilent Modular

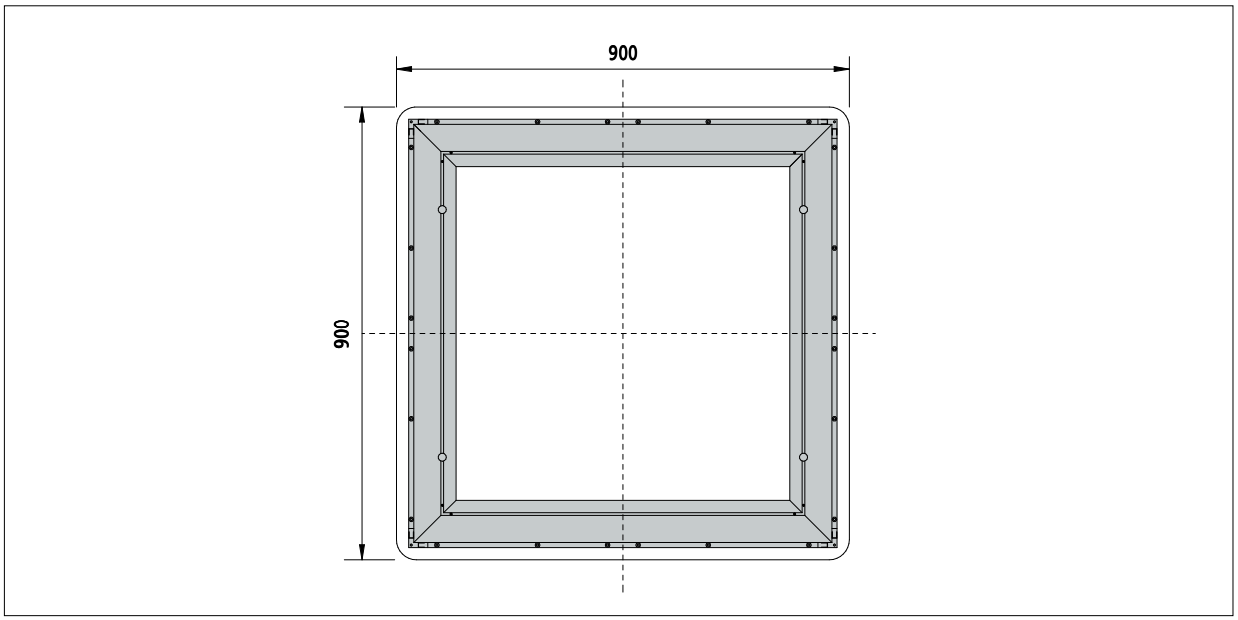
StoSilent Modular 300 construction details

StoSilent Modular
The adjustable ceiling system

Top view: StoSilent Modular 300 ceiling element 900 x 900 mm



Top view: StoSilent Modular 300 ceiling element 900 x 900 mm, R 40 mm



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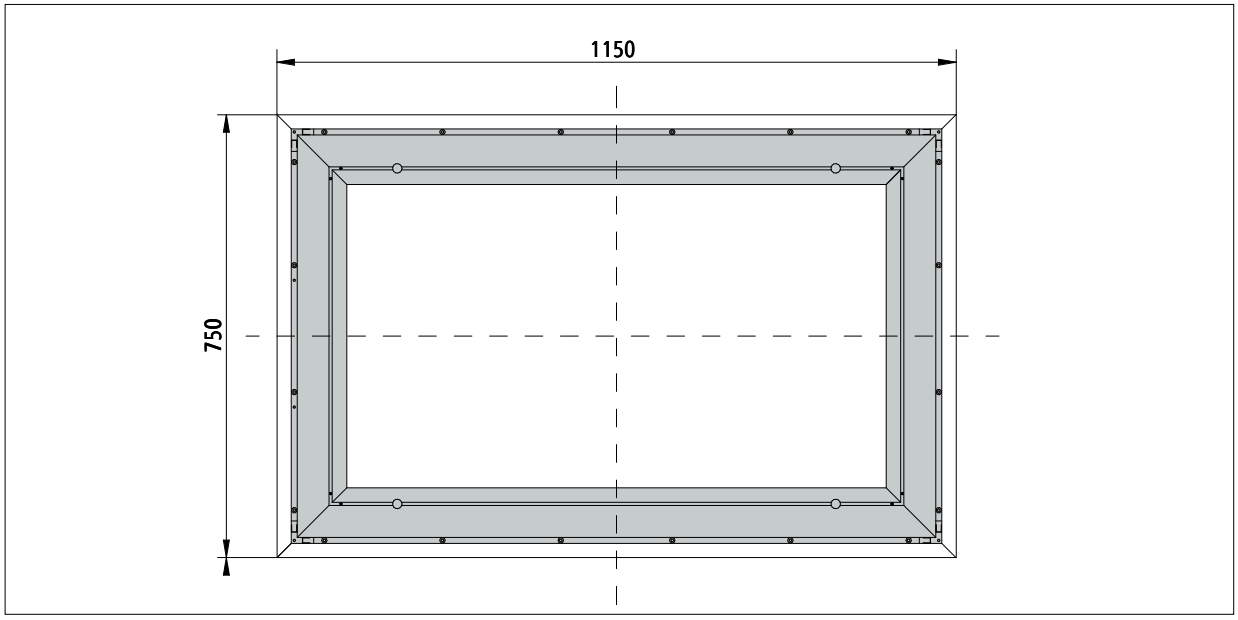
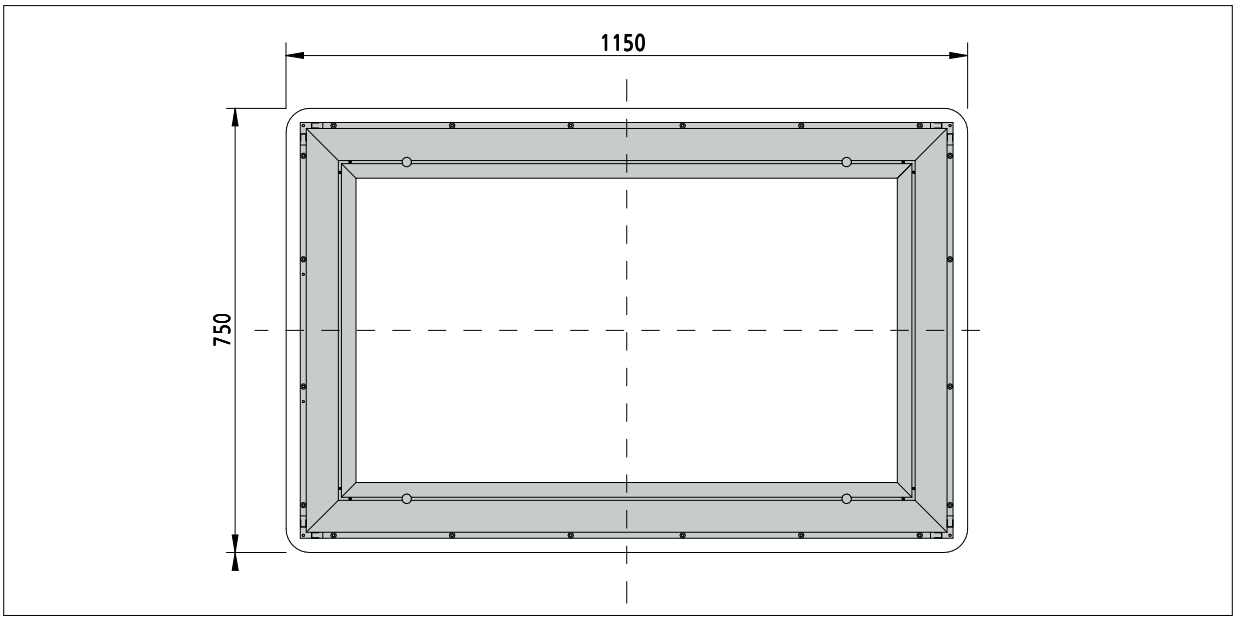
StoSilent Modular

StoSilent Modular 300 construction details

Top view: StoSilent Modular 300 ceiling element 1150 x 750 mm



Top view: StoSilent Modular 300 ceiling element 1150 x 750 mm, R 40 mm



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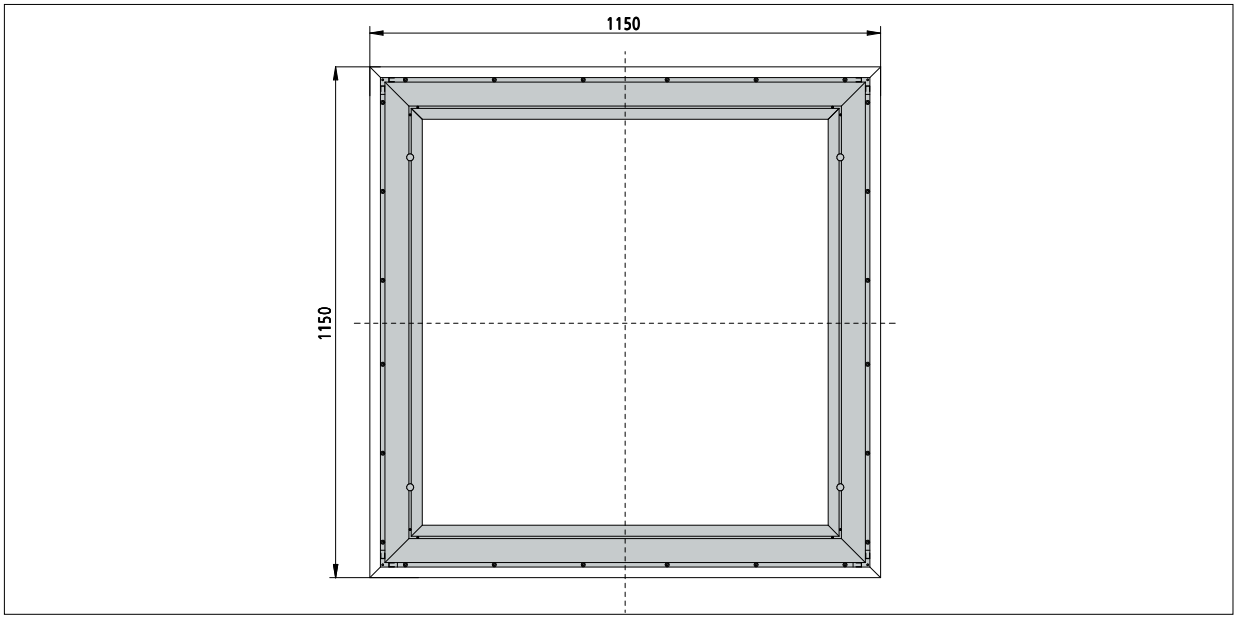
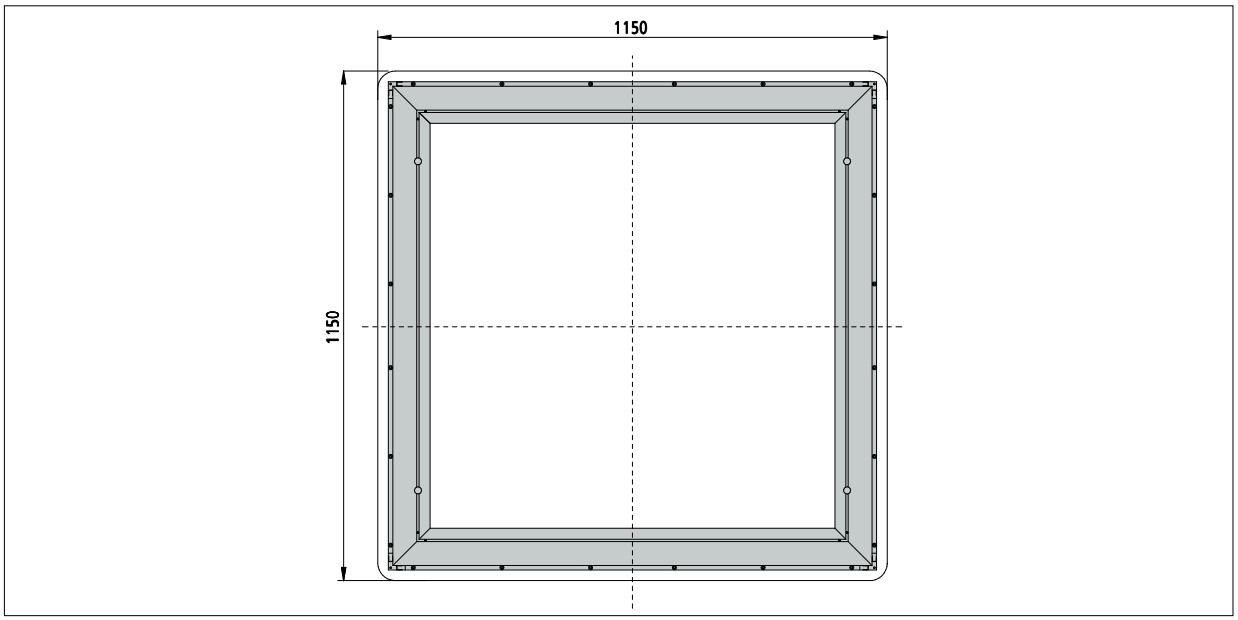
Top view: StoSilent Modular 300 ceiling element 1150 x 1150 mm



Top view: StoSilent Modular 300 ceiling element 1150 x 1150 mm, R 40 mm



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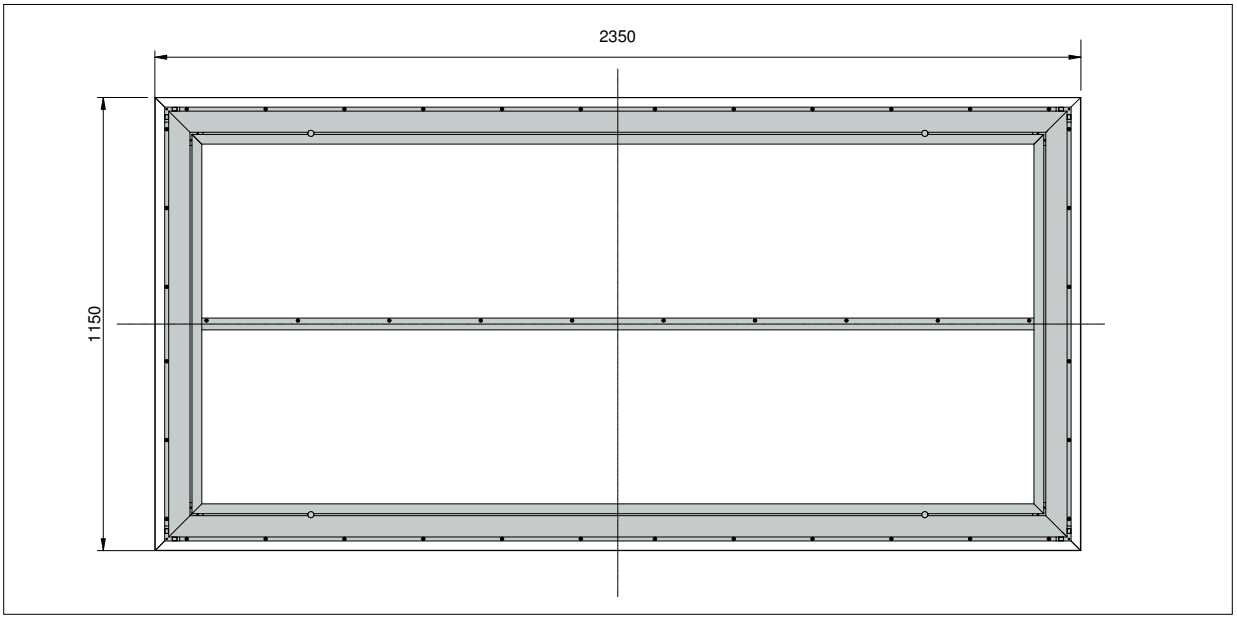
StoSilent Modular

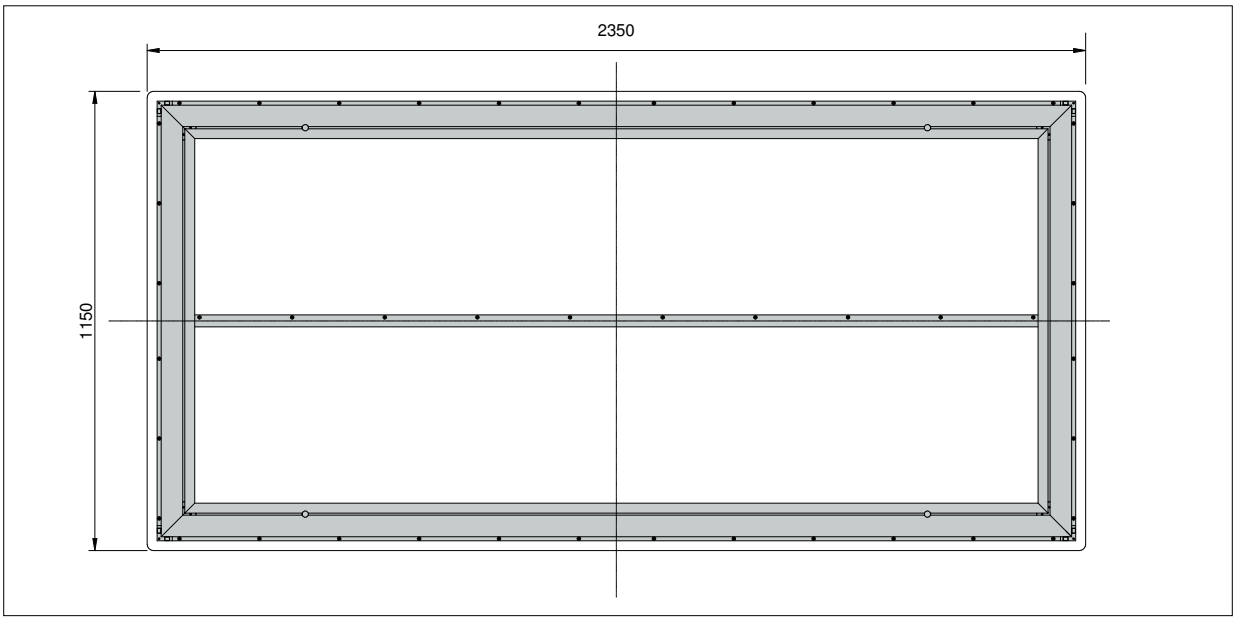
StoSilent Modular 300 construction details

StoSilent Modular
The adjustable ceiling system

Top view: StoSilent Modular 300 ceiling element 2350 x 1150 mm



Top view: StoSilent Modular 300 ceiling element 2350 x 1150 mm, R 40 mm



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The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Compact
The flexible plaster system

StoSilent Compact
The flexible plaster system

Many structural factors do not allow suspended or mounted acoustic systems - for example, listed buildings or sacred buildings. In such cases, our StoSilent Compact plaster systems are the ideal choice. They are just as easy to apply as conventional plasters and have a positive impact on the room acoustics.

StoSilent Compact enables seamless, homogeneous surfaces to be quickly realised. The two plaster systems, StoSilent Compact Miral and StoSilent Compact Sil, are also highly suitable 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.

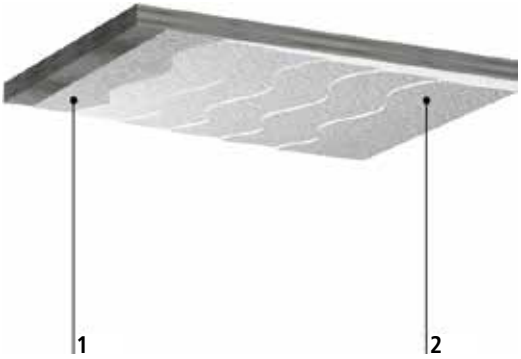
System description of StoSilent Compact

System version	**StoSilent Compact Miral**	**StoSilent Compact Sil**
Substrate	Prime the substrate according to its composition	
System profile	**StoSilent Profile AS, Sto-Stone Paste**	**StoSilent Profile PL, Sto-Stone Paste**
Prime coating	**StoSilent Prep Quarz** **StoSilent Prim**	
Intermediate coat		Layer 1 and 2 **StoSilent Sil AP Comp. A** with **StoSilent Sil AP Comp. B**
Finish	**5x StoSilent Miral AP** Optional tinting with **Sto Tint Aqua**	Layer 3 and 4 **StoSilent Sil AP Comp. A** with **StoSilent Sil AP Comp. C**
Colour coating	**StoColor Silent**	**StoSilent Decor M** **StoSilent Decor MF**
Accessories, supplementary products	**StoSilent Profile AS** **Sto-Stone Paste**	

The detailed technical specifications and information on the products contained in the Technical Data Sheets and approvals must be observed.

StoSilent Compact Miral

System overview



1. Primer
2. Finish

StoSilent Compact Miral
Mineral, non-combustible, acoustic plaster system with a rough surface

System advantages
- Porous decorative coating
- Low weight
- Good sound absorption in the medium- and high-frequency range

Areas of application
- Interior
- For ceilings and upper wall areas
- Do not use in brine pools, steam baths, and on gypsum fibre boards.

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

Sound absorption
- α_w in accordance with EN 11654 max. 0.30 (H)
- NRC in accordance with ASTM C 423 max. 0.35
- Values depend on the structural height – approx. 15 mm in this case. With a structural height of approx. 25 mm α_w in accordance with EN 11654 max. 0.50 (H) and NRC in accordance with ASTM C 423 max. 0.60.

Design options
- Rough surface

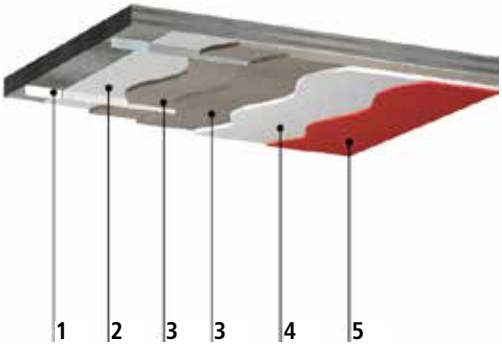
Colour spectrum
- White (approx. RAL 9003)
- Limited tintability with StoTint Aqua
- Colour coating with StoColor Silent

Application
- By trained specialists
- To be sprayed on in several thin layers.
- Thickness: approx. 15 mm

StoSilent Compact Sil

System overview

StoSilent Compact
The flexible plaster system



1. System profile
2. Primer
3. Intermediate coat
4. Intermediate coat
5. Finish

StoSilent Compact Sil
Silicate acoustic plaster system of normal combustibility with a textured surface

System advantages
- Porous decorative coating
- Low weight
- Good sound absorption in the medium- and high-frequency range

Areas of application
- Interior
- For ceilings and upper wall areas
- Do not use in brine pools, steam baths, and on gypsum fibre boards.

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

Sound absorption
- α_w in accordance with EN 11654 max. 0.45 (MH)
- NRC in accordance with ASTM C 423 max. 0.60
- Values depend on the application method

Design options
- Textured surface
- Wide range of colour design possibilities

Colour spectrum
- White (approx. RAL 9010)
- Tintable in accordance with the StoColor System

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

Sound characteristics

It's all about the right sound absorption

Systems built over an area (seamless/with visible joints)

System	Product	Coating	Build-up acc. to ISO 354	Structural height in mm
StoSilent Compact	StoSilent Sil AP	StoSilent Decor	Type B	25
	StoSilent Sil AP	StoSilent Decor	E-285	285
	StoSilent Miral AP, application with hopper gun	None	Type A	15
	StoSilent Miral AP, application by machine with conveying pump	None	Type A	15
	StoSilent Miral AP, application with hopper gun	None	E-200	200
	StoSilent Miral AP, application by machine with conveying pump	None	E-200	200
	StoSilent Miral AP, application by machine with conveying pump	None	E-37	37
	StoSilent Miral AP, application by machine with conveying pump	None	E-200	200

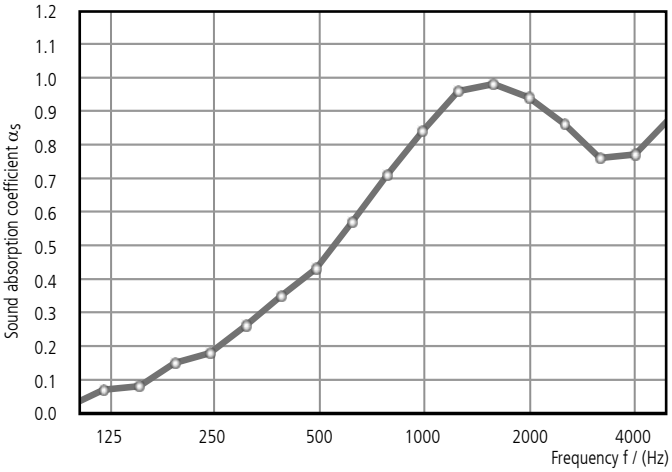
StoSilent Compact
The flexible plaster system

	Plaster thickness in mm	α_w EN ISO 11654	*NRC* ASTM C 423	*SAA* ASTM C 423	Absorber class EN ISO 11654	Test report
	25	0.45 (MH)	0.60	0.60	D	M35 120/107
	25	0.40 (MH)	0.60	0.59	D	M35 120/107
	15	0.30 (H)	0.35	0.35	D	M100960/11
	15	0.30 (H)	0.35	0.34	D	M100960/11
	15	0.30 (H)	0.35	0.35	D	M100960/11
	15	0.30 (H)	0.35	0.34	D	M100960/11
	25	0.45 (MH)	0.60	0.62	D	M100960/20150831
	25	0.50 (MH)	0.60	0.62	D	M100960/20150831

StoSilent Compact

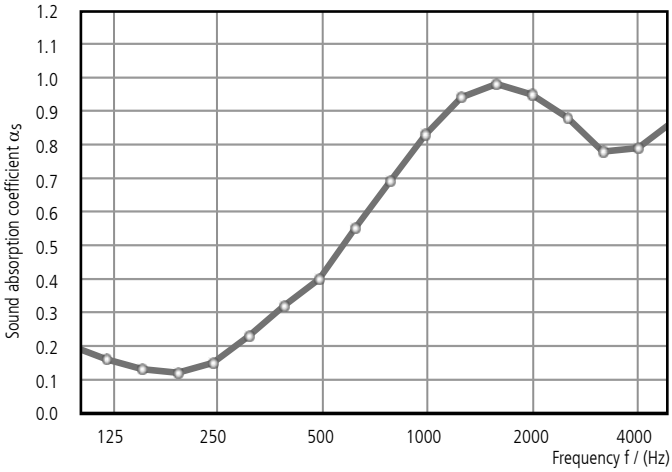
Sound absorption in detail

System: StoSilent Compact Sil
Build-up: StoSilent Sil AP
Coating: StoSilent Decor MF
Thickness: 25 mm
Structural height: 25 mm
α_w: 0.45 (MH)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.02	0.15	0.35	0.71	0.98	0.76
Octave band	0.07	0.18	0.43	0.84	0.94	0.77
Third-octave band	0.08	0.26	0.57	0.96	0.86	0.88
α_p	0.05	0.20	0.45	0.85	0.95	0.80

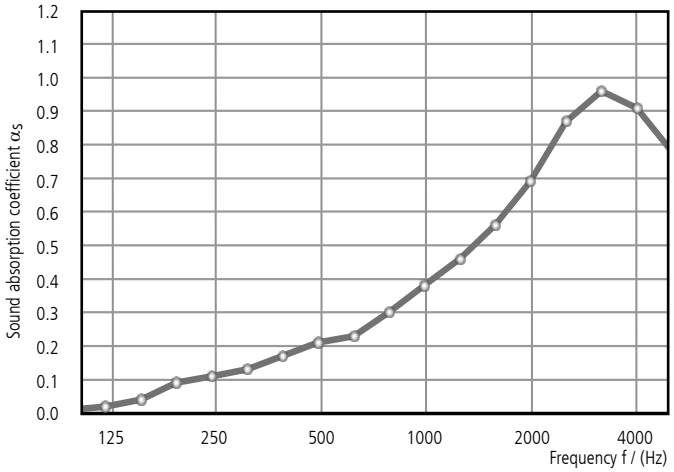
System: StoSilent Compact Sil
Build-up: StoSilent Sil AP
Coating: StoSilent Decor MF
Thickness: 25 mm
Structural height: 285 mm
α_w: 0.40 (MH)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.20	0.12	0.32	0.69	0.98	0.78
Octave band	0.16	0.15	0.40	0.83	0.95	0.79
Third-octave band	0.13	0.23	0.55	0.94	0.88	0.87
α_p	0.15	0.15	0.40	0.80	0.95	0.80

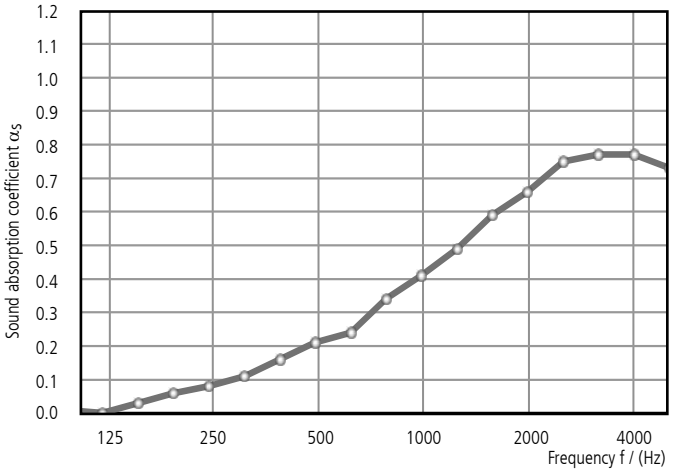
StoSilent Compact
The flexible plaster system

System: StoSilent Compact Miral
Build-up: StoSilent Miral AP, application with hopper gun
Coating: –
Thickness: 15 mm
Structural height: 15 mm
α_w**:** 0.30 (H)
***NRC*:** 0.35



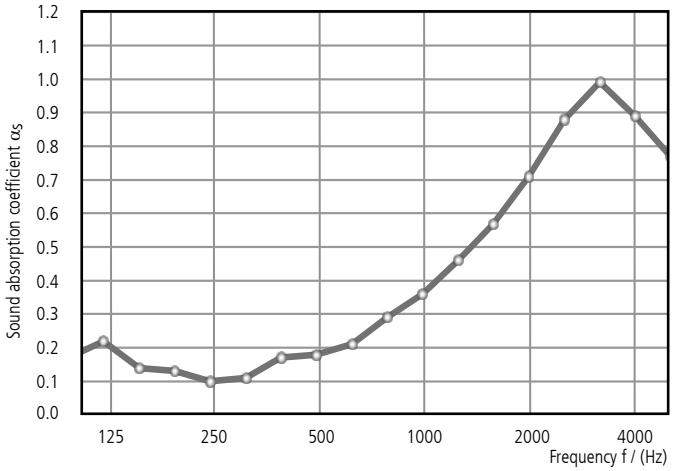
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.01	0.09	0.17	0.30	0.56	0.96
Octave band	0.02	0.11	0.21	0.38	0.69	0.91
Third-octave band	0.04	0.13	0.23	0.46	0.87	0.78
α_p	0.00	0.10	0.20	0.40	0.70	0.90

System: StoSilent Compact Miral
Build-up: StoSilent Miral AP, application by machine with conveying pump
Coating: –
Thickness: 15 mm
Structural height: 15 mm
α_w**:** 0.30 (H)
***NRC*:** 0.35



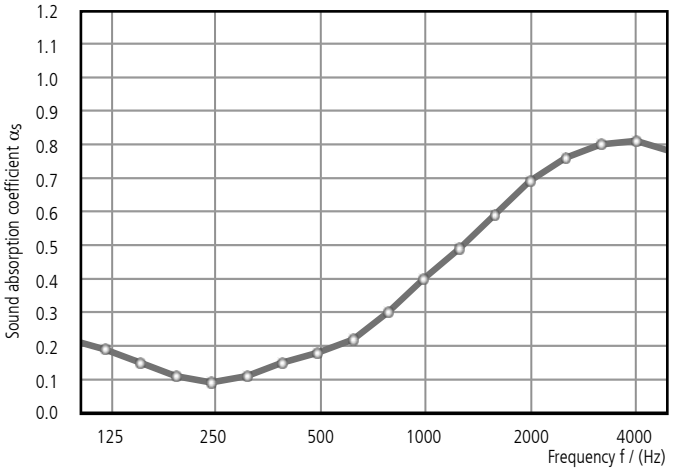
Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.01	0.06	0.16	0.34	0.59	0.77
Octave band	0.00	0.08	0.21	0.41	0.66	0.77
Third-octave band	0.03	0.11	0.24	0.49	0.75	0.73
α_p	0.00	0.10	0.20	0.40	0.65	0.75

System: StoSilent Compact Miral
Build-up: StoSilent Miral AP, application with hopper gun
Coating: –
Thickness: 15 mm
Structural height: 200 mm
α_w**:** 0.30 (H)
***NRC*:** 0.35



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.17	0.13	0.17	0.29	0.57	0.99
Octave band	0.22	0.10	0.18	0.36	0.71	0.89
Third-octave band	0.14	0.11	0.21	0.46	0.88	0.77
α_p	0.20	0.10	0.20	0.35	0.70	0.90

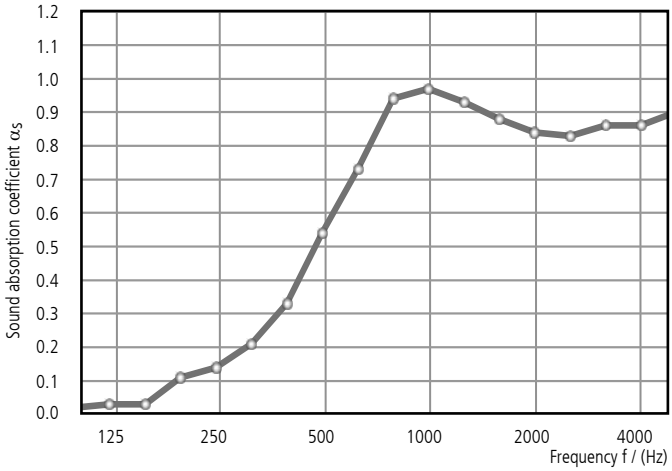
System: StoSilent Compact Miral
Build-up: StoSilent Miral AP, application by machine with conveying pump
Coating: –
Thickness: 15 mm
Structural height: 200 mm
α_w**:** 0.30 (H)
***NRC*:** 0.35



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.22	0.11	0.15	0.30	0.59	0.80
Octave band	0.19	0.09	0.18	0.40	0.69	0.81
Third-octave band	0.15	0.11	0.22	0.49	0.76	0.78
α_p	0.20	0.10	0.20	0.40	0.70	0.80

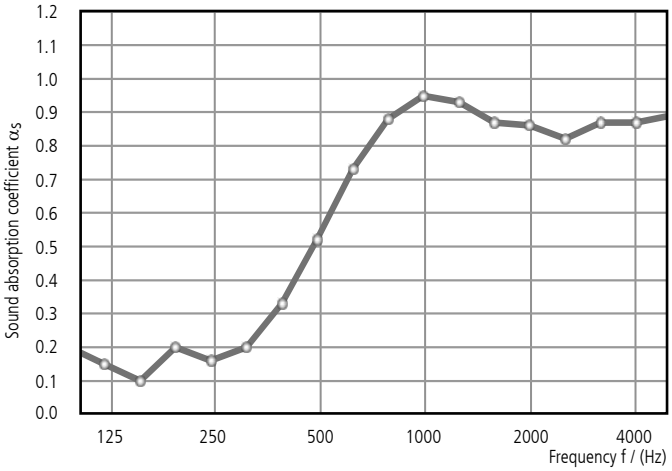
StoSilent Compact
Sound absorption in detail

System: StoSilent Compact Miral
Build-up: StoSilent Miral AP, application by machine with conveying pump
Coating: –
Thickness: 25 mm
Structural height: 25 mm
α_w**:** 0.45 (MH)
***NRC*:** 0.60



Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.02	0.11	0.33	0.94	0.88	0.86
Octave band	0.03	0.14	0.54	0.97	0.84	0.86
Third-octave band	0.03	0.21	0.73	0.93	0.83	0.90
α_p	0.05	0.15	0.55	0.95	0.85	0.85

System: StoSilent Compact Miral
Build-up: StoSilent Miral AP, application by machine with conveying pump
Coating: –
Thickness: 25 mm
Structural height: 200 mm
α_w**:** 0.50 (MH)
***NRC*:** 0.60

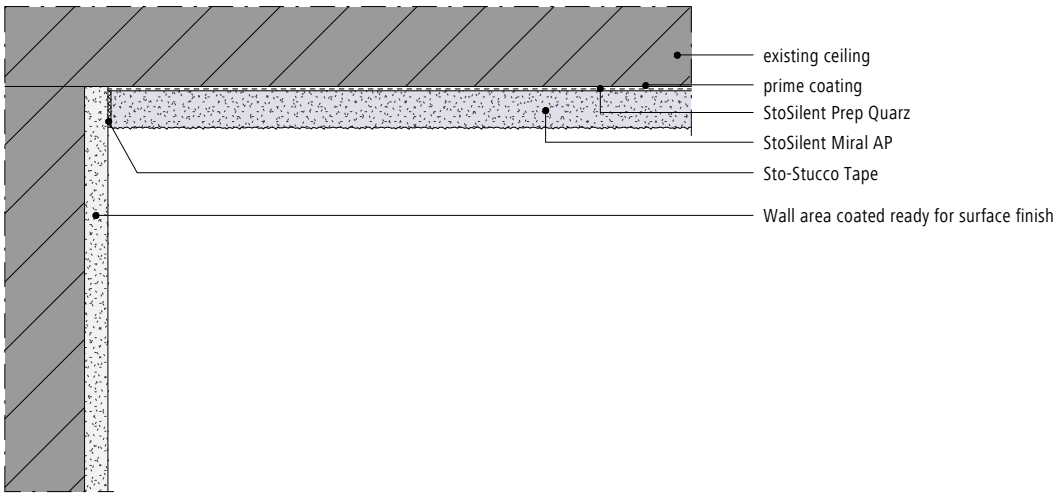


Frequency *f* in Hz	Sound absorption coefficient α_s					
	125	250	500	1000	2000	4000
Third-octave band	0.20	0.20	0.33	0.88	0.87	0.87
Octave band	0.15	0.16	0.52	0.95	0.86	0.87
Third-octave band	0.10	0.20	0.73	0.93	0.82	0.89
α_p	0.15	0.20	0.55	0.90	0.85	0.90

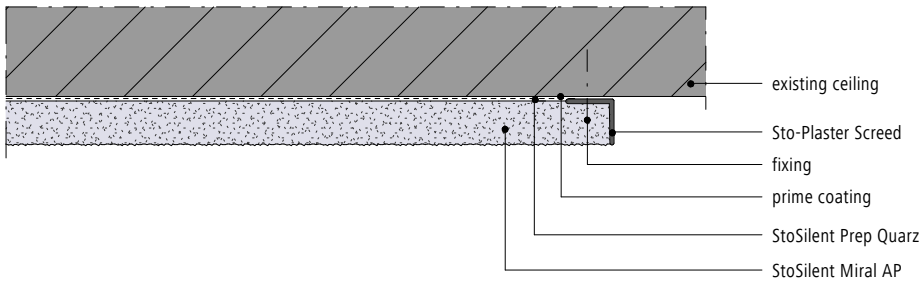
StoSilent Compact
Construction details – ceiling

StoSilent Compact
The flexible plaster system

Ceiling (vertical section): straight-edged wall junction



Ceiling (vertical section): connection across the surface



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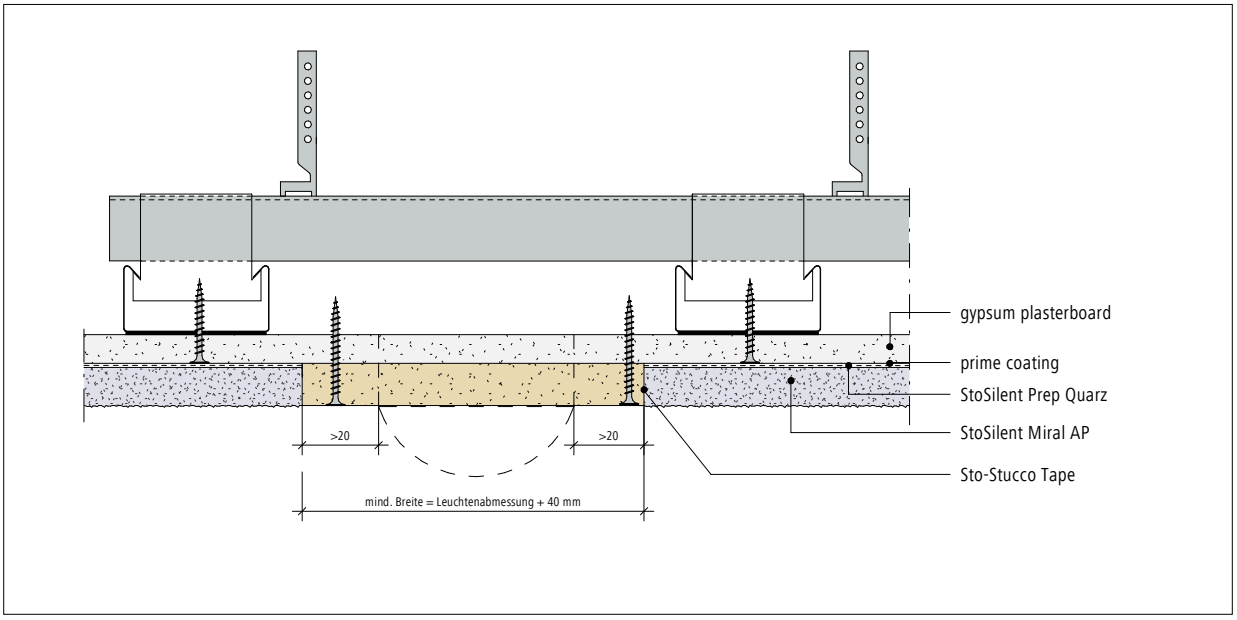
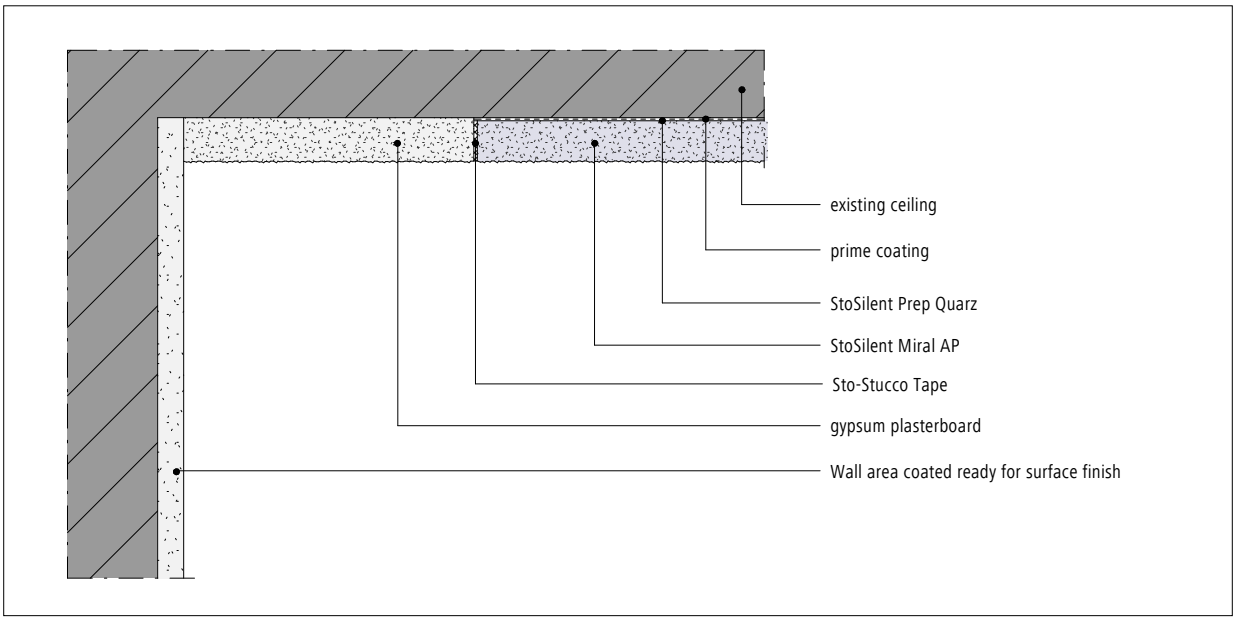
StoSilent Compact
Construction details – ceiling

Ceiling (vertical section): installation frame, raised



Ceiling (vertical section): levelling frieze



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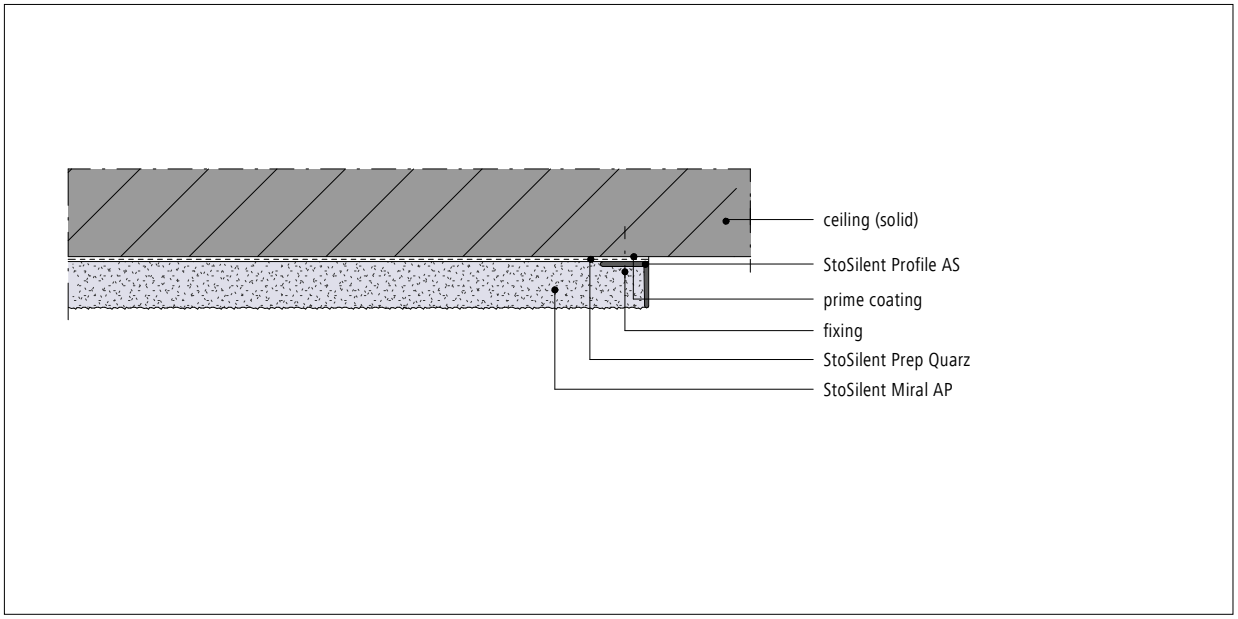
Ceiling (vertical section): completion with StoSilent Profile AS



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StoSilent

Application fields, challenges, benefits, solutions

Overview

Category	Areas of application	Challenge	Technical background
Office	Open-plan office	• Compromise between background noise and speech • Peace and quiet in own workplace • Good speech intelligibility on the phone • Good speech intelligibility over short distances within small work teams • Moderate to poor speech intelligibility over greater distances • Acoustic separation of areas further away • Prevention of flutter echoes	• Regulation of reverberation time • Level reduction • Adjusted damping and speech intelligibility • Good masking of extraneous noise • Protection from disruptive direct sound • Adjustment of background noise • Suppression of flutter echoes
Office	Individual office	• Reduction of reverberation time to ensure good speech intelligibility in meetings and telephone calls	• Room damping • Level reduction
Office	Multi-person office	• Reduction of extraneous noise • Reduction of stress factors • Increased concentration and productivity	• Room damping • Level reduction
Office	Video conference room	• Short reverberation times and high-quality damping improve speech intelligibility and reduce electronic feedback.	• Regulation of reverberation time • Level reduction • High-quality damping • Good speech intelligibility • Low extraneous noise • Suppression of flutter echoes
Office	Seminar room	• Very good speech intelligibility from anywhere in the room increases the attentiveness of speakers and listeners. • Relatively short reverberation time • Low background noise improves speech intelligibility. • Low background noise makes it easier for speakers to speak. • No disruptive flutter echoes	• Adjusted reverberation time • Moderate damping • Targeted absorption against harmful reflections • Reflectors act as sound mirrors for targeted sound direction

	Benefits	Solutions	Product/system suggestions
	• Highly effective in the workplace • Less stress thanks to adjusted room acoustics • Quiet work areas • Low error rate due to undisturbed work	• Full-surface suspended ceiling • Absorbent wall coverings • Moderate sound absorption • Separating walls • Absorbent furniture systems	• StoSilent Distance A2 with StoSilent Board 210 and StoSilent Decor as coating Alternative: • StoSilent Modular 100/200/300 ceiling element
	• Good speech intelligibility ensures high efficiency for speakers and listeners.	• Suspended ceiling with moderate to high sound absorption • StoSilent Modular absorbent elements for ceilings and walls	• StoSilent Distance • StoSilent Direct • StoSilent Modular Coating system: • StoSilent Top • StoSilent Decor
	• Highly effective in the workplace • Less stress thanks to adjusted room acoustics • Quiet work areas • Low error rate due to undisturbed work	• Full-surface acoustic ceiling • Moderate sound absorption Alternative: • Ceiling element, coverage approx. 70 % • Wall panels	• StoSilent Distance A2 with StoSilent Board 210 and StoSilent Decor as coating system Alternative: • StoSilent Modular 100 • StoSilent Direct
	• Good speech intelligibility ensures high efficiency for speakers and listeners. • Low background noise increases "acoustic comfort". • Adjusted room acoustics lead to successful, effective video conferences.	• Full-surface arrangement under the ceiling and on the wall opposite the screen (LEDE = live end, dead end)	Systems with high absorption such as: • StoSilent Distance A2 ceiling system and wall covering with StoSilent Board 200 and StoSilent Decor as coating • StoSilent Modular 300 ceiling element and wall panels, coloured
	• Functional seminar rooms thanks to optimised room acoustics • Increased attentiveness for effective seminars • Disruption-free listening • Room acoustics support the speakers and make their task easier	• Suspended ceiling with moderate to high sound absorption • Wall covering with moderate to high sound absorption on the back wall • Ceiling element and wall panels	• StoSilent Distance • StoSilent Direct • StoSilent Modular Coating system: • StoSilent Top • StoSilent Decor

StoSilent

Application fields, challenges, benefits, solutions

Overview

Category	Areas of application	Challenge	Technical background
Office	Conference room	• Very good speech intelligibility from anywhere in the room increases the attentiveness of speakers and listeners. • Relatively short reverberation time • Low background noise increases speech intelligibility and makes it easier for speakers to speak. • No disruptive flutter echoes	• Adjusted reverberation time • Moderate damping • Targeted absorption against harmful reflections • Reflectors act as sound mirrors for targeted sound direction
Office	Reception area	• Reception area as "acoustic business card" • Quiet reception area creates impression of high quality. • Private conversations when greeting visitors thanks to highly effective absorbers close by	• Short reverberation time • High absorption at close range • Low background noise • Protection provided by separating elements
Education	Schools	Significant quality boost thanks to: • Increase in speech intelligibility • Less stress and effort thanks to reduced noise • Reduced noise for personnel in their workplace • Increased comprehensibility for people with impaired hearing (inclusion)	• Adjusted room acoustics with absorption and sound direction • Short reverberation times for quiet rooms • Prevention of disruptive reflections and flutter echoes
Education	Nursery schools	Significant quality boost thanks to: • Increase in speech intelligibility • Less stress and effort thanks to reduced noise • Reduced noise for personnel in their workplace • Increased comprehensibility for people with impaired hearing (inclusion)	• Short reverberation time • High absorption • Low background noise
Education	Lecture halls	• Very good speech intelligibility from anywhere in the room increases the attentiveness of speakers and listeners. • Relatively short reverberation time • Low background noise improves speech intelligibility. • No disruptive flutter echoes	• Adjusted room acoustics with absorption and sound direction • Short reverberation times for quiet rooms • Prevention of disruptive reflections and flutter echoes

	Benefits	Solutions	Product/system suggestions
	• Functional seminar rooms thanks to optimised room acoustics • Increased attentiveness for effective seminars • Disruption-free listening • Room acoustics support the speakers and make their task easier	• Suspended ceiling with moderate to high sound absorption, full-surface • Ceiling system without sub-construction, full-surface • Wall covering opposite speaker position, moderate to high sound absorption	• StoSilent Distance • StoSilent Direct • StoSilent Modular Coating system: • StoSilent Top • StoSilent Decor
	• High damping for quiet rooms • A quiet room creates quiet visitors. • Absorbers positioned close to the counter create "acoustic proximity zones" for greater privacy.	• Suspended ceiling with moderate to high sound absorption, full-surface • Ceiling system without sub-construction, full-surface • Ceiling element, directly over the workplace and/or counter	• StoSilent Distance • StoSilent Direct • StoSilent Modular Coating system: • StoSilent Top • StoSilent Decor
	• Very good speech intelligibility for effective teaching and learning • Quiet rooms for high levels of concentration and attention • Particularly high requirements enable foreign-language learning. • Very quiet rooms and short reverberation times for teaching of pupils with impaired hearing	The products and systems must be tailored to the specific requirements of the building in question. Wide range of requirements for absorption and, hence, absorber build-up: • Reflecting • Low-frequency absorber (StoSilent Distance) • Mid-frequency absorber • High-frequency absorber (StoSilent Compact)	• StoSilent Distance A2 • StoSilent Direct Coating system: • StoSilent Top • StoSilent Decor • StoSilent Miral AP
	• High absorption over large areas to reduce noise and regulate reverberation	• Highly absorbent systems and elements on walls and ceilings	• StoSilent Distance • StoSilent Direct • StoSilent Modular on ceilings and walls Coating system: • StoSilent Decor • StoSilent Top
	• Very good speech intelligibility for effective teaching and learning • Quiet rooms for high levels of concentration and attention • Particularly high requirements enable foreign-language learning. • Very quiet rooms and short reverberation times for teaching of pupils with impaired hearing	The products and systems must be tailored to the specific requirements of the building in question. Wide range of requirements for absorption and, hence, absorber build-up: • Reflecting • Low-frequency absorber (StoSilent Distance) • Mid-frequency absorber • High-frequency absorber (StoSilent Compact)	• StoSilent Distance A2 • StoSilent Direct Coating system: • StoSilent Top • StoSilent Decor • StoSilent Miral AP

StoSilent

Application fields, challenges, benefits, solutions

Overview

Category	Areas of application	Challenge	Technical background
Leisure	Restaurant	• "High-quality" acoustics = quiet room • Quiet environment with dampened sound is associated with top-class restaurants (according to Gault/Millau) • A pleasant atmosphere in a restaurant is created through the location and history, facilities, table culture, and service. "3-star acoustics" are just as important.	• Short reverberation time • High absorption • Low background noise
Leisure	Retail	• Personnel and customers will be more relaxed in a pleasant atmosphere with good acoustic properties. • As a result, customers will tend to stay in the shop longer.	• Large-scale absorption systems • Peaceful environment • Low background noise
Leisure	Shopping mall	• Stress-free shopping in a peaceful environment with carefully selected systems and adjusted absorption	• Large-scale absorption systems • Peaceful environment • Low background noise encourages customers to be quieter.
Leisure	Swimming pool/spa	• Acoustics play a major role in determining visitors' comfort, along with the air and water temperature • Reverberation is dampened by sound-absorbent ceiling and wall coverings and elements • Background noise reduced to create relaxing room acoustics	• Large-scale absorption systems • Peaceful environment • Low background noise encourages bathers to be quieter.
Leisure	Hotel lobby	• Entrance halls and foyers serve as the business cards of companies, institutes, administrative offices, and hotels. The architectural features will vary according to the purpose of the building. • The reception area should preserve the anonymity of customers and visitors. It is therefore important to regulate the reverberation at close range.	• Short reverberation time • High absorption at close range • Low background noise • Protection provided by separating elements
Leisure	Theatre/concert	• Aesthetic aspects play only a minor role. • Acoustic quality is top priority. • The shape of the room is tailored to its purpose. • Systems and surfaces are carefully designed.	• Stringent acoustic specifications define the entire room. • Sound distribution, direction, reverberation • Targeted use of absorbers • Planning for all frequency ranges • Use of different types of absorber with wide-band or deliberately narrow-band sound absorption • Reflectors are used as acoustic components. • No fixed normative specifications; planning according to theoretical knowledge/practical experience and based on model measurements and computer simulations

	Benefits	Solutions	Product/system suggestions
	• Pleasant atmosphere • Relaxed conversation • High customer satisfaction	• Full-surface acoustic system on the ceiling • Moderate sound absorption generally sufficient	• StoSilent Distance A2 • StoSilent Direct • StoSilent Compact • StoSilent Modular 200 • StoSilent Modular 300 Coating system: • StoSilent Top • StoSilent Decor
	• Pleasant atmosphere • Relaxed browsing • High customer satisfaction	• Full-surface acoustic system • Individual absorber elements • Moderate sound absorption generally sufficient	• StoSilent Distance A2 • StoSilent Direct • StoSilent Modular Coating system: • StoSilent Top • StoSilent Decor
	• Less noise for personnel in their workplace • Stress-free shopping • Customers stay longer • Greater efficiency for retailers and customers	• Full-surface acoustic system • Individual absorber elements • Moderate sound absorption generally sufficient	• StoSilent Distance A2 • StoSilent Direct • StoSilent Modular Coating system: • StoSilent Top • StoSilent Decor
	• Pleasantly quiet atmosphere • Reduced noise enables relaxation • Less stress enables rest and recuperation • Noise protection for employees	• Full-surface acoustic system • Individual absorber elements • Acoustic plaster systems • Moderate sound absorption generally sufficient, high absorption also possible depending on surface coverage	• StoSilent Distance A2 • StoSilent Modular • StoSilent Compact Miral Coating system: • StoSilent Decor • StoSilent Top Condition: • Operational test by Sto in individual cases • Use in areas without splash water or condensation • Not over cold or ice-cold pools
	• High damping for quiet rooms • A quiet room creates quiet visitors. • Absorbers positioned close to the counter create "acoustic proximity zones" for greater privacy.	• Full-surface acoustic system • Individual absorber elements • Acoustic plaster systems • Moderate sound absorption generally sufficient, high absorption also possible depending on surface coverage	• StoSilent Distance A2 • StoSilent Direct • StoSilent Modular • StoSilent Compact Miral • StoSilent Compact Sil Coating system: • StoSilent Decor • StoSilent Top
	• The culmination of planning in terms of room and building acoustics • The highest standards with regard to room planning create outstanding listening experiences combined with visual, design, and emotional factors.	The products and systems must be tailored to the specific requirements of the building in question. Wide range of requirements for absorption and, hence, absorber build-up: • Reflecting • Low-frequency absorber (StoSilent Distance) • Mid-frequency absorber • High-frequency absorber (StoSilent Compact)	• StoSilent Distance A2 • StoSilent Direct • StoSilent Compact Coating system: • StoSilent Top • StoSilent Decor • StoSilent Miral AP

Complete design freedom

StoSilent paints and surfaces

The StoSilent acoustic systems are supplemented by extensive options for surface design and the wide colour range of the StoColor system. The variety of designs means we really stand out from the competition.

StoSilent Top Basic (white)

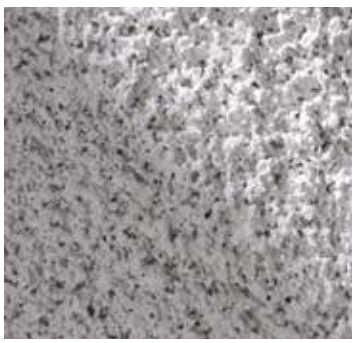
StoSilent Top Finish

StoSilent Decor M

StoSilent Decor MF

StoSilent Top Basic with Vetro

StoSilent Compact Sil AP



StoSilent Compact Miral AP

PET fibres

Polystyrene fibres

StoSilent surfaces

StoSilent Decor

With this thin-layer spray plaster, almost all StoSilent acoustic systems can be coated by machine.

- StoSilent Decor M: textured, silicate-bound coating, low-emission, eco-certified (natureplus®)
- StoSilent Decor MF: finish on a dispersion base
- Possible systems: StoSilent Distance, StoSilent Direct, StoSilent Compact Sil, StoSilent Modular 210, StoSilent Modular 400

StoSilent Top

This finish on an emulsion base makes for the finest possible surfaces.

- StoSilent Top Basic: porous intermediate coat and finish
- StoSilent Top Finish: porous finish, very popular with architects
- Possible systems: StoSilent Distance, StoSilent Direct, StoSilent Modular 200, StoSilent Modular 400

StoSilent Sil AP

- Porous, decorative finish, limited combustibility
- Possible systems: StoSilent Compact Sil

StoSilent Miral AP

- Decorative finish. Achieves very good sound absorption values thanks to its coarse texture, suitable for seamless application
- Possible systems: StoSilent Compact Miral

Nonwoven surfaces for StoSilent Modular

- PET fibre: fine, unidirectional fibre structure (StoSilent Modular 100)
- Polyester fibre: fine, multi-directional fibre structure (StoSilent Modular 300)
- Possible systems: StoSilent Modular 100, StoSilent Modular 300

Coating system for gypsum plasterboard perforated ceilings

Ceilings made from commercially available perforated gypsum plasterboards can be seamlessly coated with Sto products. The coating build-up has the following composition:

- (Visible side)
- StoSilent Decor, 2 to 3 layers
- StoSilent Fleece
- StoSilent Fleece Coll
- StoSilent Prim
- StoSilent Fix
- (Perforated gypsum plasterboard)

StoSilent paints

StoColor Silent

The renovation paint was specially developed for the StoSilent acoustic systems and can be tinted in any colour from the Sto colour spectrum.

StoSilent Color N

The organic, sound-permeable, isolating renovation paint provides an excellent barrier effect against nicotine, lignin, soot, and water stains on the substrate.

- Depending on the finish, the selection of colours is limited to pastel colour shades.

StoColor Climasan

This paint coating gets rid of odours and breaks down harmful substances. As the only interior paint on the market and compared to other paints with similar claims, StoColor Climasan requires no sunlight whatsoever and even works under artificial light! Conventional interior lighting is sufficient to activate the catalyst in the interior paint.

- Noticeably better air, even in highly utilised rooms
- Limited tintability

StoSilent system accessories

Thought through to the last detail

	Product	Art. no.	Areas of application	Dimensions	Product/system
StoSilent Distance	StoSilent Profile AP	04075-008 white (RAL 9016)	Stop profile or edge protection	27.0 x 16.5 mm, L 250 cm	StoSilent Board 300 StoSilent Board 310
	StoSilent Profile AP	04075-010 white (RAL 9016)	Stop profile or edge protection	37.0 x 26.5 mm, L 250 cm	StoSilent Board 100/200 StoSilent Board 110/210
	StoSilent Profile EW	04075-012	Corner protection angle	24.0 x 24.0 mm, L 200 cm, K 3.0 mm	StoSilent Board 100/200 StoSilent Board 300
	StoSilent Profile FB	04075-011	Stop profile	W 24.0 mm, L 200 cm, K 3.0 mm	StoSilent Board 100/200 StoSilent Board 300
	Edge profile	Via building materials suppliers	Edge profile	23.0 x 23.0 mm, L 50 m	StoSilent Board 300
	Stop profile for curves	Via building materials suppliers	Stop profile for curves	33.0 x 13.5 mm, L 300 cm	StoSilent Board 100/200 StoSilent Board 110/210
	PVC angle	Via building materials suppliers	Bent connections	H 28 mm, L 250 cm	StoSilent Board 100/200 StoSilent Board 110/210
StoSilent Direct	StoSilent Profile AP 110	04075-013	Stop profile	50.0 x 30.0 mm, L 200 cm	StoSilent Board MW 100
	StoSilent Profile AP 110	04075-014	Stop profile	70.0 x 30.0 mm, L 200 cm	StoSilent Board MW 100
StoSilent Compact	StoSilent Profile AS	01041-002	Stop track as stop profile	20.0 x 10.0 mm, L 250 cm	StoSilent Compact Miral
	StoSilent Profile PL	01036-004	Depth gauge	20.0 x 20.0 mm, L 250 cm	StoSilent Compact Sil
StoSilent Modular	StoSilent Modular 100 Suspending set steel wire	07972-012	Hanger for ceiling elements	50 cm Suspension height	StoSilent Modular 100
	StoSilent Modular 100 Suspending set threaded rod	07972-013	Hanger for ceiling elements	50 cm Suspension height	StoSilent Modular 100
	StoSilent Modular 100 Suspending set vernier	07972-014	Hanger for ceiling elements	50 cm Suspension height	StoSilent Modular 100
	StoSilent Modular 100 Connector	07972-016	Connecting hooks for ceiling element hangers	40.0 x 20.0 x 20.0 mm	StoSilent Modular 100

StoSilent surfaces

StoSilent Decor cleaning and renovation

Care and use instructions for StoSilent Decor M

General information
The StoSilent Decor M finish should only be treated in the event of damage and/or soiling. If there are no complaints with respect to surface quality, the surface should not be treated, and should be kept in its original condition. The system demonstrates optimum acoustic performance in its original condition.

Coating the StoSilent Decor M surface at a later date with commercially available paint using a paint brush or a roller is not permitted. Overcoating causes the open pores required for room acoustics to become blocked. This would destroy the acoustic effectiveness of the ceiling. Renovations are to be performed solely in accordance with the specifications of Sto SE & Co. KGaA.

In order to avoid soiling the ceiling surface, protective cotton gloves must be worn while working on the system.

Avoid any damage to the ceiling, for example due to the installation of lights, mechanical stress, etc.

Increased formation of dust, for example as a result of sanding parquet floors or similar, causes heavy soiling and the open-pored structure of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If, despite implementing all the precautionary measures, work is required on the system, this work must only be performed by specialists trained in the installation of StoSilent acoustic ceilings. Manual installation in particular greatly affects the acoustic performance and the appearance of the ceiling and must therefore be performed with the utmost precision.

Renovation
The cause of any damage or soiling must be ascertained prior to undertaking any renovation, particularly in the event of pressure marks from ceiling ventilation. It is strongly recommended to seek advice from Technical Consulting at Sto SE & Co. KGaA in order to determine the most appropriate overcoating method.

Renovation for full-surface and even soiling
Soiling on the entire ceiling surface area must be removed carefully with the aid of an industrial vacuum cleaner with a brush attachment. The entire ceiling surface area should then be overcoated with StoSilent Decor M. In accordance with the up-to-date technical documentation from Sto SE & Co. KGaA, StoSilent Decor M must be sprayed onto the surface in one or two spray layers in a criss-cross pattern until a visually even surface appearance is achieved. More than two spray layers may be necessary in order to cover soiling. The drying times and quantities specified in accordance with the StoSilent Decor M Technical Data Sheet must be strictly observed.

Renovation in cases of local soiling and/or damage
The existing finish must be carefully removed by sanding or wetting, and then by knocking off the material from a small area in order to remove the surrounding damage.

In the event of damage to the board surface (nonwoven or mesh surface on StoSilent boards), this damage must be filled with the StoSilent Plan system filler, and must be sanded smooth after drying. Multiple filler stages may be necessary.
In the event of serious damage to the board, a section of the board may have to be replaced with a new piece.
The existing StoSilent Decor M finish surrounding the damaged areas must then be covered.

Apply StoSilent Decor M to the area from which the coating was previously removed in several spray applications, in accordance with the up-to-date Technical Data Sheet from Sto SE & Co. KGaA. The drying times and quantities specified must be strictly observed.
After drying the touched-up area, StoSilent Decor M must be sprayed over larger areas. After drying, carefully break the tips of the finish in the touched-up area using a large tool (wide smoothing trowel). Then repeat this process once or twice to minimise the transition between the touched-up area and the original finish.
It is then advisable to apply a final, full-surface overcoat on the entire ceiling surface area with StoSilent Decor M.

StoSilent surfaces

StoSilent Top Basic cleaning and renovation

Care and use instructions StoSilent Top Basic

General information
StoSilent Top Basic is only approved as a finish in the colour shade version.

The StoSilent Top Basic finish should only be treated in the event of damage and/or soiling. If there are no complaints with respect to surface quality, the surface should not be treated, and should be kept in its original condition. The system demonstrates optimum acoustic performance in its original condition.

Coating the ceiling surface at a later date with commercially available paint using a paint brush or a roller is not permitted. Overcoating causes the open pores required for room acoustics to become blocked. This would destroy the acoustic effectiveness of the ceiling. Renovations are to be performed solely in accordance with the specifications of Sto SE & Co. KGaA.

In order to avoid soiling the ceiling surface, protective cotton gloves must be worn while working on the system.

Avoid any damage to the ceiling, for example due to the installation of lights, mechanical stress, etc.

Increased formation of dust, for example as a result of sanding parquet floors or similar, causes heavy soiling and the open-pored structure of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If, despite implementing all the precautionary measures, work is required on the system, this work must only be performed by specialists trained in the installation of StoSilent acoustic ceilings. Manual installation in particular greatly affects the acoustic performance and the appearance of the ceiling and must therefore be performed with the utmost precision.

Removing soiling

Local soiling
Local soiling right on the surface of StoSilent Top Basic can be removed depending on the type of soiling. Surface treatment of this nature must be clarified on an individual basis and discussed in advance with Technical Consulting at Sto SE & Co. KGaA. We would like to expressly state that the removal of local soiling does not always guarantee the required cleaning effect. We are also unable to guarantee that the original, uniform surface texture will be restored. For these reasons, we strongly recommend performing a full-surface renovation as described in the paragraph "Renovation for full-surface soiling" or a local renovation as described in the paragraph "Renovation in cases of local soiling and/or damage".

Full-surface soiling
Light full-surface soiling can be carefully removed from the ceiling with the aid of an industrial vacuum cleaner with a brush attachment. If the dirt cannot be removed, a full-surface renovation as described in the paragraph "Renovation for full-surface soiling" must be performed.

Applying a StoSilent Decor M overcoat
If the StoSilent Top Basic surface is undamaged, light soiling can be concealed by applying a StoSilent Decor M full-surface overcoat.

As StoSilent Decor M has a significantly different surface texture to StoSilent Top Basic, this type of overcoat must be approved by the client after the application of a test surface of at least 5 m². StoSilent Decor M is to be applied in accordance with the valid Sto SE & Co. KGaA application guidelines.

If the client does not want a StoSilent Decor M surface texture, a full-surface renovation as described in the paragraph "Renovation for full-surface soiling" must be performed.

Renovation
The cause of any damage or soiling must be ascertained prior to undertaking any renovation, particularly in the event of pressure marks from ceiling ventilation. It is strongly recommended to seek advice from Technical Consulting at Sto SE & Co. KGaA in order to determine the most appropriate overcoating method.

Renovation in cases of local soiling and/or damage
Small-scale damage to the StoSilent Top Basic surface can be touched up by performing local renovation work. However, we would like to expressly state that differences in the colour and texture may remain visible on the surface even after local repairs of this nature have been completed.

If this has a detrimental effect on the appearance of the surface, we recommend fully removing the uppermost covering layer and reapplying it as described in the paragraph "Renovation for full-surface soiling".

- For damage up to a maximum of approx. 5 x 10 cm, remove the material from the surface. Moisten the surface locally, then knock off and remove the material using a suitable tool.

- In the event of minor scrapes, the material can be directly applied without the covering layer being knocked off locally beforehand.

- Fill the damage with excess StoSilent Top Basic using a plastering trowel. If damage is present on the base layer, this must be filled in beforehand using StoSilent Top Basic. Allow an appropriate drying time before continuing to touch up the covering layer with StoSilent Top Basic.

- At the end of the application time, the newly applied material is worked into the surface by means of a plastic trowel.

Renovation in cases of full-surface soiling
- Moisten the entire ceiling surface area using a pressure sprayer or backpack sprayer and allow the moisture to soak in for approx. ten minutes.

- Completely scrape off the StoSilent Top Basic finish using a square trowel. The base layer should remain undamaged during this application cycle.

- Please also note that areal scaffolding is compulsory when applying StoSilent Top Basic and an adequate number of employees must be provided to complete the work.

StoSilent surfaces

StoSilent Top Finish cleaning and renovation

Care and use instructions StoSilent Top Finish

General information
The StoSilent Top Finish finish should only be treated in the event of damage and/or soiling. If there are no complaints with respect to surface quality, the surface should not be treated, and should be kept in its original condition. The system demonstrates optimum acoustic performance in its original condition.

Coating the ceiling surface at a later date with commercially available paint using a paint brush or a roller is not permitted. Overcoating causes the open pores required for room acoustics to become blocked. This would destroy the acoustic effectiveness of the ceiling. Renovations are to be performed solely in accordance with the specifications of Sto SE & Co. KGaA.

In order to avoid soiling the ceiling surface, protective cotton gloves must be worn while working on the system. Avoid any damage to the ceiling, for example due to the installation of lights, mechanical stress, etc.

Increased formation of dust, for example as a result of sanding parquet floors or similar, causes heavy soiling and the open-pored structure of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If, despite implementing all the precautionary measures, work is required on the system, this work must only be performed by specialists trained in the installation of StoSilent acoustic ceilings. Manual installation in particular greatly affects the acoustic performance and the appearance of the ceiling and must therefore be performed with the utmost precision.

Removing soiling

Local soiling
Local soiling right on the surface of StoSilent Top Finish can be removed depending on the type of soiling. Surface treatment of this nature must be clarified on an individual basis and discussed in advance with Technical Consulting at Sto SE & Co. KGaA.

In the case of small-scale scuff marks on the surface, we recommend removing the soiling with the aid of a rubber/eraser. The use of a white rubber for paper and drawing film (e.g. Staedtler "Mars plastic", art. no. 526 50) has proved successful here. Alternatively, white melamine resin foam can also be used.

We would like to expressly state that the removal of local soiling does not always guarantee the required cleaning effect. We are also unable to guarantee that the original, uniform surface texture will be restored. For these reasons, we strongly recommend performing a full-surface renovation as described in the paragraph "Renovation for full-surface soiling" or a local renovation as described in the paragraph "Renovation in cases of local soiling and/or damage".

Full-surface soiling
Light full-surface soiling can be carefully removed from the ceiling with the aid of an industrial vacuum cleaner with a brush attachment. If the dirt cannot be removed, a full-surface renovation as described in the paragraph "Renovation for full-surface soiling" must be performed.

Applying a StoSilent Decor M overcoat
If the StoSilent Top Finish surface is undamaged, light soiling can be concealed by applying a StoSilent Decor M full-surface overcoat. As StoSilent Decor M has a significantly different surface texture to StoSilent Top Finish, this type of overcoat must be approved by the client after the application of a test surface of at least 5 m². StoSilent Decor M is to be applied in accordance with the valid Sto SE & Co. KGaA application guidelines.
If the client does not want a StoSilent Decor M surface texture, a full-surface renovation as described in the paragraph "Renovation for full-surface soiling" must be performed.

Renovation
The cause of any damage or soiling must be ascertained prior to undertaking any renovation, particularly in the event of pressure marks from ceiling ventilation. It is strongly recommended to seek advice from Technical Consulting at Sto SE & Co. KGaA in order to determine the most appropriate overcoating method.

Renovation in cases of local soiling and/or damage
Small-scale damage to the StoSilent Top Finish surface can be touched up by performing local renovation work. However, we would like to expressly state that differences in the colour and texture may remain visible on the surface even after local repairs of this nature have been completed.
If this has a detrimental effect on the appearance of the surface, we recommend fully removing the uppermost covering layer and reapplying it as described in the paragraph "Renovation for full-surface soiling".

- For damage up to a maximum of approx. 5 x 10 cm, remove the material from the surface. Moisten the surface locally, then knock off and remove the material using a suitable tool.

- In the event of minor scrapes, the material can be directly applied without the covering layer being knocked off locally beforehand. Fill the damage with excess StoSilent Top Finish using a plastering trowel. If damage is present on the StoSilent Top Basic base layer, this must be filled in beforehand using StoSilent Top Basic. Allow an appropriate drying time before continuing to touch up the covering layer with StoSilent Top Finish.

- After the surface drying time (surface of the fresh StoSilent Top Finish becomes slightly matt), work the material into the surface using a plastic trowel.
  The introduced moisture starts to dissolve the material in the perimeter area; this generally results in the area that has been touched up remaining slightly visible (similar to the appearance of a water stain).

Renovation in cases of full-surface soiling
- Moisten the entire ceiling surface area using a pressure sprayer or backpack sprayer and allow the moisture to soak in for approx. ten minutes.

- Scrape off StoSilent Top Finish with the square trowel. The StoSilent Top Basic base layer must remain undamaged during this application cycle.

- Once the moistened base layer has dried out completely, apply StoSilent Top Finish to the full surface in accordance with the up-to-date technical documentation from Sto SE & Co. KGaA.
  If necessary, carefully sand the intermediate coat of StoSilent Top Basic. Please also note that areal scaffolding is compulsory when applying StoSilent Top Finish and an adequate number of employees must be provided to complete the work.

StoSilent surfaces

StoSilent Modular cleaning and renovation

StoSilent Modular
StoSilent Modular 100

Frame:
- With water and a damp cloth
- With a special cleaner suitable for interiors in the case of coarse soiling (grease, etc.)
- No contact between cleaning agent and PET board

Board:
- Remove dust with suction cleaning, using a soft brush and low suction power.

Installation:
- Wear white, clean cotton gloves.

StoSilent Modular 200 and StoSilent Modular 210
- Instructions for StoSilent Top and StoSilent Decor coating systems

Installation
- Wear white, clean cotton gloves.

StoSilent Modular 300

Frame:
- With water and a damp cloth
- With a special cleaner suitable for interiors in the case of coarse soiling (grease, etc.)
- No contact between cleaning agent and polyester fibre board

Board:
- Remove dust with suction cleaning, using a soft brush and low suction power.
- Use a commercially available upholstery cleaner in accordance with the instructions for use.

Installation:
- Wear white, clean cotton gloves.

StoSilent surfaces

StoSilent Compact cleaning and renovation

Care and use instructions StoSilent Compact

General information
The StoSilent Compact Miral and StoSilent Compact Sil acoustic plasters should only be treated in the event of damage and/or soiling. If there are no complaints with respect to surface quality, the surface should not be treated, and should be kept in its original condition. The system demonstrates optimum acoustic performance in its original condition.

Coating the ceiling surface at a later date with commercially available paint using a paint brush or a roller is not permitted. Overcoating causes the open pores required for room acoustics to become blocked. This would destroy the acoustic effectiveness of the ceiling. Renovations are to be performed solely in accordance with the specifications of Sto SE & Co. KGaA.

Avoid any damage to the ceiling, for example due to the installation of lights, mechanical stress, etc.

Increased formation of dust, for example as a result of sanding parquet floors or similar, causes heavy soiling and the open-pored structure of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If, despite implementing all the precautionary measures, work is required on the system, this work must only be performed by specialists trained in the installation of StoSilent acoustic ceilings. Manual installation in particular greatly affects the acoustic performance and the appearance of the ceiling and must therefore be performed with the utmost precision.

StoSilent Compact Miral
Local and full-surface soiling and damage

A full-surface overcoat is recommended even in the case of small-scale, local soiling.

Application cycle 1:
Suction clean the surface

Application cycle 2:
Local reparation with StoSilent Miral AP. This involves filling the material in the relevant places using a plastering trowel.

Application cycle 3:
Break the tips. Use a sanding board and minimal pressure to break the tips over the entire surface.

Application cycle 4:
Gently sweep the surface

Sprinkle the surface: 1–2 additional layers of StoSilent Miral AP are sprinkled onto the entire surface using suitable machine technology (e.g. a hopper gun).

StoSilent Compact Sil
Local and full-surface soiling and damage

A full-surface overcoat is recommended even in the case of small-scale, local soiling.

Application cycle 1:
Suction clean the surface

Application cycle 2:
Local reparation with StoSilent Sil AP (Comp. A and Comp. B). This involves filling the material in the relevant places using a plastering trowel.

Application cycle 3:
Applying a StoSilent Decor overcoat. Overcoat the entire surface with 1–2 spray layers, as required, using suitable machine technology (e.g. a hopper gun).

Glossary

Acoustics
The study of sound. In common parlance, "acoustics" refers to how sound is perceived in a defined environment.

Equivalent sound absorption area A
Defined as the product of surface S and the degree of absorption α of this surface.

Weighted sound absorption coefficient
Frequency-independent single number which corresponds to the value of the reference curve once it has been shifted according to the procedure defined in EN ISO 11654. This procedure is based on the determination of the practical sound absorption coefficients a_p.

Direct sound
The proportion of sound in a closed room which arrives first at the point of hearing or measuring without any sound reflections in between.

Frequency (f)
The frequency f designates the number of oscillations per second in a sound. The faster the air particles oscillate, the higher the frequency. The unit of frequency is the hertz (Hz). A sound that oscillates at 500 cycles per second has a frequency of 500 hertz (Hz). The human range of audibility is between approx. 20 Hz and 20,000 Hz.

Echo chamber
Special room in an acoustic laboratory which is built in such a way that a very high proportion of the sound is reflected at all room peripheries and is distributed evenly throughout the room. This results in a high level of reverberation with a long reverberation time. In the echo chamber in accordance with EN ISO 354, various parameters are examined including the sound absorption coefficient α_s of materials.

Hertz (Hz)
The SI unit for frequency indicates the number of oscillations per second, and more generally also the number of repetitive processes per second.

Acoustic quality
Generic term covering the impact of acoustic properties in a room designed for sound reproduction, e.g. music or speech, as perceived at the location of the listener.

Noise
Undesirable sound, evaluated by the individual perception of the listener.

Reverberation time
Time in seconds that the sound pressure level would take to drop by 60 dB after the acoustic source is switched off.

NRC
In accordance with ASTM C 423, the noise reduction coefficient (NRC) is averaged from the third-octave values of the sound absorption coefficient α_s at 250, 500, 1000, and 2000 Hz and rounded to 0.05.

Room acoustics
Field of acoustics which addresses the impact the structure of a room has on the sound events that take place within it.

Sound
Mechanical oscillations of elastic media (gaseous, fluid, or solid). In building and room acoustics, sound processes in the air which surrounds us as a medium and via which our ear perceives the sound are of primary importance.

Sound absorption
This means that sound energy is converted into mechanical vibrational energy and/or into thermal energy. It is expressed by the sound absorption coefficient α or by the sound absorption class (A to E) in accordance with EN ISO 11654.

Sound absorption coefficient α_s
Indicates how well a given material at an individual frequency (third) is able to absorb sound. This factor is measured in the echo chamber in accordance with EN ISO 354.

Sound pressure level
The pressure fluctuations caused by sound waves moving through the air is known as the sound pressure.The lowest sound pressure level audible to the human ear is 0 dB. This is known as the hearing threshold. The highest level that can be heard by the human ear is approx. 120 dB, which is identified as the pain threshold.

Practical sound absorption coefficient α_p
Determined in accordance with EN ISO 11654. As a basis, the third-octave values of the sound absorption coefficient a_s are averaged for the octaves from 250 Hz to 500 Hz and rounded to 0.05.

Shape indicators L, M, H
Reference to practical sound absorption coefficients a_p which exceed the values of the shifted reference curve in accordance with EN ISO 11654 by at least 0.25 in various frequency ranges. They are used as follows: (L) at 250 Hz, (M) at 500 Hz and 1000 Hz, (H) at 2000 Hz and 4000 Hz

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