Distribution Partner

StoSilent manual

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

Contents

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. Indeed, the desire for peace and quiet is of universal importance. During the design process, planners and architects are faced with the task of ensuring a level of acoustic quality that appropriately matches the room's purpose. The overarching goal is that we feel comfortable in the spaces in which we find ourselves, that we can understand each other without having to make a great effort, and that rooms are neither too loud nor too quiet – that is, the acoustics are perfectly suited to the room's requirements. These planning aids define – clearly, quickly, and comprehensively – how they should go about using StoSilent acoustic systems to create the optimum "ambient interior climate" for a good listening experience.

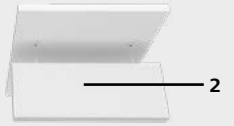
The StoSilent manual contains all relevant information about the Sto acoustic systems. It gives building owners, architects, applicators, and – first and foremost – specialist planners the security and support they need to successfully develop projects, and not just with regard to acoustics. The manual 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.

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 also provide them with information – all while disturbing their colleagues as little as possible.

The many layers of our acoustic systems

Category	System	Carrier layer	Absorber layer	Material layer
Suspended, flat acoustic system sub-construction	**StoSilent Distance**	 StoSilent Distance C  StoSilent Distance S  StoSilent Distance F **1** — Sub-construction **3a** — Bonding **3b** — Screw connection	 **2** — Acoustic panel **4** — Edge profile	 **5** — Intermediate coat **6** — Acoustic plaster finish (tinted available as an option)
Directly bonded acoustic system Applied directly to the load-bearing surface	**StoSilent Direct** Full-surface application	 **1** — Priming coat	 **2** — Bonding **3** — Acoustic panel **4** — Filler and levelling coat **5** — Edge profile	
	StoSilent Frame Partial application		 **2** — Bonding **3** — Acoustic panel made of sintered expanded glass granulate	Acoustic panel, coated at the factory; no further material layer

The many layers of our acoustic systems

Category	System	Carrier layer	Absorber layer	Material layer
Directly coated acoustic plaster system Applied directly to the load-bearing surface	**StoSilent Compact**	 **1** — System profile **2** — Priming coat	Absorbent material layer; no further absorber layer required	 **3** — Intermediate coat **4** — Finishing coat
Suspended, modular acoustic elements Modular, prefabricated system	**StoSilent Modular**	 **1** — Hangers	 **2** — Sub-construction/frame **3** — Horizontally suspended acoustic panel	StoSilent Modular 100: Uncoated non-woven surface StoSilent Modular 230: Fine-textured colour coating applied at the factory Acoustic panel, coated at the factory; no further material layer
	StoSilent Baffle	 **1** — Hangers	 **2** — Vertically suspended acoustic panel	

The right solution for every room

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 optimise 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 demands 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 also provide them with information – all 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. In this situation, a combination of ceiling and wall absorbers, screen walls, or – if applicable – workstation absorbers will provide the best possible room acoustics.

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 a solution.

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The right solution for every room

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, 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.

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The right solution for every room

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 multi-functionality 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.

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: directing sound reflections and stopping, restricting, or improving the propagation of sound. Suitable constructions

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The right solution for every room

must be selected in order to achieve the goals 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. 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-area 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 being disturbed, but also without being overhead by the entire dining hall.

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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.

The prerequisite for this is that thermal and moisture protection must always be professionally planned from a structural perspective and in terms of building physics. It is essential to observe the specifications of EN 13964 "Suspended ceilings – Requirements and test methods".

StoSilent – application fields

Key: √ approved x not possible		**Application**			
		Interior			
Use		**Interiors**		**Climate-controlled swimming bath, no rooms exposed to moisture**	
Building element	**Requirements:** Sufficient structural thermal and moisture protection for the relevant building elements	▪ Interior wall ▪ Intermediate floor	▪ External wall ▪ Ceiling towards the exterior	▪ Interior wall and intermediate floor ▪ Not over ice-cold pools ▪ Not suitable for brine baths ▪ Not suitable for sauna exit areas	▪ External wall ▪ Ceiling towards the exterior ▪ All other applications ▪ Not over ice-cold pools ▪ Not suitable for brine baths ▪ Not suitable for sauna exit areas
Stress during use	Air temperature[1]	≤30 °C	≤30 °C	≤30 °C[3]	≤30 °C[3]
	Humidity[2]	≤90 %	≤90 %	≤70 %	≤70 %
	Stress class according to Table 8 from EN 13964	**B**[5]	**B**[5]	**A**[4]	**A**[4]
	Condensation/precipitation/splash water	No	No	No	No
	Wind load	None	None	None	None
System	StoSilent Distance	√	√	√ With load-bearing construction protected from corrosion and with vernier hangers in accordance with EN 13964	on request
	StoSilent Direct	√	Calculations required as proof	▪ Only on solid and concrete covers ▪ Only on gypsum plasterboard suspended ceilings ▪ Not with StoSilent Coll MW-G gypsum adhesive	
	StoSilent Frame	√	Calculations required as proof	▪ Only on solid and concrete covers ▪ Only on gypsum plasterboard suspended ceilings	
	StoSilent Modular 100	√	√	x	
	StoSilent Modular 230	√	√	on request As a custom variant with load-bearing construction protected from corrosion	
	StoSilent Baffle	√	√		
	StoSilent Sil AP	√	√	√	
	StoSilent Miral AP	√	√	Only on solid and concrete covers	
Coating	StoSilent Top Basic	√	√	√	on request
	StoSilent Top Finish	√	√	√	
	StoSilent Decor	√	√	√	
	StoColor Silent StoColor Climasan	√	√	√	

[1] Fluctuating air temperature as defined by EN 13964. [2] Fluctuating relative humidity as defined by EN 13964 4.8.2. [3] Higher temperatures on request. [4] Limited to 30 °C and 70 % relative humidity for air-conditioned indoor swimming pools.
[5] Class B includes class A if class A is not listed separately.

Application fields arranged by ambient interior climate

In interiors, StoSilent systems are primarily used to regulate the room acoustics. Meanwhile, in areas such as shopping arcades and 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. StoSilent systems must never be used in ice rinks.

StoSilent – application fields

Key: √ approved x not possible		**Application**			
		Exterior Only on request and with project-related risk assessment			
Use		**General building engineering**			
Building element	**Requirements:** Sufficient structural thermal and moisture protection for the relevant building elements	Ceilings of: ▪ Open arcades at ground level ▪ Open shopping arcades With connection to external air, protected from precipitation and direct weathering	Ceilings of: ▪ Balcony ▪ Access balconies ▪ Loggias Facades/external walls	Ceilings in underground car parks	Ceilings of: ▪ Entrances to underground car parks ▪ Multi-storey car park ▪ Underground stations
Stress during use	External air conditions	−20 °C to +40 °C and 20 % to 90 % All other conditions: approval on request			
	Condensation/precipitation/splash water	No	No	No	No
	Wind suction load	max. 1.0 kN/m²	max. 1.0 kN/m²	max. 1.0 kN/m²	max. 1.0 kN/m²
System	StoSilent Distance	√ Adjust sub-construction to climatic stress and wind load.	x	√	√ Adjust sub-construction to climatic stress and wind load.
	StoSilent Direct	√ ▪ Only on solid and concrete covers ▪ Only on gypsum plasterboard suspended ceilings ▪ Not with StoSilent Coll MW-G gypsum adhesive	x	√ ▪ Only on solid and concrete covers ▪ Only on gypsum plasterboard suspended ceilings ▪ Not with StoSilent Coll MW-G gypsum adhesive	
	StoSilent Frame	x	x	x	x
	StoSilent Modular 100	√ Without wind load only	x	x	x
	StoSilent Modular 230	√ Without wind load only	x	x	x
	StoSilent Baffle	√ Without wind load only	x	x	x
	StoSilent Sil AP	x	x	x	x
	StoSilent Miral AP	√	x	√	√
Coating	StoSilent Top Basic	√	√	√	√
	StoSilent Top Finish	x	x	x	x
	StoSilent Decor	√	x	√	√
	StoColor Silent StoColor Climasan	√	x	√	√

Technical characteristics

System	**StoSilent Distance**				
StoSilent carrier board	**StoSilent Board 105 C**	**StoSilent Board 205 C**	**StoSilent Board 100 S**	**StoSilent Board 110 S**	**StoSilent Board 310 F**
Degree of absorption[1)]	a_w up to 0.95	a_w up to 0.70 (L)	a_w up to 0.80	a_w up to 0.80	a_w up to 0.45 (H)
EN 13501 building material classification	A2-s1, d0	A2-s1, d0	A2-s1, d0	A2-s1, d0	B-s1, d0
Coating **Surface**	StoSilent Top StoSilent Decor	StoSilent Top StoSilent Decor	StoSilent Top	StoSilent Decor	StoSilent Decor
Coating colour shade	StoSilent Top, limited tintability in accordance with the StoColor System, pastel colour shades StoSilent Decor, tintable in accordance with the StoColor System	StoSilent Top, limited tintability in accordance with the StoColor System, pastel colour shades StoSilent Decor, tintable in accordance with the StoColor System	Limited tintability in accordance with the StoColor System, pastel colour shades	Tintable in accordance with the StoColor System	Tintable in accordance with the StoColor System
Coating texture	StoSilent Top, smooth coating (with ultrafine graining) StoSilent Decor, spray plaster (fine texture)	StoSilent Top, smooth coating (with ultrafine graining) StoSilent Decor, spray plaster (fine texture)	Smooth coating (with ultrafine graining)	Spray plaster (fine texture)	Spray plaster (fine texture)
Coating LRV	StoSilent Top 77 % StoSilent Decor 83 %	StoSilent Top 77 % StoSilent Decor 83 %	77 %	83 %	83 %
Whiteness of coating	StoSilent Top 69 % StoSilent Decor 66 %	StoSilent Top 69 % StoSilent Decor 66 %	69 %	66 %	66 %
Thermal conductivity	0.08 W/(mK)	0.09 W/(mK)	0.09 W/(mK)	0.09 W/(mK)	0.08 W/(mK)
sd value	0.13 m	0.13 m	0.12 m	0.13 m	0.10 m
Minimum bending radius	–	–	–	–	5 m
System thickness* **	Approx. 28 mm	Approx. 22 mm	Approx. 28 mm	Approx. 27 mm	Approx. 17 mm
kg/m² board	6.7	6.6	6.8	6.9	5.8
kg/m² coating (wet)	5.5	5.5	5.5	2.7–3.2	2.7
kg/m² coating (dry)	4.1	4.1	4.1	1.8–2.1	1.8
kg/m² system board with coating (dry)	10.8	10.7	10.9	8.7–9.0	7.6
Board/formats/weight	1200 x 625 x 25 mm	1200 x 800 x 19 mm	1200 x 625 x 25 mm	1200 x 625 x 25 mm	2400 x 1200 x 15 mm

[1)] Weighted sound absorption coefficient in accordance with EN ISO 11654.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Technical characteristics

System	**StoSilent Direct**			**StoSilent Frame**
StoSilent carrier board	**StoSilent Board MW 100–36 mm**	**StoSilent Board MW 100–46 mm**	**StoSilent Board MW 100–66 mm**	**StoSilent Board R 400**
Degree of absorption[1)]	a_w up to 0.85	a_w up to 1.00	a_w up to 1.00	Depending on quantity and arrangement
EN 13501 building material classification	A2-s1, d0	A2-s1, d0	A2-s1, d0	on request
Coating **Surface**	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	Seamless: ▪ StoSilent Top ▪ StoSilent Decor Visible joints: ▪ StoSilent Decor ▪ StoColor Climasan ▪ Without coating	▪ Coated at the factory, visible joints
Coating colour shade	Various	Various	Various	Various
Coating texture	Various	Various	Various	–
Coating LRV	Various	Various	Various	Various
Whiteness of coating	Various	Various	Various	–
Thermal conductivity	0.040 W/(mK)	0.040 W/(mK)	0.040 W/(mK)	0.080 W/(mK)
sd value	< 0.2 m	< 0.2 m	< 0.2 m	–
Minimum bending radius	3.0 m, convex 2.5 m, concave	4.0 m, convex 3.0 m, concave	5.0 m, convex 4.0 m, concave	–
System thickness* **	Approx. 40 mm	Approx. 50 mm	Approx. 70 mm	Approx. 50 mm
kg/m² board	4.7	6.0	7.9	2.6 kg/piece
kg/m² coating (wet)	5.2 (Decor), 5.0–5.5 (Top)	5.2 (Decor), 5.0–5.5 (Top)	5.2 (Decor), 5.0–5.5 (Top)	–
kg/m² coating (dry)	4.0 (Decor), 3.7–4.1 (Top)	4.0 (Decor), 3.7–4.1 (Top)	4.0 (Decor), 3.7–4.1 (Top)	–
kg/m² system without sub-construction (dry)	12.0 (Decor M), 12.0–12.4 (Top)	13.3 (Decor M), 13.3–13.7 (Top)	15.2 (Decor M), 15.2–15.6 (Top)	–
Board/formats/weight	800 x 600 x 36 mm	800 x 600 x 46 mm	800 x 600 x 66 mm	625 x 310 x 50

[1)] Weighted sound absorption coefficient in accordance with EN ISO 11654.

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Technical characteristics

System	**StoSilent Compact**	
StoSilent carrier board	**StoSilent Sil AP**	**StoSilent Miral AP**
Degree of absorption[1)]	a_w up to 0.45 (MH)	a_w up to 0.50 (MH)
EN 13501 building material classification	C-s1, d0	A2-s1, d0
Surface coating	StoSilent Decor	–
Coating colour shade	Tintable in accordance with the StoColor System	Limited tintability in accordance with the StoColor System
Coating texture	Spray plaster (fine texture)	Heavily textured
Coating LRV	82	80
Whiteness of coating	62 %	44 %
Thermal conductivity	0.048 W/(mK)	0.10 W/(mK)
sd value	0.05 – 0.06 m	0.01 – 0.03 m
Minimum bending radius	Depending on substrate	Depending on substrate
System thickness* **	Approx. 25 mm	Approx. 15 mm
kg/m² coating (wet)	10.0	7.5
kg/m² coating (dry)	3.75	4.0

[1)] Weighted sound absorption coefficient in accordance with EN ISO 11654.

Technical characteristics

System	**Acoustic elements**		
StoSilent carrier board	**StoSilent Modular 100**	**StoSilent Modular 230**	**StoSilent Baffle R 100**
Absorption area	Depending on format, suspension height, and arrangement	Depending on format, suspension height, and arrangement	**
EN 13501 building material classification	B-s1, d0 (PET board)	A2-s1, d0 (carrier board), C-s3, d0 (PET nonwoven fibre)	B-s2, d0 up to D-s3, d0 (carrier board, depending on colour shade)
Surface coating	PET nonwoven fibre	Fine-textured paint coat	Colour coating applied at the factory
Coating colour shade	White	Tintable in accordance with the StoColor System	In accordance with the RAL colour chart
Coating texture	Fine, unidirectional fibre structure	Finely textured	
Coating LRV	85	83	Depending on colour
Whiteness of coating	–	–	–
Thermal conductivity	–	–	0.080 W/(mK)
Minimum bending radius	Not possible	Not possible	Not possible
System thickness* **	26 mm	Approx. 19 mm	50 mm
Board/formats/weight	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 / 6.4 kg 3000 x 1250 mm / 8.2 kg	Radius 575 mm / 10.0 kg 1150 x 1150 mm / 11.0 kg 2350 x 750 mm / 16.0 kg 2350 x 1150 / 23.0 kg	1150 mm x 310 mm x 50 mm / 5.1 kg

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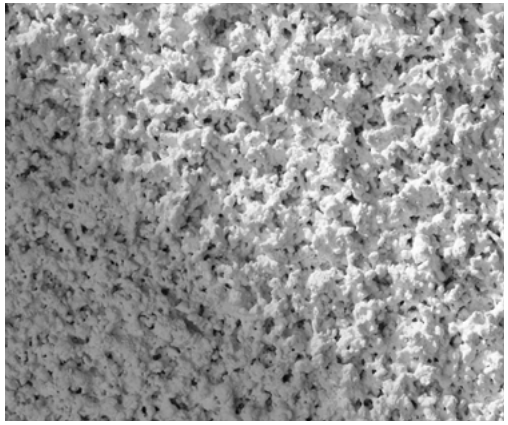
Surface design

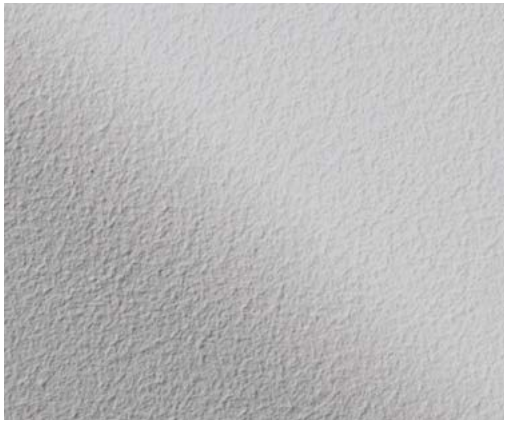
Our StoSilent acoustic systems can be completed with various surface finishes available in the wide colour range in the StoColor System. Nonwoven surfaces or uncoated solutions are available on request.

Silicate acoustic plaster



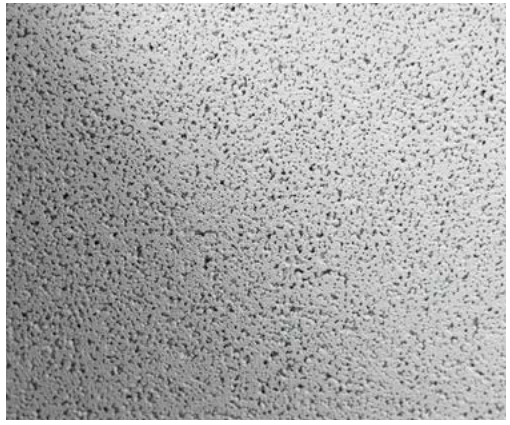
Mineral acoustic plaster

Organic acoustic plaster



Colour coating

Nonwoven surface



Reapor, coated

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent colour shades

The StoSilent acoustic systems are supplemented by extensive options for surface design and the wide colour range of the StoColor System.

	White	Limited tintability in accordance with the StoColor System	Tintable in accordance with the StoColor System	RAL colour system
StoSilent Distance with StoSilent Top Basic coating	√	√	√	
StoSilent Distance with StoSilent Top Finish coating	√	√		
StoSilent Distance with StoSilent Decor M coating	√	√		
StoSilent Distance with StoSilent Decor MF coating	√		√	
StoSilent Direct with StoSilent Top Basic coating	√	√		
StoSilent Direct with StoSilent Top Finish coating	√	√		
StoSilent Direct with StoSilent Decor M coating	√	√		
StoSilent Direct with StoSilent Decor MF coating	√		√	
StoSilent Direct with StoColor Silent coating	√			
StoSilent Direct with StoColor Climasan coating	√	√		
StoSilent Direct without coating	√			
StoSilent Frame				√
StoSilent Compact with StoSilent Miral AP coating	√	√		
StoSilent Compact with StoColor Silent coating	√		√	
StoSilent Compact with StoSilent Decor M coating	√	√		
StoSilent Compact with StoSilent Decor MF coating	√		√	
StoSilent Modular 100 (PET nonwoven fibre)	√			
StoSilent Modular 230 (fine-textured colour coating)	√		√	
StoSilent Modular 400 with StoSilent Top Basic coating	√	√		
StoSilent Modular 400 with StoSilent Top Finish coating	√	√		
StoSilent Modular 400 with StoSilent Decor M coating	√	√		
StoSilent Modular 400 with StoSilent Decor MF coating	√		√	
StoSilent Baffle	√			√

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®”.

Products and systems	Seals of approval and test procedures							
							Fire classification in accordance with EN 13501	CE
StoSilent Coll MW	A+	–	–	–	–	–	Fire classification dependent on use within system	EN 12004
StoSilent Coll MW-G	A+	–	–	–	–	–	–	–
StoSilent Decor M	A+	Test standard TM-10 Emulsion-based plasters 06/09	Preservative-free (untinted versions: white and Sto white shades)	Test standard TM-10 Emulsion-based plasters 06/09	–	–	–	–
StoSilent Decor MF	A+	–	–	–	–	–	Fire classification dependent on use within system	–
StoSilent Filler	A+	–	–	–	–	–		–
StoSilent Fix	A+	–	–	–	–	–		EN 13963
StoSilent Plan	A+	–	–	–	–	–		EN 15824
StoSilent Prep Quarz	A+	–	–	–	–	–		–
StoSilent Top Basic	A+	–	–	–	–	–		EN 15824
StoSilent Top Finish	A+	–	–	–	–	–		EN 15824
StoSilent Board 105 C	A+	–	–	–	–	–	A2-s1, d0	EN 13964
StoSilent Board 100 S	A+	–	–	–	–	–	A2-s1, d0	EN 13964
StoSilent Board 110 S	A+	–	–	–	–	–	A2-s1, d0	EN 13964
StoSilent Board 205 C	A+	–	–	–	–	–	A2-s1, d0	EN 13964
StoSilent Board 310 F	A+	–	–	–	–	–	B-s1, d0	EN 13964
StoSilent Board MW 100	A+	–	–	–	–	–	A2-s1, d0	–
StoSilent Board R 400	A+	–	Preservative-free	–	–	–	Fire classification on request	–
StoColl HT	–	–	–	–	EC1 Plus	EC1 Plus	E	–

Seals of approval and quality

Products and systems		Seals of approval and test procedures							
								**Fire classification in accordance with EN 13501**	
Systems	**StoSilent Distance C**	–	–	–	–	–	–	A2-s1, d0	EN 13964
	StoSilent Distance S	–	–	–	–	–	–	A2-s1, d0	EN 13964
	StoSilent Distance F	–	–	–	–	–	–	B-s1, d0	EN 13964
	StoSilent Direct, all versions	–	–	–	–	–	–	A2-s1, d0	–
		–	–	–	–	–	–	50 mm structure REI 60 K260 (wood joist ceiling, ceiling with 12.5 mm gypsum plasterboard)	–
Products	**StoSilent Sil AP**	–	–	–	–	–	–	C-s1, d0	EN 15824
	StoSilent Miral AP	–	–	–	–	–	–	A2-s1, d0 (EN 13501-1), Class 1/A (ASTM E84)	–
	StoSilent Modular 100	–	–	–	–	OEKO-TEX® standard 100 product class I (PET board)	EC1 Plus very low-emission (adhesive)	B-s1, d0 (PET board), E (adhesive)	EN 13964
	StoSilent Modular 230 (layer of PET fibre)	–	–	–	–	–	–	C-s1, d0	EN 13964
	StoSilent Modular 230 (expanded glass granulate carrier board)	A+	–	–	–	–	–	A2-s1, d0 (with coating)	EN 13964
	StoSilent Modular 400 (layer of PET fibre)	–	–	–	–	–	–	C-s1, d0	EN 13964
	StoSilent Modular 400 (expanded glass granulate carrier board)	A+	–	–	–	–	–	A2-s1, d0	EN 13964
	StoSilent Baffle R 100	A+	–	Preservative-free	–	–	–	Fire classification on request	–

Seals of approval and test procedures

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 SÜD – "low-emission, tested for harmful substances, and production monitored"
The product meets the stringent criteria of the TÜV SÜD test standard TM-10 on emulsion-based plasters, edition 06/09. Under normal application conditions, no impairments are to be expected for applicators and users.

Sto seal of approval, preservative-free

Tested for harmful substances, resource-friendly, low-emission, and free from preservatives, solvents, and plasticisers. The credentials of the eco-friendly Sto range for use in interiors are confirmed at regular intervals through tests carried out by accredited institutes.

Seal of quality for environmentally friendly, healthy, and functional building products and furnishings in Europe

natureplus® is only awarded to construction 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.

Textiles that have been tested for harmful substances

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 semivolatile organic compounds). This value is mandatory for the EMICODE® classification.

Fire classification

EN 13501: Fire classification of building products and building elements
ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials

The building material classes and associated designations are subject to national norms and laws.

EN 13501

ASTM E84

Compliance with the EU Construction Products Regulation No 305/2011

As a suspended ceiling membrane, the product is covered by EN 13964. Conformity to this standard has been demonstrated in the following respects:
- Reaction to fire in accordance with EN 13501
- Release of asbestos (content)
- Release of formaldehyde
- Sound absorption

StoSilent overview

System		1 — Carrier layer	2 — Absorber layer	3 — Material layer		System properties	
Category	**System name**	**sub-construction**	**Acoustically effective layer**	**Finish**	**Colour range**	**Maximum sound absorption α_w**	**Reaction to fire (class)**
Suspended acoustic systems	StoSilent Distance C	 Sub-construction at the same level	StoSilent Board 205 C Absorber made of expanded glass granulate	StoSilent Decor	■■	0.70 *(L)*[1]	A2-s1, d0
				StoSilent Top Basic white		0.55	
				StoSilent Top Finish	■	0.65 *(L)*[1]	
			StoSilent Board 105 C	StoSilent Decor	■■	0.95[1]	
				StoSilent Top Basic white		0.65 *(L)*[1]	
				StoSilent Top Finish	■	0.80[1]	
	StoSilent Distance S	 Height offset sub-construction	StoSilent Board 100 S  Absorber made of expanded glass granulate	StoSilent Top Basic white		0.65	
				StoSilent Top Finish	■	0.80	
			StoSilent Board 110 S	StoSilent Top Decor	■■	0.80	
	StoSilent Distance F	 Curved, height-offset sub-construction	StoSilent Board 310 F Absorber made of expanded glass granulate	StoSilent Decor	■■	0.45 *(H)*	B-s1, d0
Bonded acoustic systems	StoSilent Direct	 Load-bearing ceiling construction with priming coat	StoSilent Board MW 100  Sandwich panel made of expanded glass granulate and stone wool	Visible joints uncoated		1.00	A2-s1, d0x
				Visible joints StoColor Climasan	■	0.95	
				Visible joints StoSilent Decor	■■	1.00	
				Seamless StoMiral AP	■■	0.85	
				Seamless StoSilent Decor	■■	0.80	
				Seamless StoSilent Top Basic white		0.75 (single-layer) 0.65 *(L)* (with intermediate coat)	
				Seamless StoSilent Top Finish	■	0.65	
	StoSilent Frame	 Load-bearing ceiling construction with priming coat	StoSilent Board R 400  Absorber made of sintered expanded glass granulate	Colour coating applied at the factory	■■	Depending on quantity and arrangement	on request
Acoustic plaster systems	StoSilent Compact	 Load-bearing ceiling construction with priming coat		StoSilent Sil AP with StoSilent Decor	■■	0.45 *(MH)*	C-s1, d0
				StoSilent Miral AP, StoColor Silent optional	■■	0.30 *(H)* 15 mm 0.50 *(MH)* 25 mm	A2-s1, d0
Acoustic elements	StoSilent Modular	 Horizontal suspension	StoSilent Modular 100  Absorber element	Uncoated non-woven surface		Depending on format, suspension height, and arrangement	B-s1, d0
			StoSilent Modular 230  Absorber element	Fine-textured colour coating applied at the factory	■■	Depending on format, suspension height, and arrangement	A2-s1, d0 (panel) C-s3, d0 (nonwoven fabric)
	StoSilent Baffle	 Vertical suspension	StoSilent R 100  Absorber made of sintered expanded glass granulate	Colour coating applied at the factory	■■	Depending on suspension height, quantity, and arrangement	on request

■■ excellent ■ good

[1] With 30 mm insulant layer in accordance with EN 13162 AF_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance

Suspended acoustic system for precise, seamless surfaces
The StoSilent Distance system can be installed either as a suspended ceiling or as a wall covering with a cavity behind it. The sub-construction is made of metal profiles and the acoustic panel consists of expanded glass granulate.

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

To surfaces

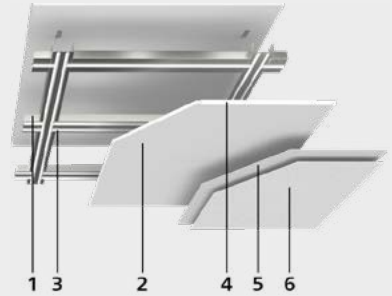
To absorption values

To construction details

To references

The system

Build-up: StoSilent Distance C with StoSilent Decor M



Carrier layer
1 — Sub-construction
3 — Bonding

Absorber layer
2 — Acoustic panel
4 — Edge finish

Material layer
5 — Intermediate coat
6 — Finishing coat

Material layer options

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

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

System properties

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

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

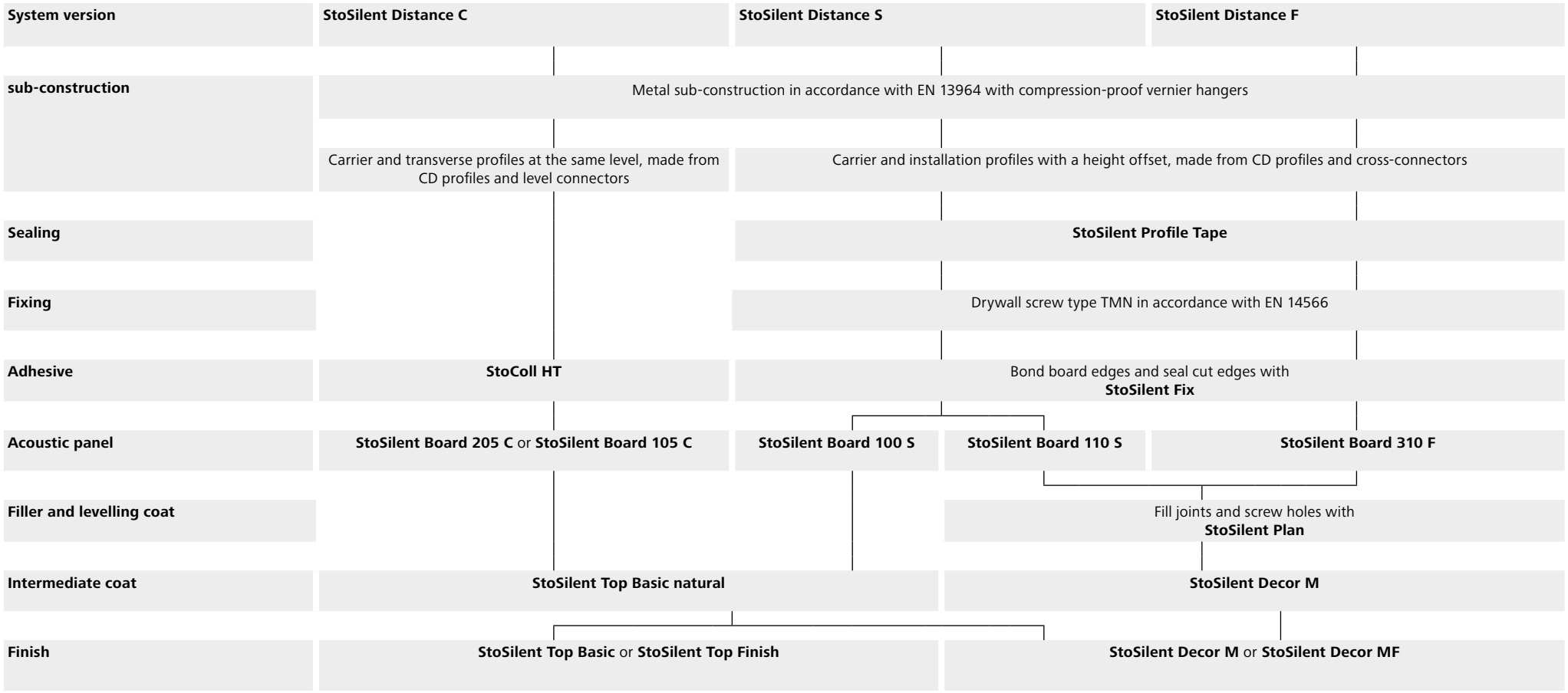
Reaction to fire
StoSilent Distance C
StoSilent Distance S
- Class A2-s1, d0 in accordance with EN 13501-1, non-combustible

StoSilent Distance F
- Class B-s1, d0 in accordance with EN 13501-1, limited combustibility

Application
- Complete selection of detail solutions
- Quick and easy installation thanks to light panel weight

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

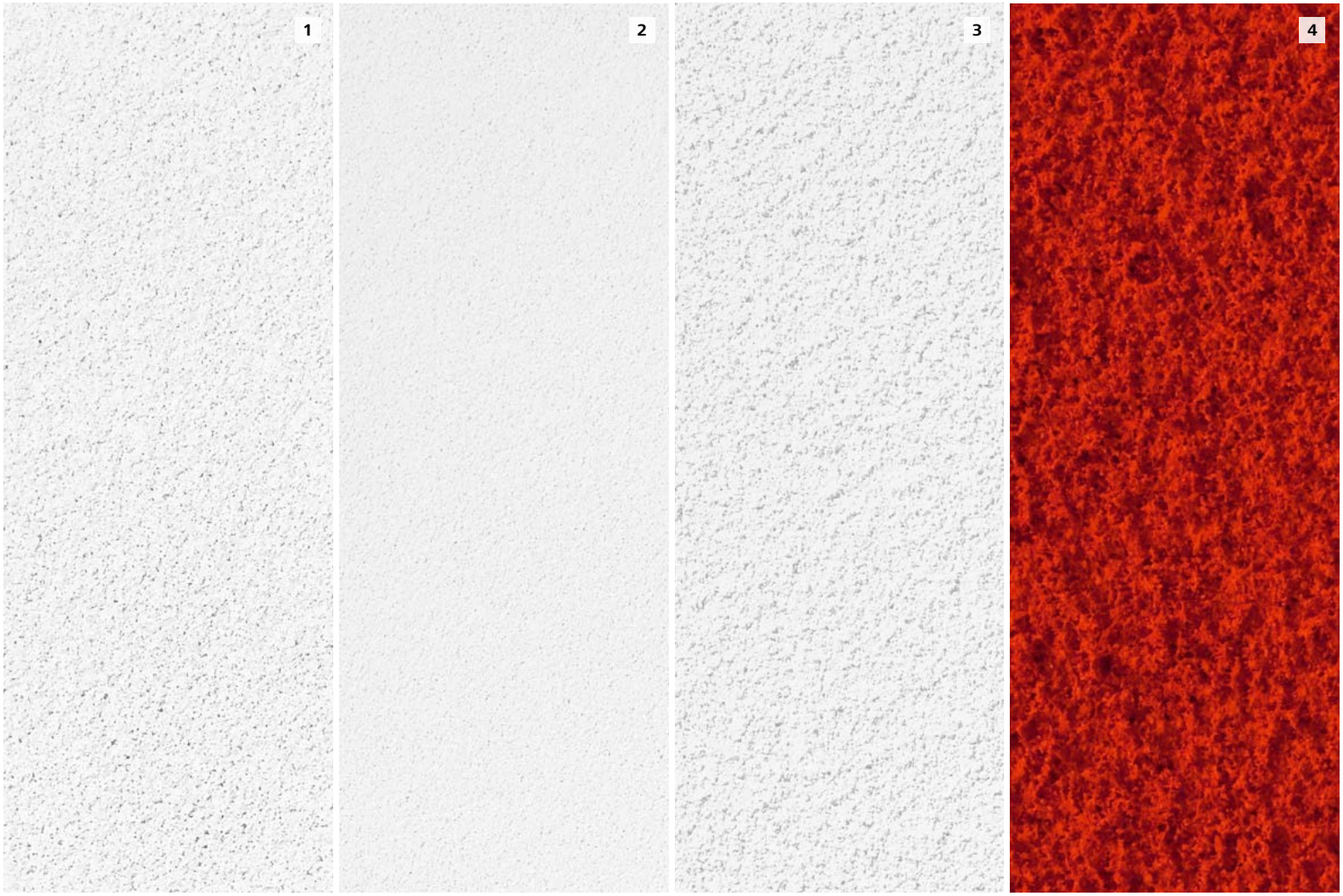
System versions



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Surfaces

1 StoSilent Top Basic
2 StoSilent Top Finish
3 StoSilent Decor M
4 StoSilent Decor MF

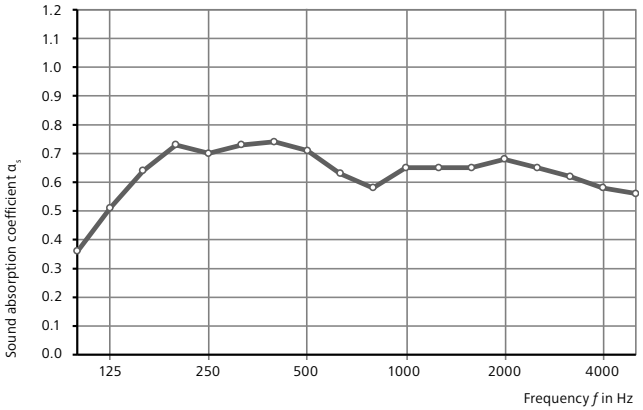


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Seals of approval and quality

Products and systems		Seals of approval and test procedures					
						Fire classification in accordance with EN 13501	CE
Systems	**StoSilent Distance C**	–	–	–	–	B-s1, d0	EN 13964
	StoSilent Distance S	–	–	–	–	A2-s1, d0	EN 13964
	StoSilent Distance F	–	–	–	–	B-s1, d0	EN 13964
Products	**StoSilent Decor M**	A+	Test standard TM-10 Emulsion-based plasters 06/09	Preservative-free (untinted versions: white and Sto white shades)	Test standard TM-10 Emulsion-based plasters 06/09	–	–
	StoSilent Decor MF	A+	–	–	–	Fire classification dependent on use within system	–
	StoSilent Top Basic	A+	–	–	–		EN 15824
	StoSilent Top Finish	A+	–	–	–		EN 15824
	StoSilent Board 105 C	A+	–	–	–	A2-s1, d0	EN 13964
	StoSilent Board 100 S	A+	–	–	–	A2-s1, d0	EN 13964
	StoSilent Board 110 S	A+	–	–	–	A2-s1, d0	EN 13964
	StoSilent Board 205 C	A+	–	–	–	B-s1, d0	EN 13964
	StoSilent Board F	A+	–	–	–	B-s1, d0	EN 13964

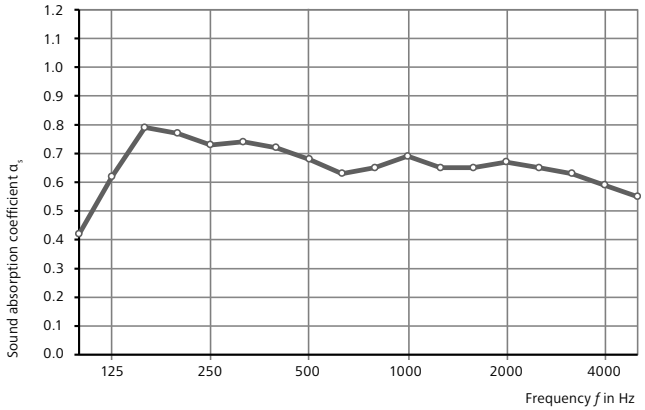
StoSilent Distance C sound characteristics



System:	StoSilent Distance C	**Structural**	
Build-up:	StoSilent Board 105 C	**height:**	200 mm
Coating:	StoSilent Top Basic,	**α_w:**	0.70
	sprayed & Decor M	**$\alpha_{p,\,125}$:**	0.50
Thickness:	25 mm	***NRC*:**	0.70

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.36	0.73	0.74	0.58	0.65	0.62
Octave band	**0.51**	**0.70**	**0.71**	**0.65**	**0.68**	**0.58**
Third-octave band	0.64	0.73	0.63	0.65	0.65	0.56
α_p	0.50	0.70	0.70	0.65	0.65	0.60

Test certificate: 100960_2020-11-25 HR_10



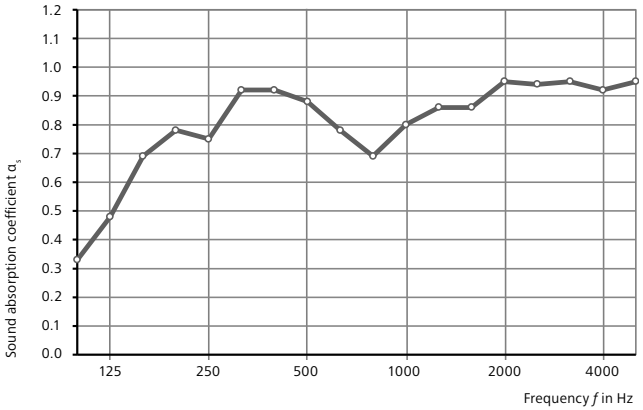
System:	StoSilent Distance C	**Structural**	
Build-up:	StoSilent Board 105 C	**height:**	200 mm
	+ mineral wool	**α_w:**	0.70 (L)
Coating:	StoSilent Top Basic,	**$\alpha_{p,\,125}$:**	0.60
	sprayed & Decor M	***NRC*:**	0.70
Thickness:	25 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.42	0.77	0.72	0.65	0.65	0.63
Octave band	**0.62**	**0.73**	**0.68**	**0.69**	**0.67**	**0.59**
Third-octave band	0.79	0.74	0.63	0.65	0.65	0.55
α_p	0.60	0.75	0.70	0.65	0.65	0.60

Test certificate: 100960_2020-11-25 HR_9

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

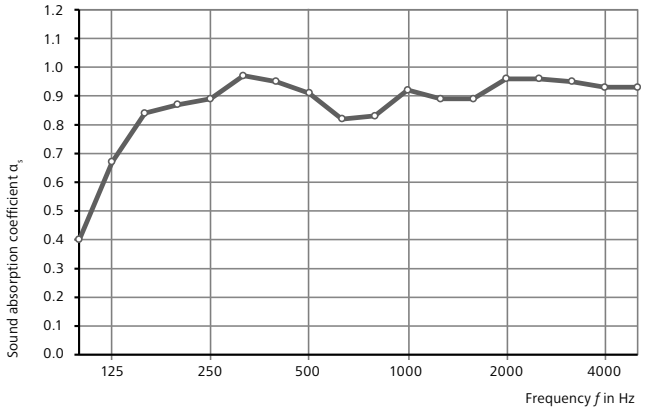
StoSilent Distance C sound characteristics



System: StoSilent Distance C
Build-up: StoSilent Board 105 C
Coating: StoSilent Top Basic, trowel application & Decor M
Thickness: 25 mm
Structural height: 200 mm
α_w: 0.85
$\alpha_{p,\,125}$: 0.50
***NRC*:** 0.85

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.33	0.78	0.92	0.69	0.86	0.95
Octave band	**0.48**	**0.75**	**0.88**	**0.80**	**0.95**	**0.92**
Third-octave band	0.69	0.92	0.78	0.86	0.94	0.95
α_p	0.50	0.80	0.85	0.80	0.90	0.95

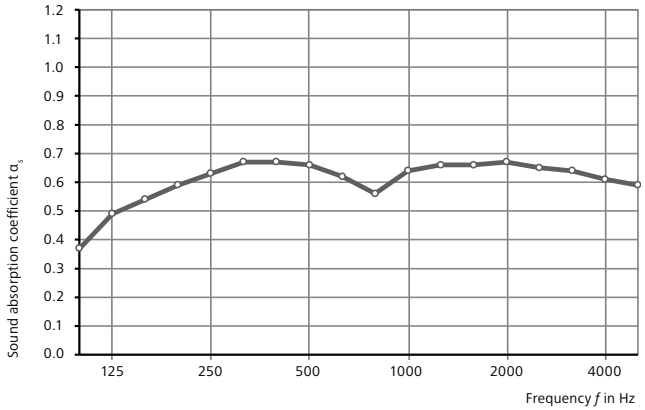
Test certificate: 100960_2021-02-18_8



System: StoSilent Distance C
Build-up: StoSilent Board 105 C + mineral wool
Coating: StoSilent Top Basic, trowel application & Decor M
Thickness: 25 mm
Structural height: 200 mm
α_w: 0.95
$\alpha_{p,\,125}$: 0.65
***NRC*:** 0.90

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.40	0.87	0.95	0.83	0.89	0.95
Octave band	**0.67**	**0.89**	**0.91**	**0.92**	**0.96**	**0.93**
Third-octave band	0.84	0.97	0.82	0.89	0.96	0.93
α_p	0.65	0.90	0.90	0.90	0.95	0.95

Test certificate: 100960_2021-02-18_11



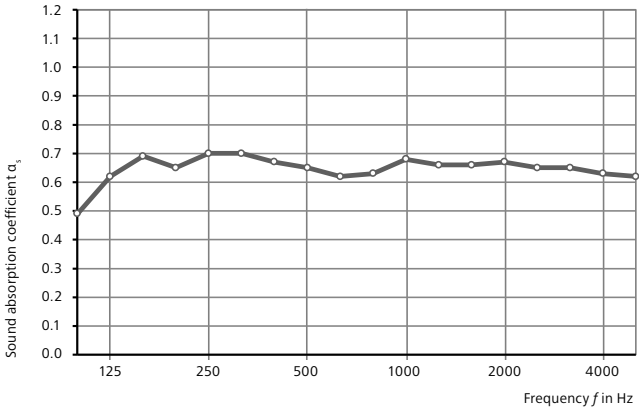
System: StoSilent Distance C
Build-up: StoSilent Board 105 C
Coating: StoSilent Top Basic, trowel application & Top Basic white
Thickness: 25 mm
Structural height: 200 mm
α_w: 0.65
$\alpha_{p,\,125}$: 0.45
***NRC*:** 0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.37	0.59	0.67	0.56	0.66	0.64
Octave band	**0.49**	**0.63**	**0.66**	**0.64**	**0.67**	**0.61**
Third-octave band	0.54	0.67	0.62	0.66	0.65	0.59
α_p	0.45	0.65	0.65	0.60	0.65	0.60

Test certificate: 100960_2021-02-18_9

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

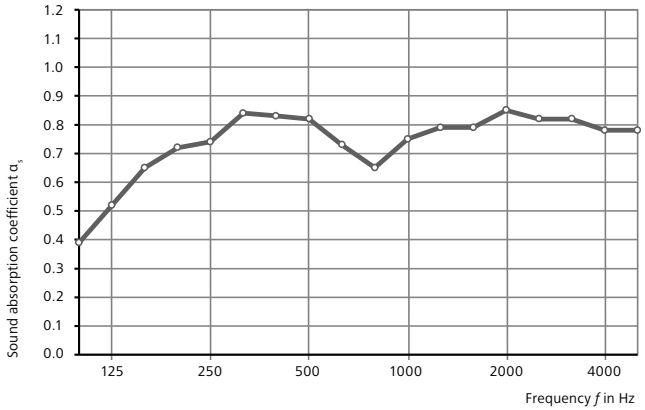
StoSilent Distance C sound characteristics



System:	StoSilent Distance C	**Thickness:**	25 mm
Build-up:	StoSilent Board 105 C + mineral wool	**Structural height:**	200 mm
Coating:	StoSilent Top Basic, trowel application & Top Basic white	**α_w:**	0.65 (L)
		$\alpha_{p,\ 125}$:	0.60
		***NRC*:**	0.70

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.49	0.65	0.67	0.63	0.66	0.65
Octave band	**0.62**	**0.70**	**0.65**	**0.68**	**0.67**	**0.63**
Third-octave band	0.69	0.70	0.62	0.66	0.65	0.62
α_p	0.60	0.70	0.65	0.65	0.65	0.65

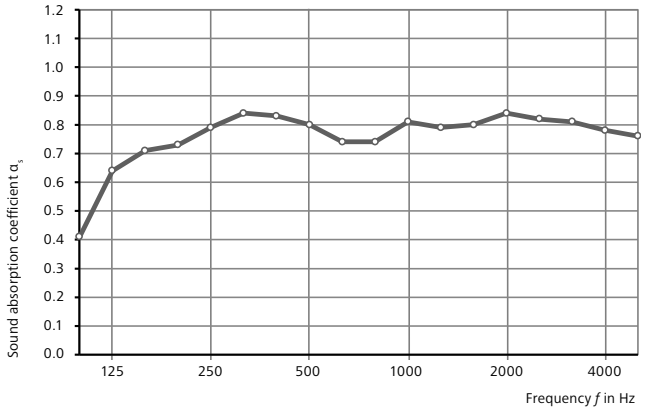
Test certificate: 100960_2021-02-18_10



System:	StoSilent Distance C	**Structural height:**	200 mm
Build-up:	StoSilent Board 105 C	**α_w:**	0.80
Coating:	StoSilent Top Basic, trowel application & Top Finish	**$\alpha_{p,\ 125}$:**	0.50
		***NRC*:**	0.80
Thickness:	25 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.39	0.72	0.83	0.65	0.79	0.82
Octave band	**0.52**	**0.74**	**0.82**	**0.75**	**0.85**	**0.78**
Third-octave band	0.65	0.84	0.73	0.79	0.82	0.78
α_p	0.50	0.75	0.80	0.75	0.80	0.80

Test certificate: 100960_2021-02-18_7



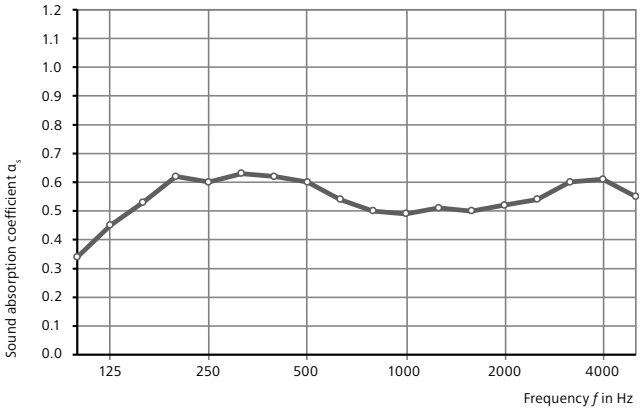
System:	StoSilent Distance C	**Thickness:**	25 mm
Build-up:	StoSilent Board 105 C + mineral wool	**Structural height:**	200 mm
Coating:	StoSilent Top Basic, trowel application & Top Finish	**α_w:**	0.80
		$\alpha_{p,\ 125}$:	0.60
		***NRC*:**	0.80

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.41	0.73	0.83	0.74	0.80	0.81
Octave band	**0.64**	**0.79**	**0.80**	**0.81**	**0.84**	**0.78**
Third-octave band	0.71	0.84	0.74	0.79	0.82	0.76
α_p	0.60	0.80	0.80	0.80	0.80	0.80

Test certificate: 100960_2021-02-18_12

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

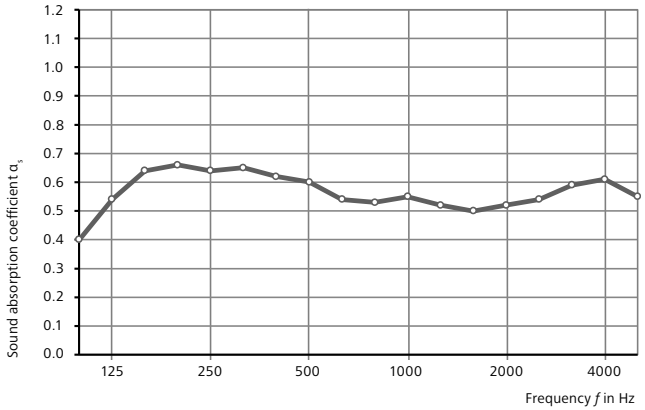
StoSilent Distance C sound characteristics



System: StoSilent Distance C
Build-up: StoSilent Board 205 C
Coating: StoSilent Top Basic, sprayed & Decor M
Thickness: 19 mm
Structural height: 200 mm
α_w: 0.55 (L)
$\alpha_{p,\ 125}$: 0.45
***NRC*:** 0.55

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.34	0.62	0.62	0.50	0.50	0.60
Octave band	**0.45**	**0.60**	**0.60**	**0.49**	**0.52**	**0.61**
Third-octave band	0.53	0.63	0.54	0.51	0.54	0.55
α_p	0.45	0.60	0.60	0.50	0.50	0.60

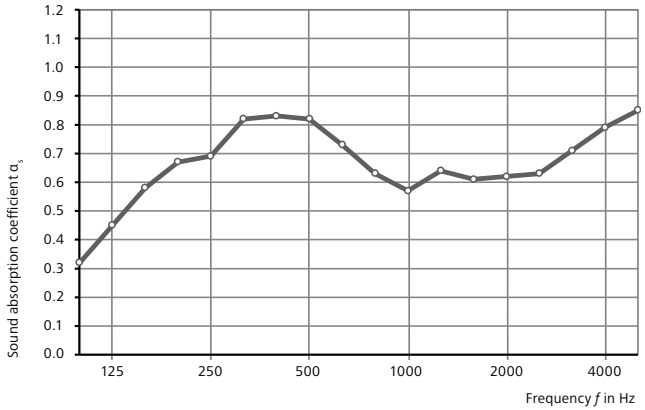
Test certificate: 100960_2020-11-25 HR_3



System: StoSilent Distance C
Build-up: StoSilent Board 205 C + mineral wool
Coating: StoSilent Top Basic, sprayed & Decor M
Thickness: 19 mm
Structural height: 200 mm
α_w: 0.55 (L)
$\alpha_{p,\ 125}$: 0.55
***NRC*:** 0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.40	0.66	0.62	0.53	0.50	0.59
Octave band	**0.54**	**0.64**	**0.60**	**0.55**	**0.52**	**0.61**
Third-octave band	0.64	0.65	0.54	0.52	0.54	0.55
α_p	0.55	0.65	0.60	0.55	0.50	0.60

Test certificate: 100960_2020-11-25 HR_6



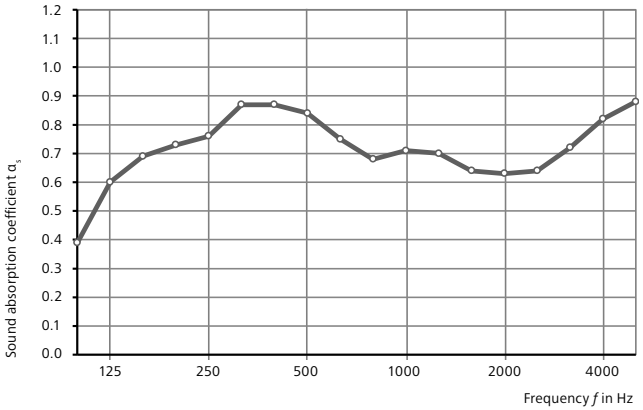
System: StoSilent Distance C
Build-up: StoSilent Board 205 C
Coating: StoSilent Top Basic, trowel application & Decor M
Thickness: 19 mm
Structural height: 200 mm
α_w: 0.65 (LH)
$\alpha_{p,\ 125}$: 0.45
***NRC*:** 0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.32	0.67	0.83	0.63	0.61	0.71
Octave band	**0.45**	**0.69**	**0.82**	**0.57**	**0.62**	**0.79**
Third-octave band	0.58	0.82	0.73	0.64	0.63	0.85
α_p	0.45	0.75	0.80	0.60	0.60	0.80

Test certificate: 100960_2021-02-18_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

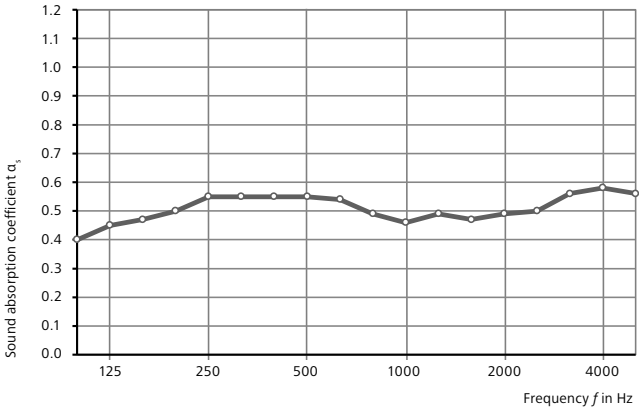
StoSilent Distance C sound characteristics



System:	StoSilent Distance C	**Thickness:**	19 mm
Build-up:	StoSilent Board 205 C + mineral wool	**Structural height:**	200 mm
Coating:	StoSilent Top Basic, trowel application & Decor M	**α_w:**	0.70 (L)
		$\alpha_{p,\ 125}$:	0.55
		***NRC*:**	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.39	0.73	0.87	0.68	0.64	0.72
Octave band	**0.60**	**0.76**	**0.84**	**0.71**	**0.63**	**0.82**
Third-octave band	0.69	0.87	0.75	0.70	0.64	0.88
α_p	0.55	0.80	0.80	0.70	0.65	0.80

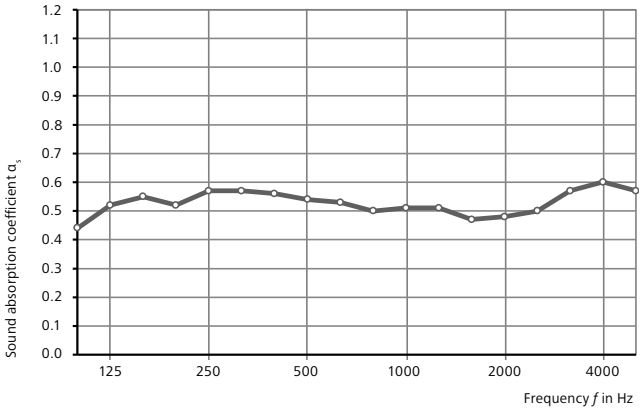
Test certificate: 100960_2021-02-18_2



System:	StoSilent Distance C	**Structural height:**	200 mm
Build-up:	StoSilent Board 205 C	**α_w:**	0.55
Coating:	StoSilent Top Basic, trowel application & Top Basic white	**$\alpha_{p,\ 125}$:**	0.45
		***NRC*:**	0.50
Thickness:	19 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.40	0.50	0.55	0.49	0.47	0.56
Octave band	**0.45**	**0.55**	**0.55**	**0.46**	**0.49**	**0.58**
Third-octave band	0.47	0.55	0.54	0.49	0.50	0.56
α_p	0.45	0.55	0.55	0.50	0.50	0.55

Test certificate: 100960_2021-02-18_4



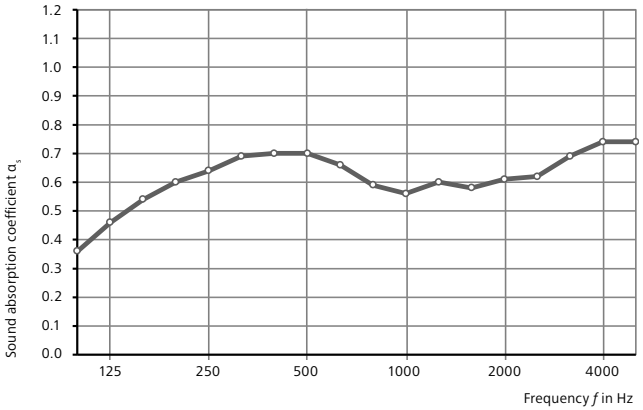
System:	StoSilent Distance C	**Thickness:**	19 mm
Build-up:	StoSilent Board 205 C + mineral wool	**Structural height:**	200 mm
Coating:	StoSilent Top Basic, trowel application & Top Basic white	**α_w:**	0.55
		$\alpha_{p,\ 125}$:	0.50
		***NRC*:**	0.55

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.44	0.52	0.56	0.50	0.47	0.57
Octave band	**0.52**	**0.57**	**0.54**	**0.51**	**0.48**	**0.60**
Third-octave band	0.55	0.57	0.53	0.51	0.50	0.57
α_p	0.50	0.55	0.55	0.50	0.50	0.60

Test certificate: 100960_2021-02-18_3

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

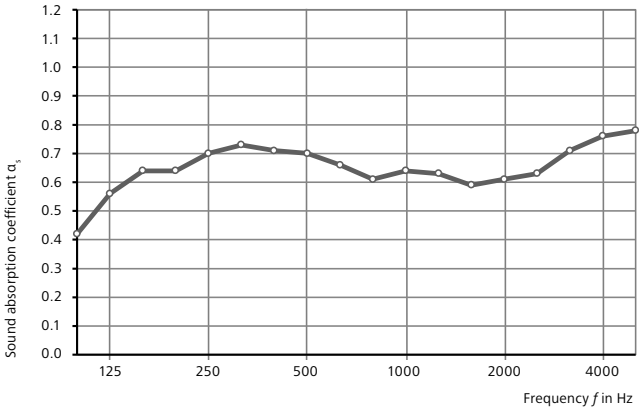
StoSilent Distance C sound characteristics



System:	StoSilent Distance C	**Thickness:**	19 mm
Build-up:	StoSilent Board 205 C	**Structural height:**	200 mm
Coating:	StoSilent Top Basic, trowel application & Top Finish	**α_w:**	0.65
		$\alpha_{p,\ 125}$:	0.45
		***NRC*:**	0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.36	0.60	0.70	0.59	0.58	0.69
Octave band	**0.46**	**0.64**	**0.70**	**0.56**	**0.61**	**0.74**
Third-octave band	0.54	0.69	0.66	0.60	0.62	0.74
α_p	0.45	0.65	0.70	0.60	0.60	0.70

Test certificate: 100960_2021-02-18_6



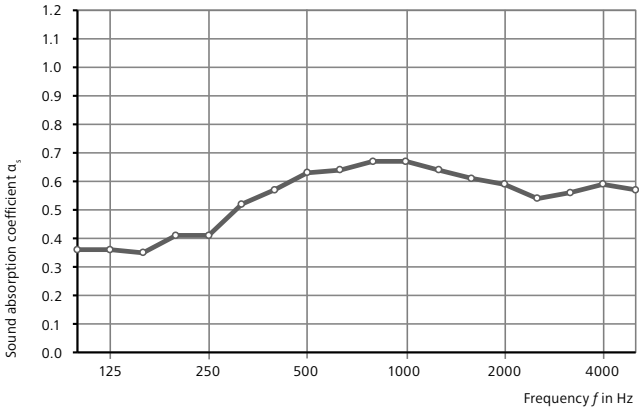
System:	StoSilent Distance C	**Thickness:**	19 mm
Build-up:	StoSilent Board 205 C + mineral wool	**Structural height:**	200 mm
Coating:	StoSilent Top Basic, trowel application & Top Finish	**α_w:**	0.65 (L)
		$\alpha_{p,\ 125}$:	0.55
		***NRC*:**	0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.42	0.64	0.71	0.61	0.59	0.71
Octave band	**0.56**	**0.70**	**0.70**	**0.64**	**0.61**	**0.76**
Third-octave band	0.64	0.73	0.66	0.63	0.63	0.78
α_p	0.55	0.70	0.70	0.65	0.60	0.75

Test certificate: 100960_2021-02-18_1

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

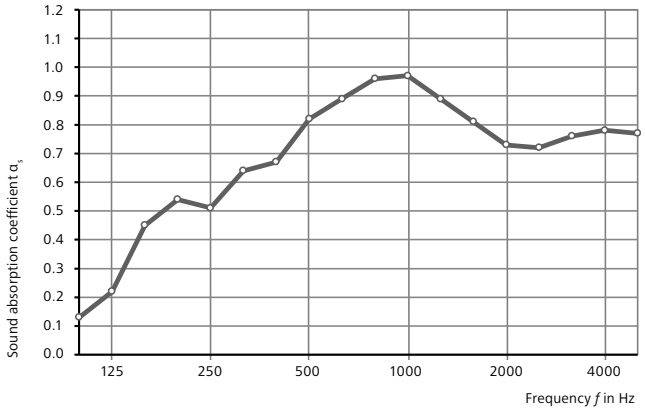
StoSilent Distance S sound characteristics



System:	StoSilent Distance S	**Structural**	
Build-up:	StoSilent Board 100 S	**height:**	200 mm
Coating:	StoSilent Top Basic	α_w**:**	0.65
	& Top Basic white	$\alpha_{p,\ 125}$**:**	0.35
Thickness:	25 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.36	0.41	0.57	0.67	0.61	0.56
Octave band	**0.36**	**0.41**	**0.63**	**0.67**	**0.59**	**0.59**
Third-octave band	0.35	0.52	0.64	0.64	0.54	0.57
α_p	0.35	0.45	0.60	0.65	0.60	0.55

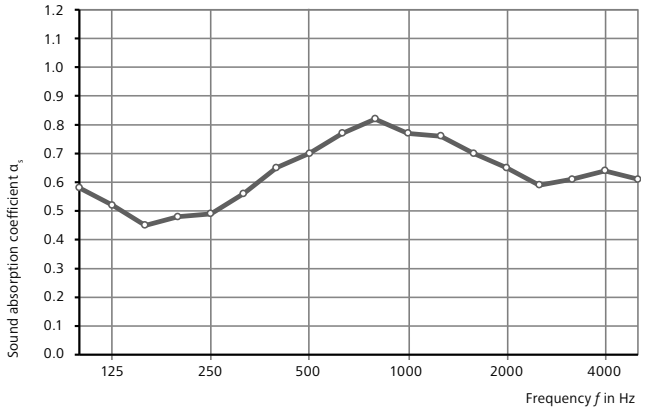
Test certificate: 100960_2017-03-20_9



System:	StoSilent Distance S	**Structural**	
Build-up:	StoSilent Board 100 S	**height:**	55 mm
Coating:	StoSilent Top Basic	α_w**:**	0.80
	& Finish	$\alpha_{p,\ 125}$**:**	0.25
Thickness:	25 mm	*NRC*:	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 129900_35120_73-VersionNEW-2014_8

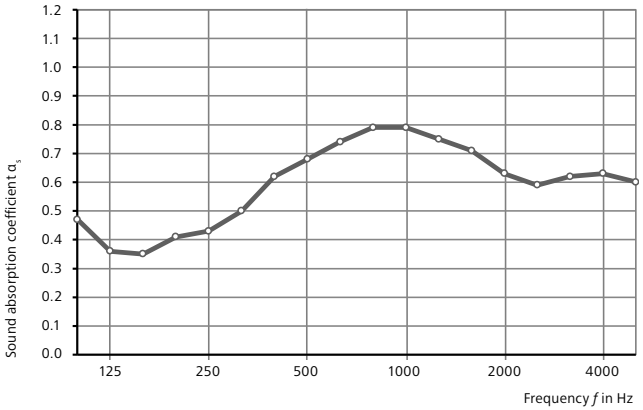


System:	StoSilent Distance S	**Thickness:**	25 mm
Build-up:	StoSilent Board 100 S	**Structural**	
	+ mineral wool	**height:**	55 mm
Coating:	StoSilent Top Basic	α_w**:**	0.70
	& Finish	$\alpha_{p,\ 125}$**:**	0.50
		NRC:	0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.58	0.48	0.65	0.82	0.70	0.61
Octave band	**0.52**	**0.49**	**0.70**	**0.77**	**0.65**	**0.64**
Third-octave band	0.45	0.56	0.77	0.76	0.59	0.61
α_p	0.50	0.50	0.70	0.80	0.65	0.60

Test certificate: 129900_35120-96_1

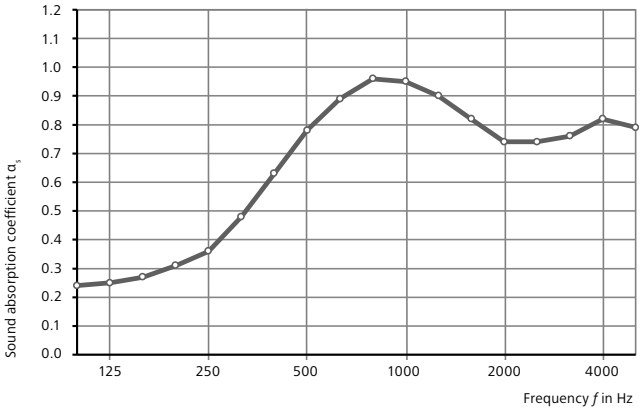
StoSilent Distance S sound characteristics



System:	StoSilent Distance S	**Structural height:**	125 mm
Build-up:	StoSilent Board 100 S	**α_w:**	0.70
Coating:	StoSilent Top Basic & Finish	**$\alpha_{p,\,125}$:**	0.40
Thickness:	25 mm	***NRC*:**	0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

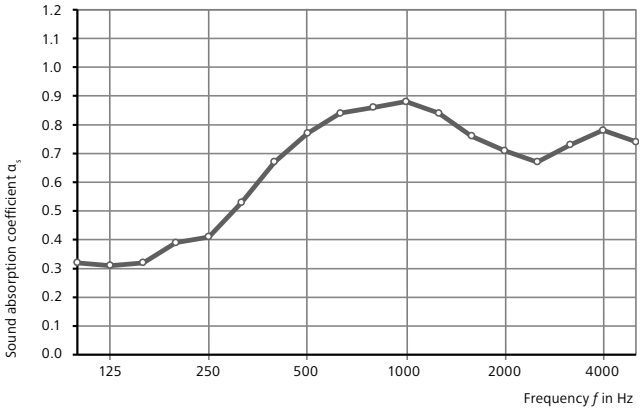
Test certificate: 129900_35120-96_10



System:	StoSilent Distance S	**Structural height:**	270 mm
Build-up:	StoSilent Board 100 S	**α_w:**	0.70 (M)
Coating:	StoSilent Top Basic & Finish	**$\alpha_{p,\,125}$:**	0.25
Thickness:	25 mm	***NRC*:**	0.70

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 129900_35120_73-VersionNEW-2014_5



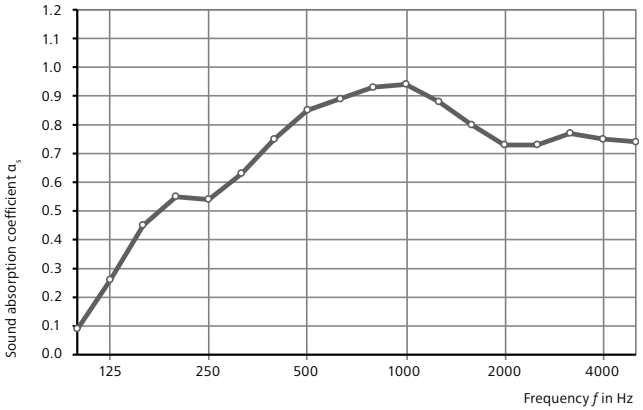
System:	StoSilent Distance S	**Structural height:**	200 mm
Build-up:	StoSilent Board 100 S	**α_w:**	0.70
Coating:	StoSilent Top Basic & Finish, tinted black	**$\alpha_{p,\,125}$:**	0.30
		***NRC*:**	0.70
Thickness:	25 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.32	0.39	0.67	0.86	0.76	0.73
Octave band	**0.31**	**0.41**	**0.77**	**0.88**	**0.71**	**0.78**
Third-octave band	0.32	0.53	0.84	0.84	0.67	0.74
α_p	0.30	0.45	0.75	0.85	0.70	0.75

Test certificate: 100960_2017-03-20_10

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

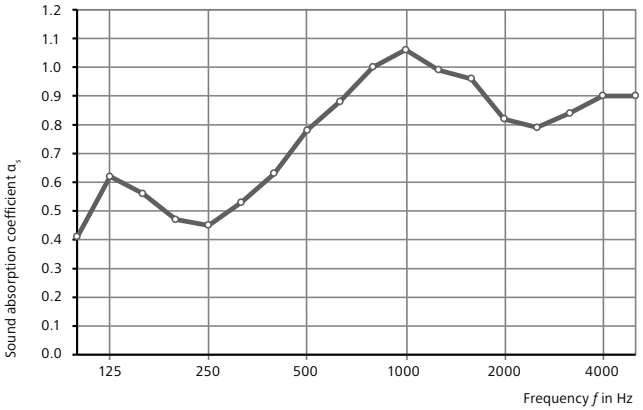
StoSilent Distance S sound characteristics



System:	StoSilent Distance S	**Structural height:**	55 mm
Build-up:	StoSilent Board 110 S	**α_w:**	0.80
Coating:	StoSilent Decor M	**$\alpha_{p,\,125}$:**	0.25
Thickness:	25 mm	***NRC*:**	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

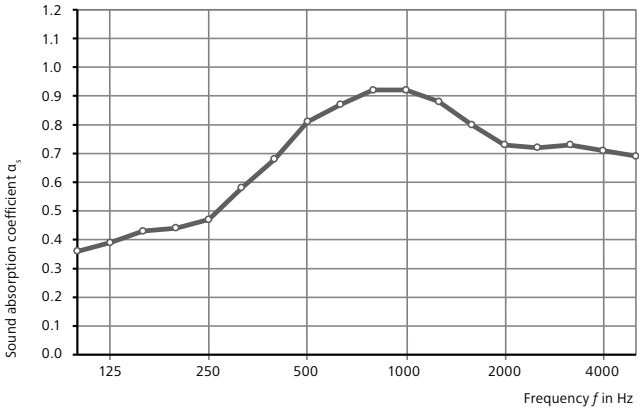
Test certificate: 129900_35120_81-VersionNEW-2014_1



System:	StoSilent Distance S	**Structural height:**	55 mm
Build-up:	StoSilent Board 110 S + mineral wool	**α_w:**	0.75 (MH)
Coating:	StoSilent Decor M	**$\alpha_{p,\,125}$:**	0.55
Thickness:	25 mm	***NRC*:**	0.80

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.41	0.47	0.63	1.00	0.96	0.84
Octave band	**0.62**	**0.45**	**0.78**	**1.06**	**0.82**	**0.90**
Third-octave band	0.56	0.53	0.88	0.99	0.79	0.90
α_p	0.55	0.50	0.75	1.00	0.85	0.90

Test certificate: 129900_35120-93_2



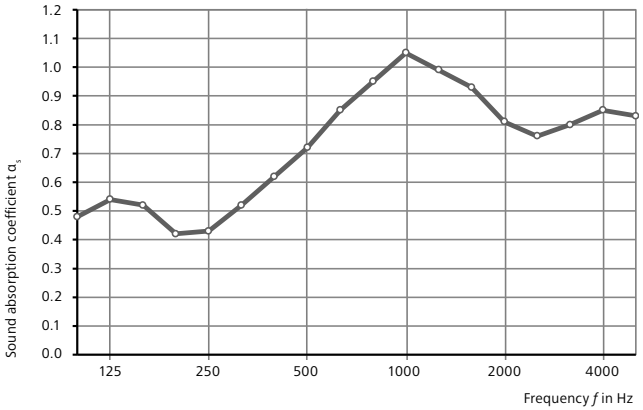
System:	StoSilent Distance S	**Structural height:**	125 mm
Build-up:	StoSilent Board 110 S	**α_w:**	0.75
Coating:	StoSilent Decor M	**$\alpha_{p,\,125}$:**	0.40
Thickness:	25 mm	***NRC*:**	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 129900_35120_81-VersionNEW-2014_2

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

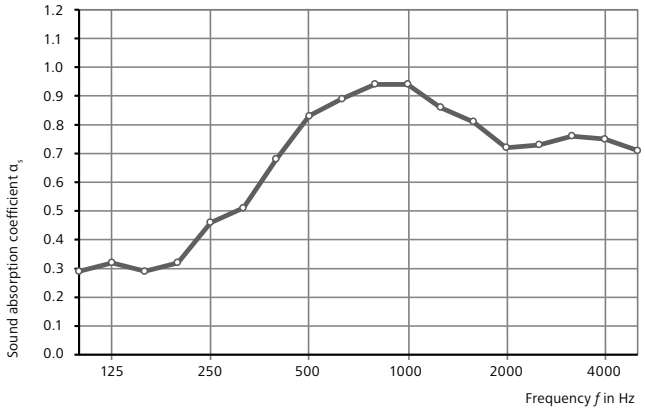
StoSilent Distance S sound characteristics



System:	StoSilent Distance S	**Structural**	
Build-up:	StoSilent Board 110 S	**height:**	125 mm
	+ mineral wool	**α_w:**	0.75 (M)
Coating:	StoSilent Decor M	**$\alpha_{p,\ 125}$:**	0.50
Thickness:	25 mm	***NRC*:**	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.48	0.42	0.62	0.95	0.93	0.80
Octave band	**0.54**	**0.43**	**0.72**	**1.05**	**0.81**	**0.85**
Third-octave band	0.52	0.52	0.85	0.99	0.76	0.83
α_p	0.50	0.45	0.75	1.00	0.85	0.85

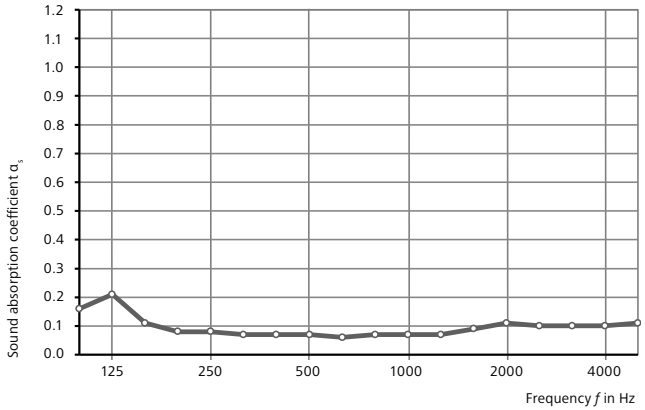
Test certificate: 129900_35120-93_6



System:	StoSilent Distance S	**Structural**	
Build-up:	StoSilent Board 110 S	**height:**	270 mm
Coating:	StoSilent Decor M	**α_w:**	0.75
Thickness:	25 mm	**$\alpha_{p,\ 125}$:**	0.30
		***NRC*:**	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 129900_35120_81-VersionNEW-2014_3



System:	StoSilent Distance S	**Structural**	
Build-up:	StoSilent Board 110	**height:**	270 mm
	S, filled (reflective)	**α_w:**	0.10
Coating:	StoSilent Decor M	**$\alpha_{p,\ 125}$:**	0.15
Thickness:	25 mm	***NRC*:**	0.10

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

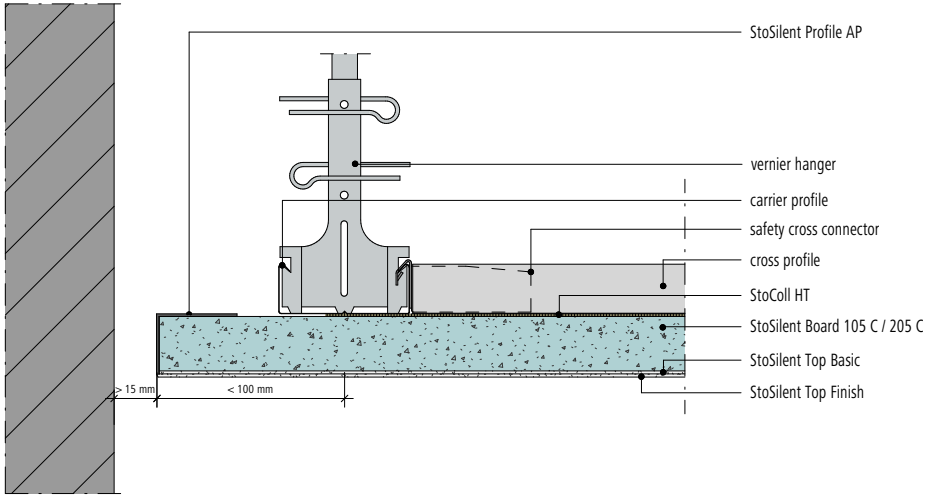
Test certificate: 129900_35120_92-VersionNEW-2014_2

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance C construction details

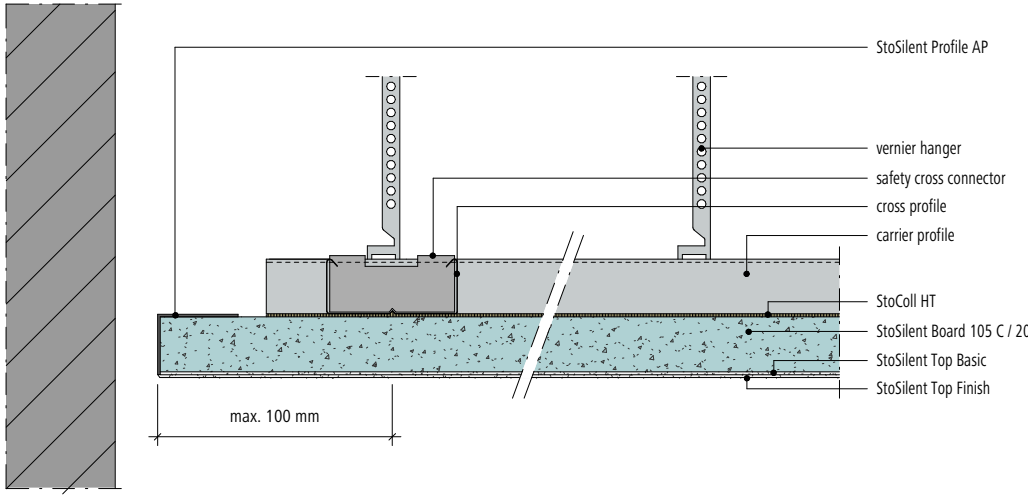
Ceiling (vertical section): open wall junction

Sto-HQ-EN_SSDI C-BT-0100_2020-09-01



Ceiling (vertical section): open wall junction

Sto-HQ-EN_SSDI C-BT-0105_2020-09-01

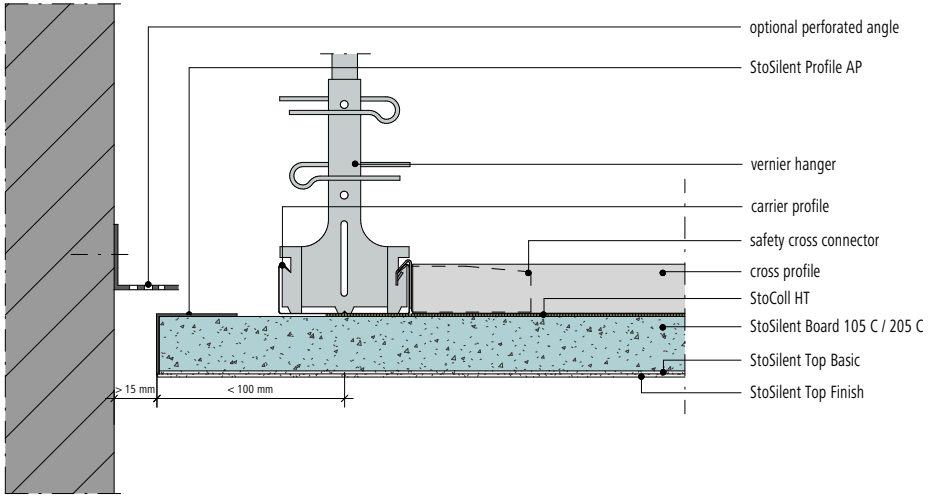


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance C construction details

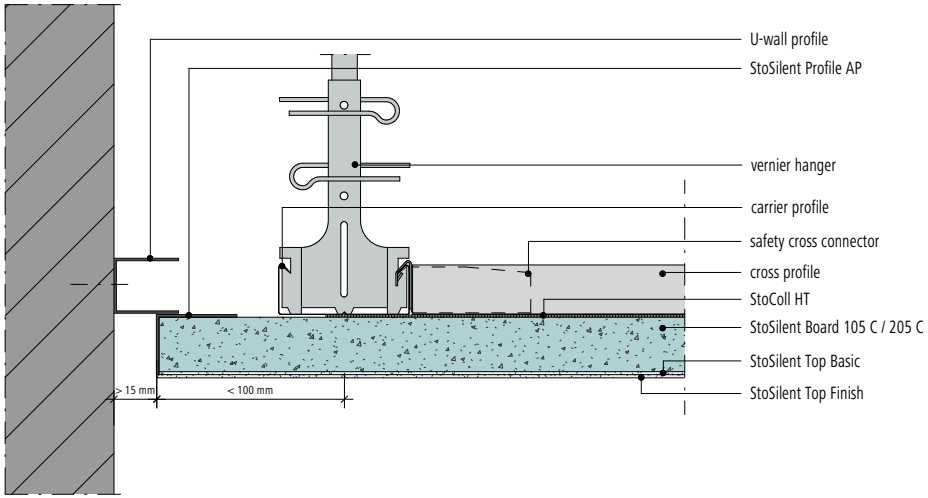
Ceiling (vertical section): wall junction with perforated angle bracket

Sto-HQ-EN_SSDI C-BT-0110_2020-09-01



Ceiling (vertical section): wall junction with U-wall profile

Sto-HQ-EN_SSDI C-BT-0112_2020-09-01

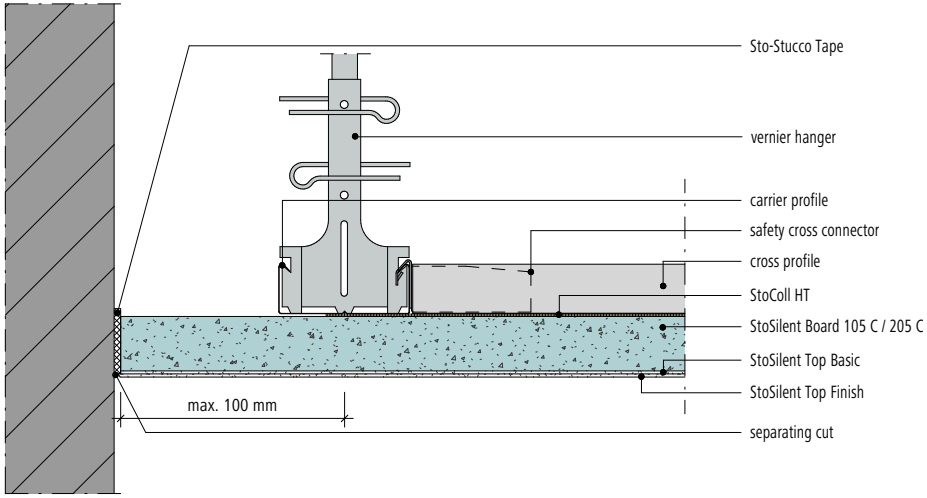


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance C construction details

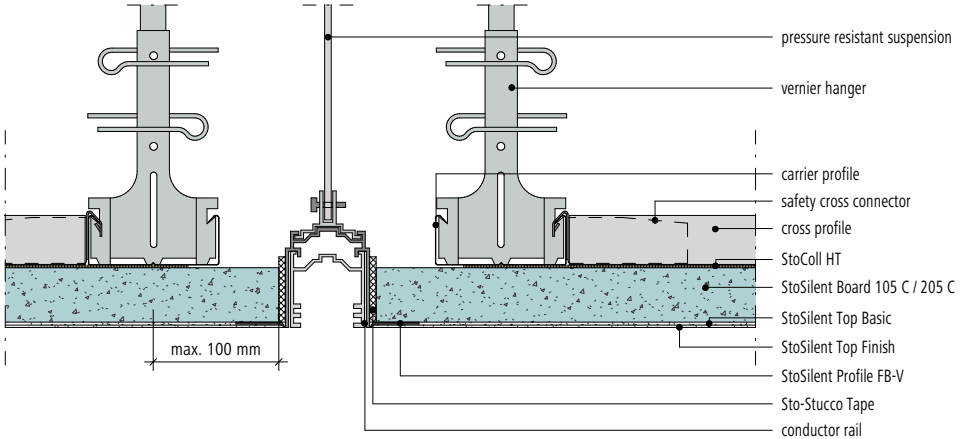
Ceiling (vertical section): wall junction with Sto-Stucco Tape

Sto-HQ-EN_SSDI C-BT-0115_2020-09-01



Ceiling (vertical section): installation of a busbar

Sto-HQ-EN_SSDI C-BT-0150_2021-03-01

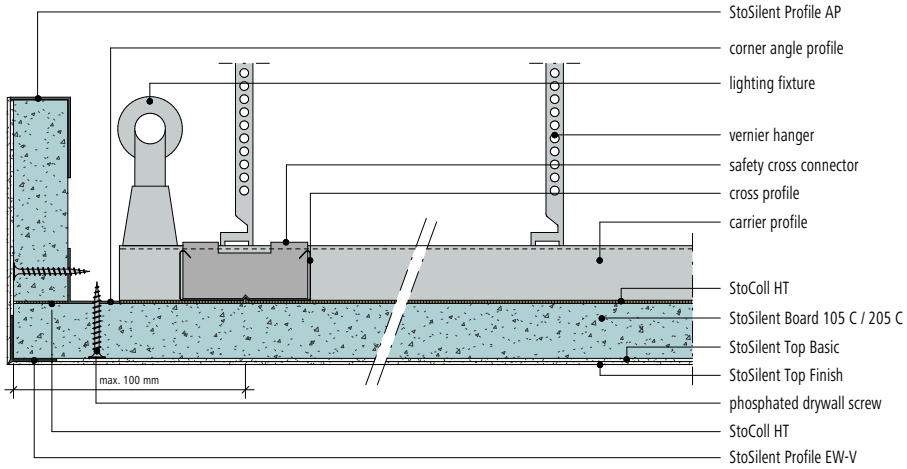


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance C construction details

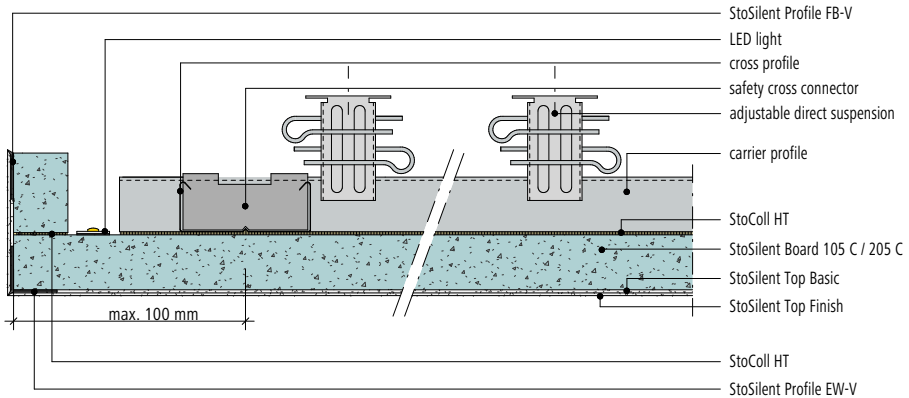
Ceiling (vertical section): projection with upstanding edge and load with StoSilent profile EW-V

Sto-HQ-EN_SSDI C-BT-0160_2021-03-01



Ceiling (vertical section): projection with upstanding edge and passive lighting

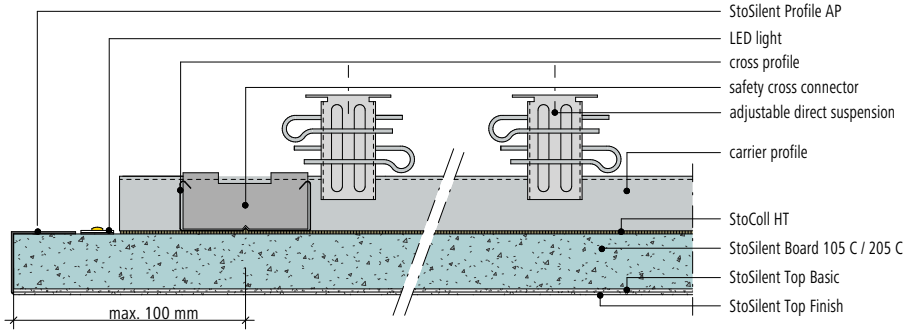
Sto-HQ-EN_SSDI C-BT-0165_2021-03-01



StoSilent Distance C construction details

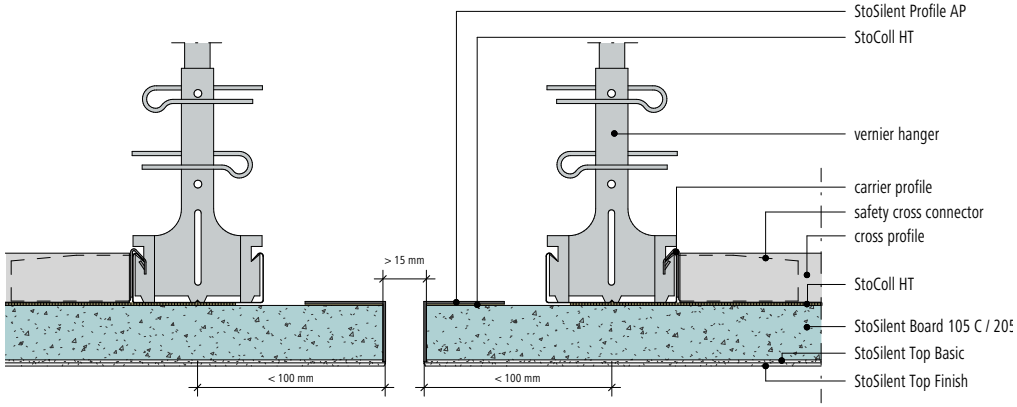
Ceiling (vertical section): projection with passive lighting without upstanding edge

Sto-HQ-EN_SSDI C-BT-0170_2021-03-01



Ceiling (vertical section): expansion joint formation

Sto-HQ-EN_SSDI C-BT-0220_2020-09-01

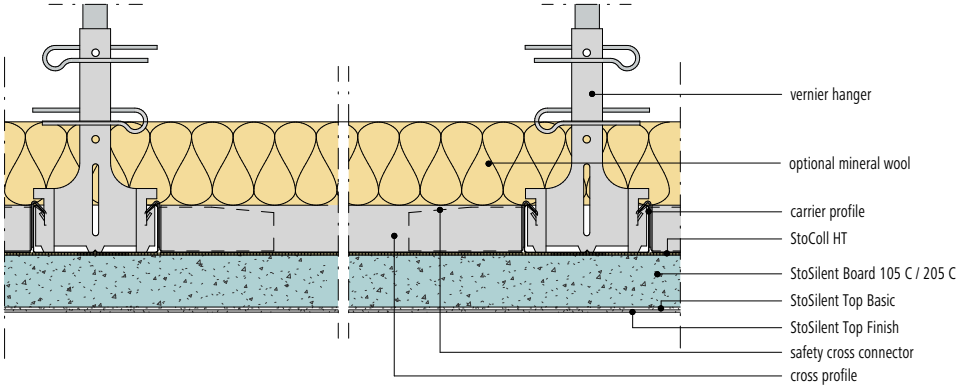


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance C construction details

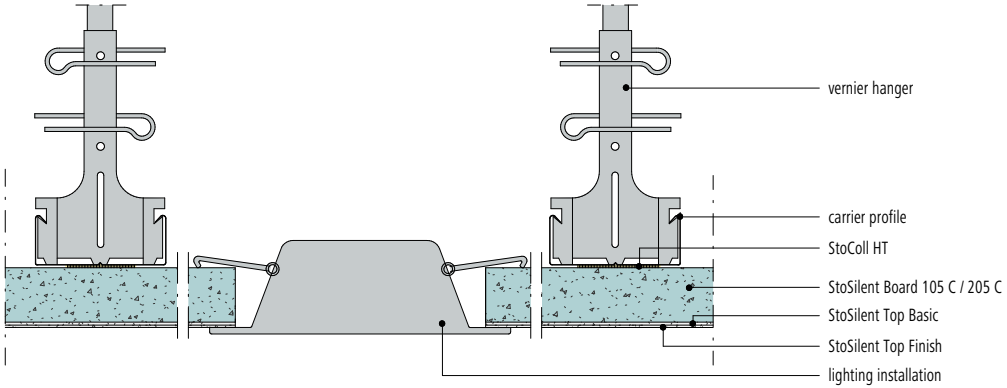
Ceiling (vertical section): system build-up with deposited mineral wool

Sto-HQ-EN_SSDI C-BT-0300_2021-03-01



Ceiling (vertical section): installation of lamps

Sto-HQ-EN_SSDI C-BT-0610_2021-03-01

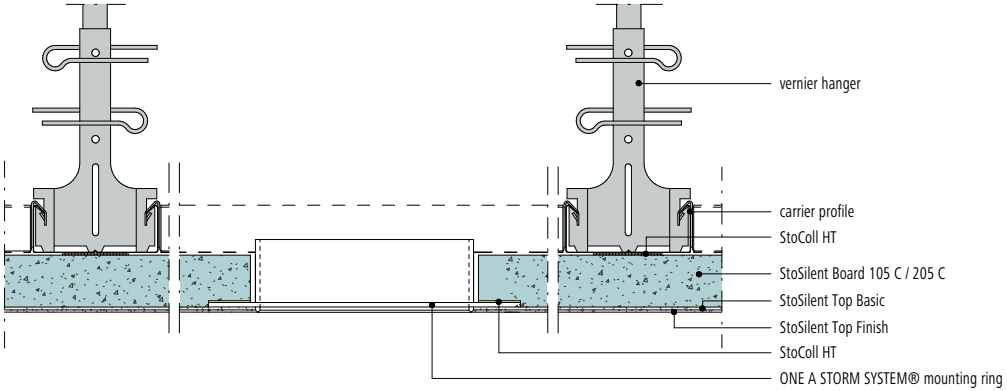


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance C construction details

Ceiling (vertical section): installation of lamps with ONE A STORM SYSTEM® mounting ring

Sto-HQ-EN_SSDI C-BT-0611_2021-03-01

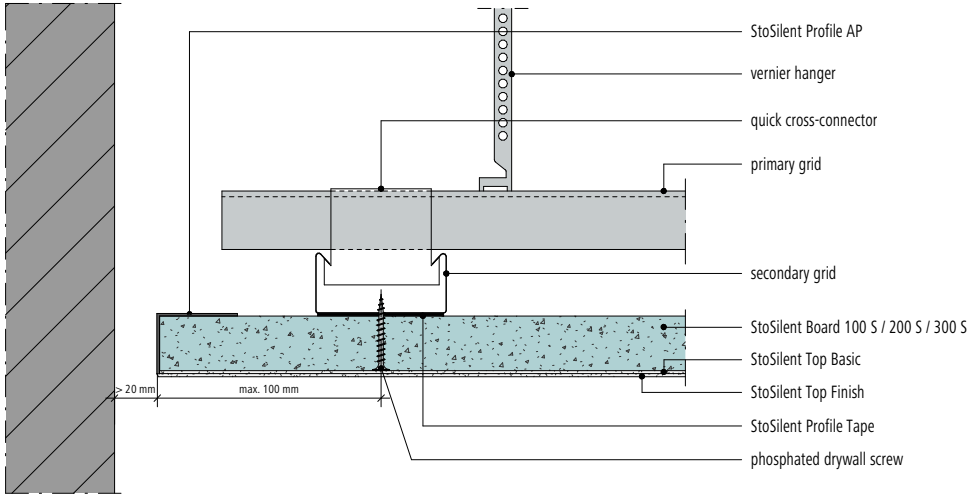


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

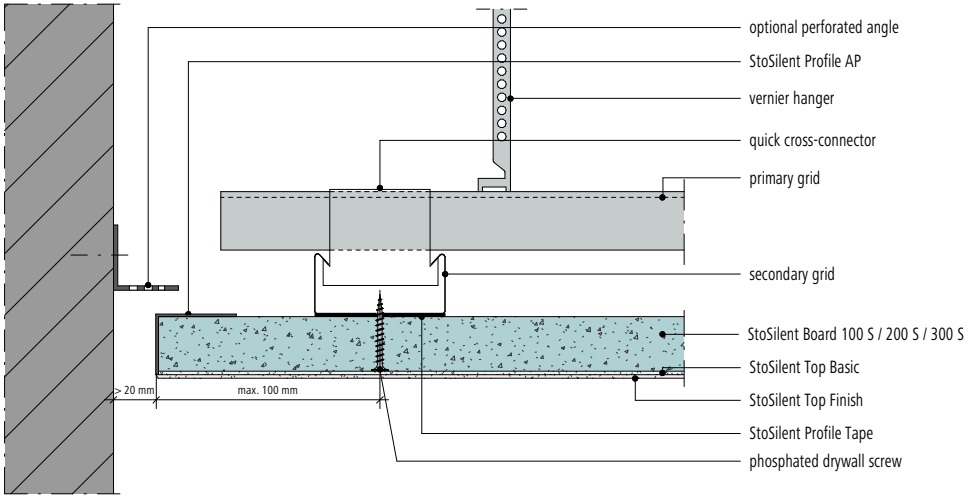
Ceiling (vertical section): open wall junction

Sto-HQ-EN_SSDI S-BT-0100_2021-03-01



Ceiling (vertical section): wall junction with perforated angle bracket

Sto-HQ-EN_SSDI S-BT-0110_2021-03-01

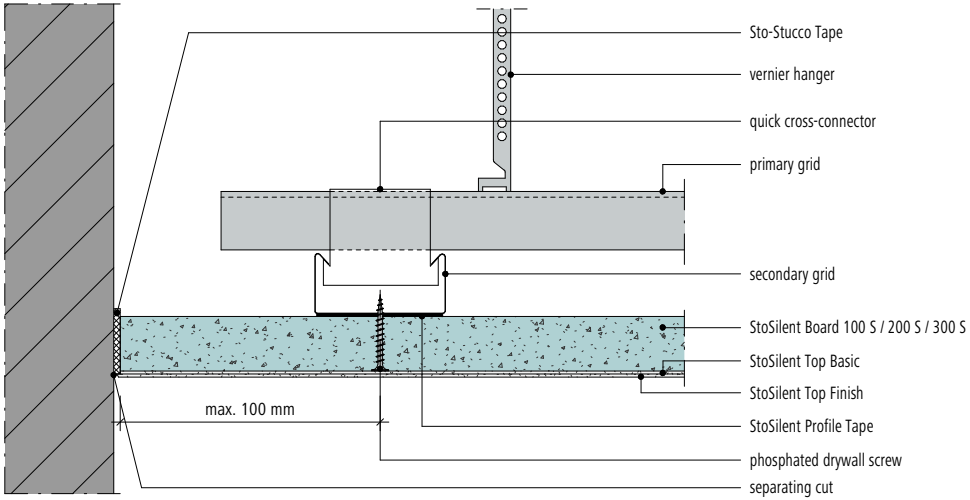


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

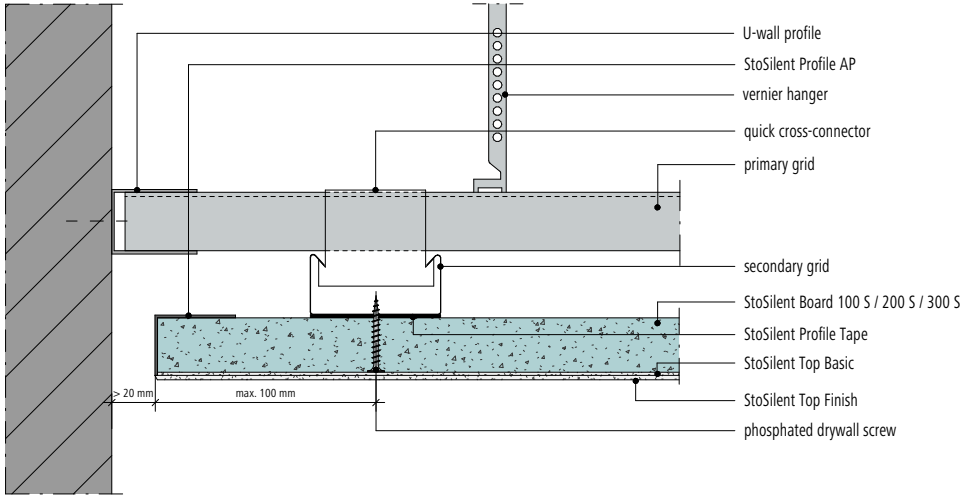
Ceiling (vertical section): wall junction with Sto-Stucco Tape

Sto-HQ-EN_SSDI S-BT-0115_2021-03-01



Ceiling (vertical section): wall junction with U-wall profile

Sto-HQ-EN_SSDI S-BT-0140_2021-03-01

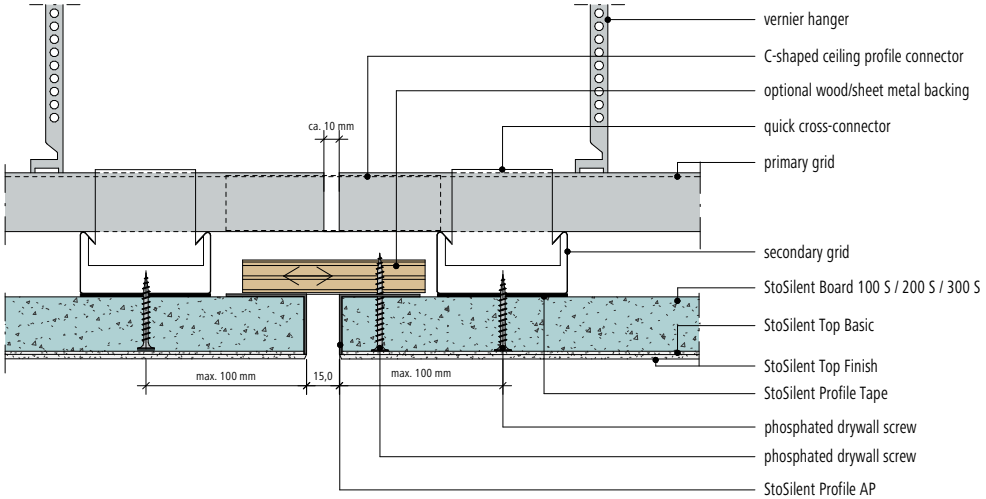


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

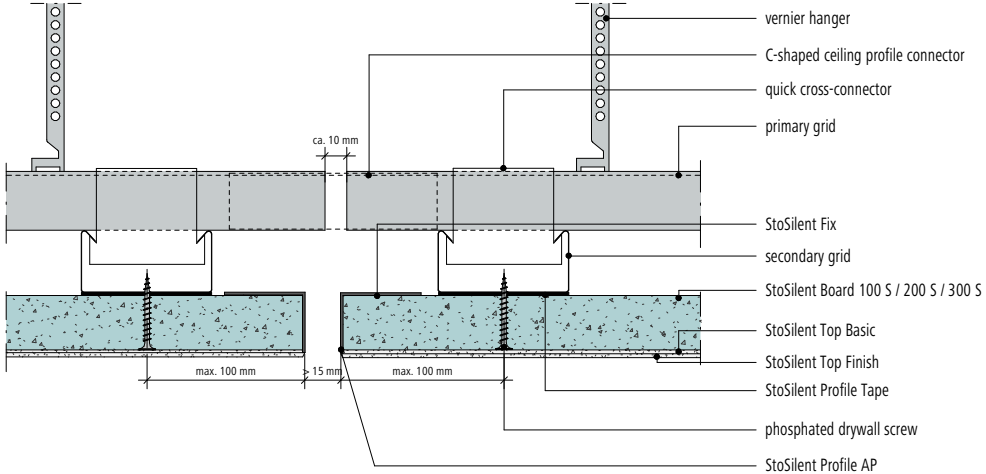
Ceiling (vertical section): expansion joint formation, backed

Sto-HQ-EN_SSDI S-BT-0210_2021-03-01



Ceiling (vertical section): expansion joint formation

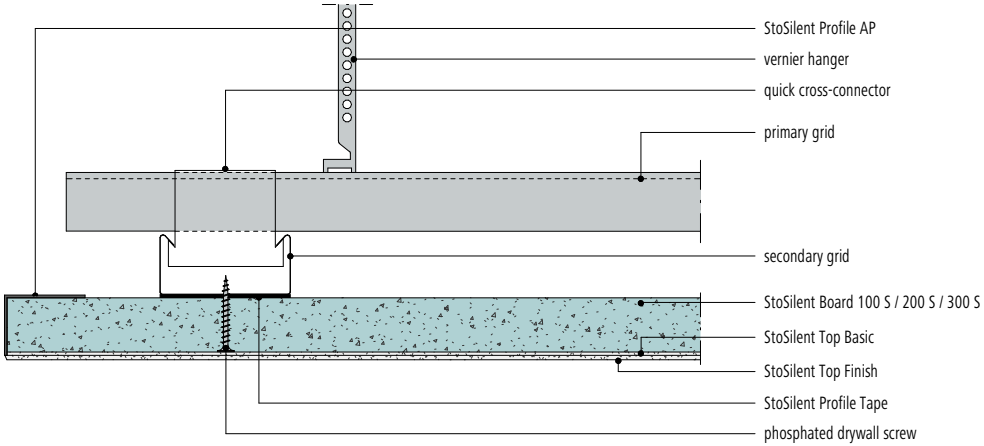
Sto-HQ-EN_SSDI S-BT-0220_2021-03-01



StoSilent Distance S construction details

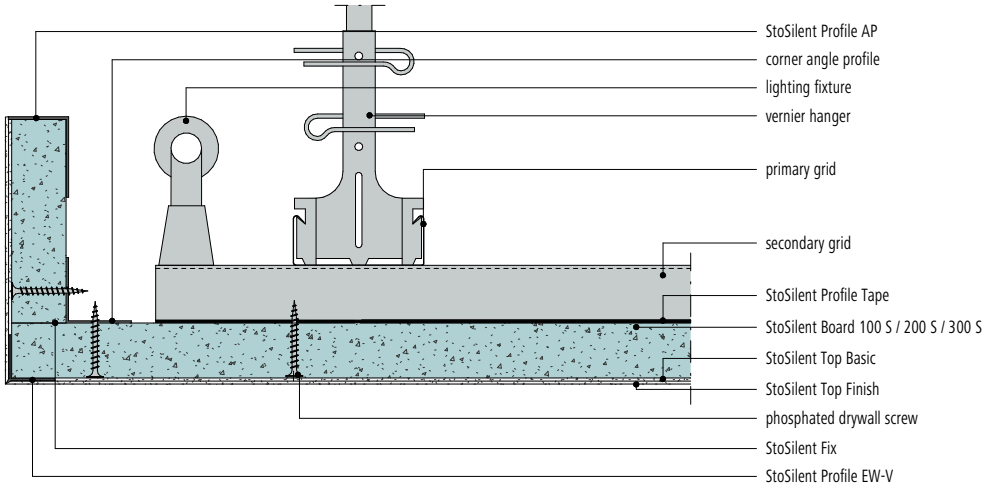
Ceiling (vertical section): projection without load

Sto-HQ-EN_SSDI S-BT-0310_2021-03-01



Ceiling (vertical section): projection with upstanding edge and load

Sto-HQ-EN_SSDI S-BT-0321_2021-03-01

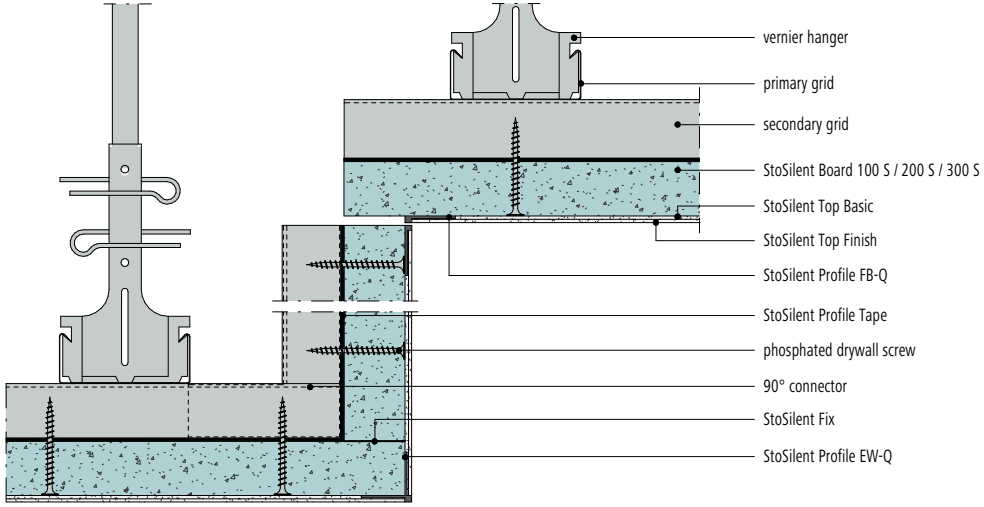


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

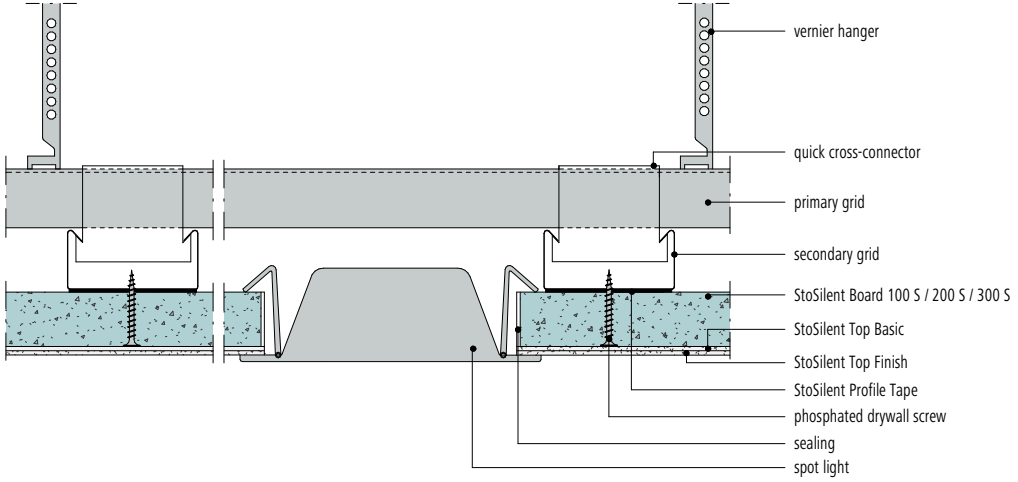
Ceiling (vertical section): stepped structure in straight-edged application

Sto-HQ-EN_SSDI S-BT-0410_2021-03-01



Ceiling (vertical section): installation of lamps

Sto-HQ-EN_SSDI S-BT-0610_2021-03-01

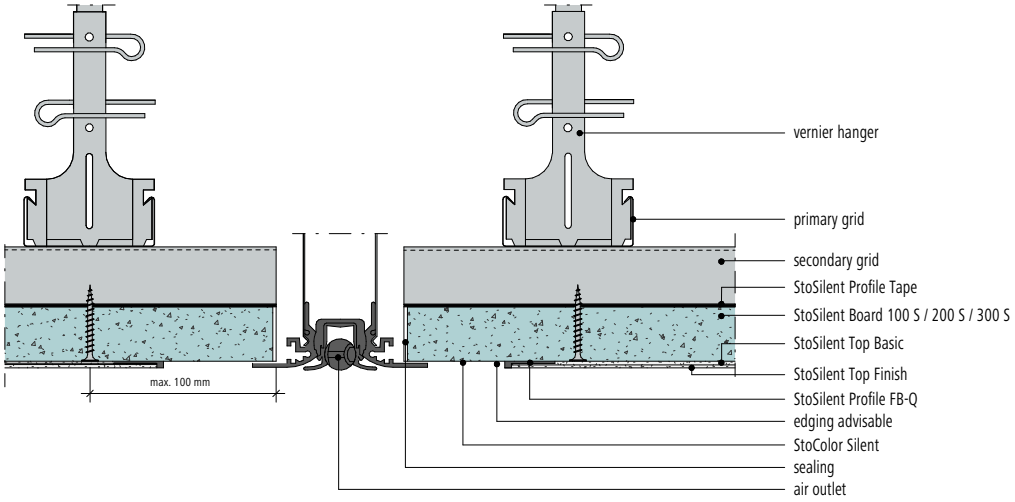


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

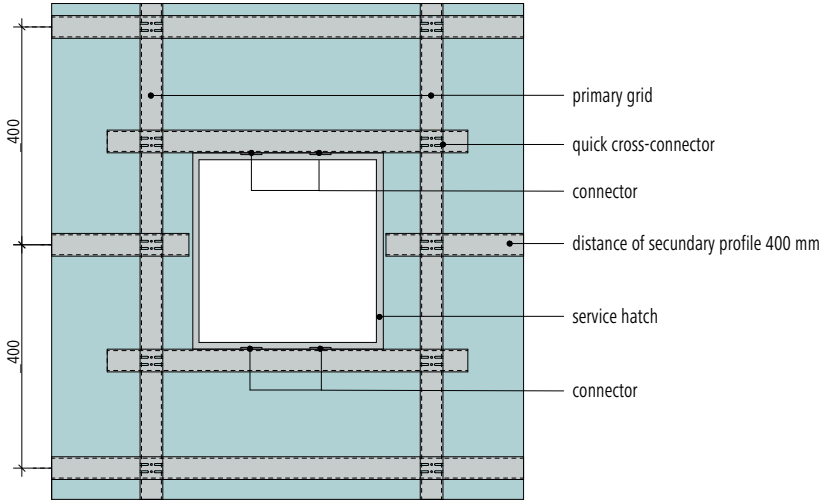
Ceiling (vertical section): air outlet

Sto-HQ-EN_SSDI S-BT-0630_2021-03-01



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

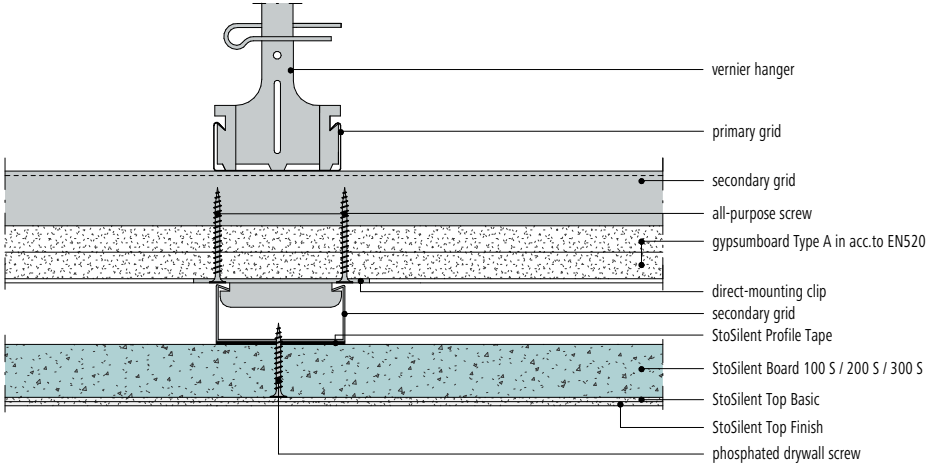
Sto-HQ-EN_SSDI S-BT-0640_2021-03-01



StoSilent Distance S construction details

Ceiling (vertical section): ceiling under ceiling system

Sto-HQ-EN_SSDI S-BT-0720_2021-03-01

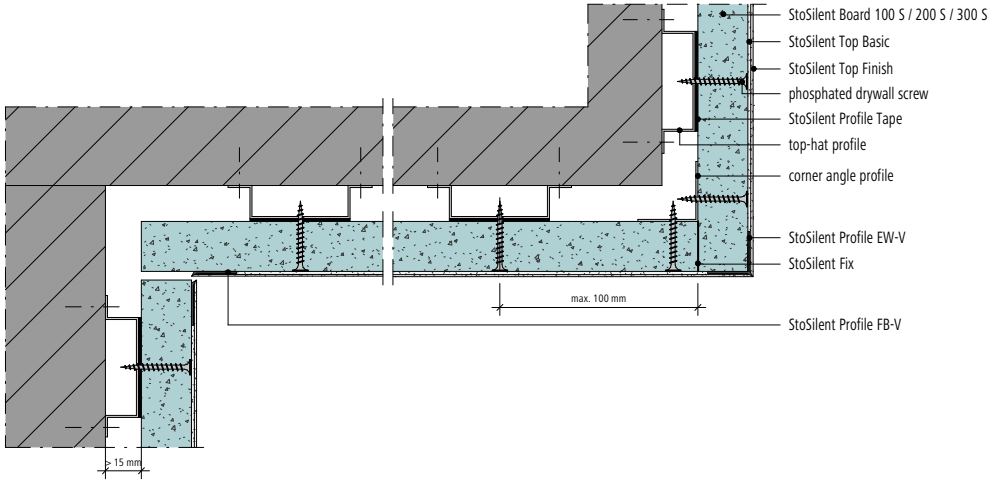


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

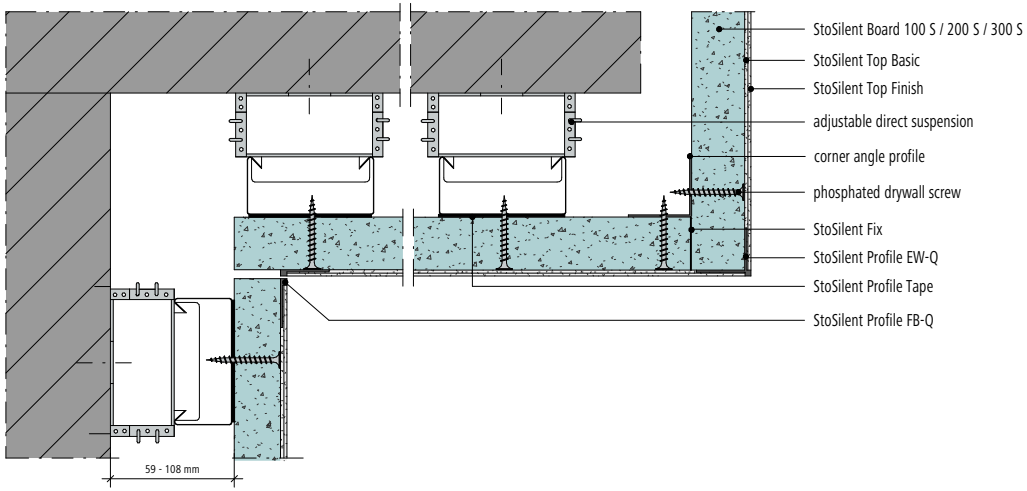
Wall (horizontal section): wall covering with top-hat profile

Sto-HQ-EN_SSDI S-BT-0512_2021-03-01



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

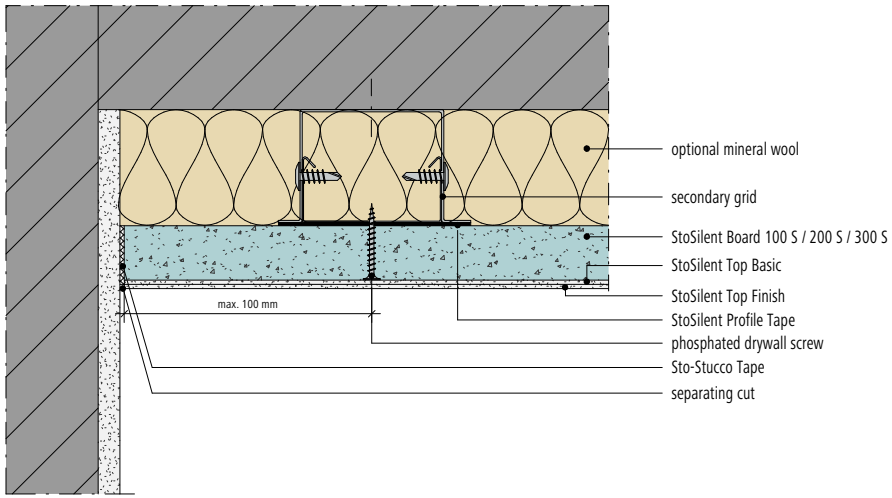
Sto-HQ-EN_SSDI S-BT-0520_2021-03-01



StoSilent Distance S construction details

Wall (horizontal section): lateral connection to wall covering

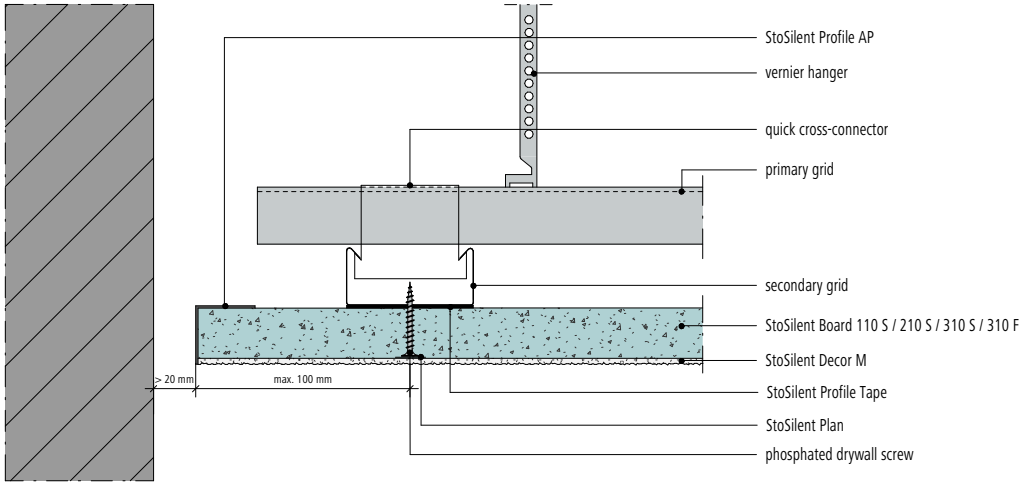
Sto-HQ-EN_SSDI S-BT-0540_2021-03-01



StoSilent Distance S construction details

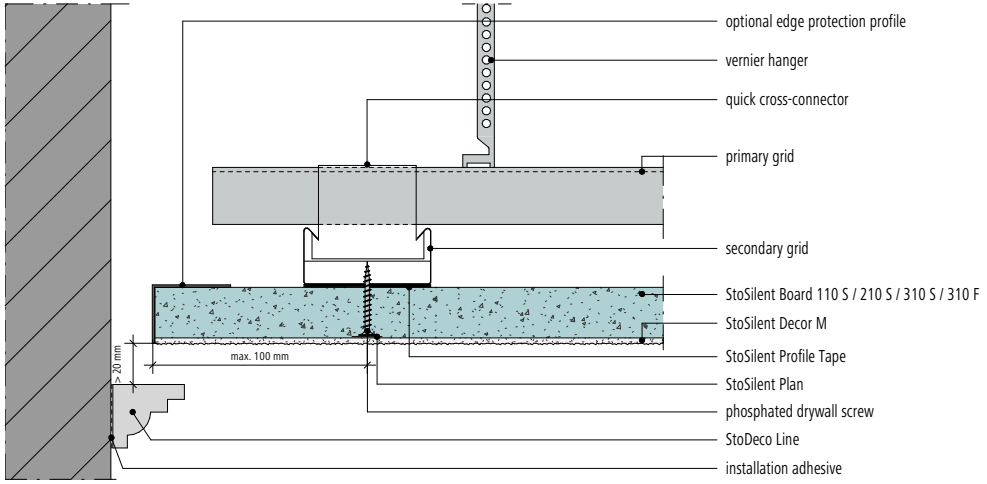
Ceiling (vertical section): open wall junction

Sto-HQ-EN_SSDI S-D-0100_2021-03-01



Ceiling (vertical section): wall junction with StoDeco Line

Sto-HQ-EN_SSDI S-D-0120_2021-03-01

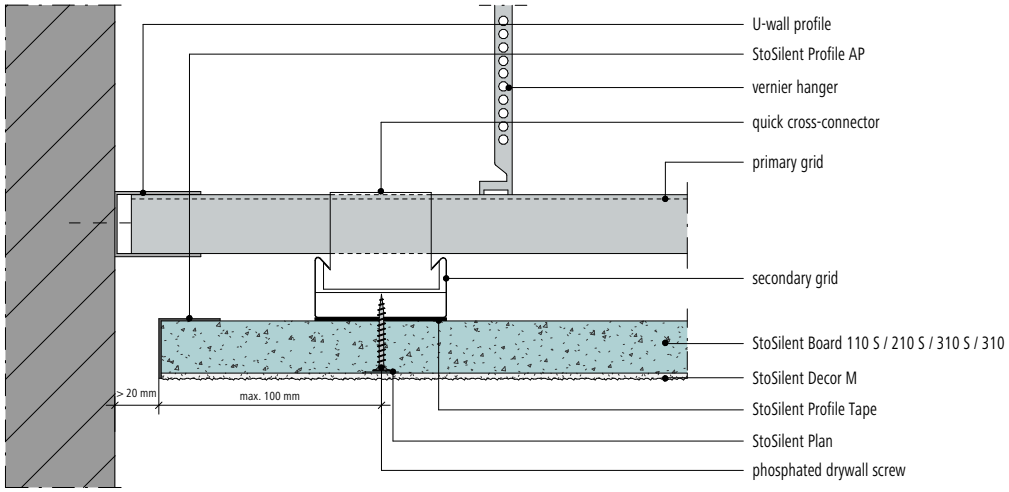


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

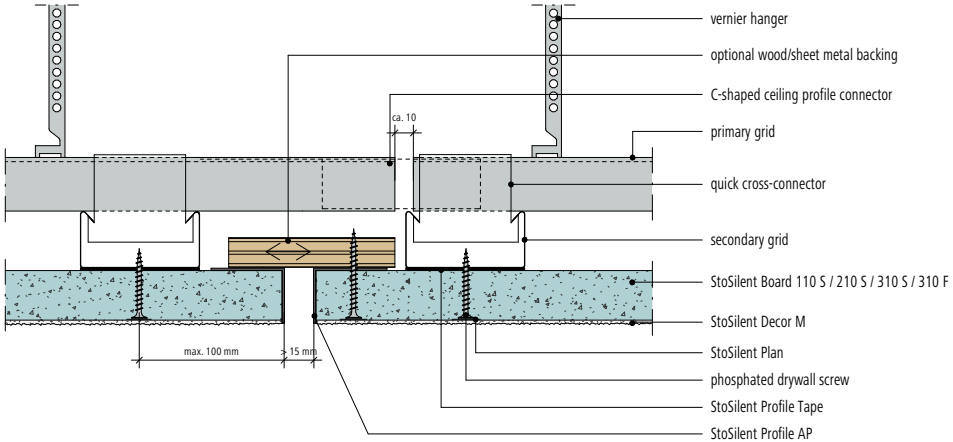
Ceiling (vertical section): wall junction with U-wall profile

Sto-HQ-EN_SSDI S-D-0140_2021-03-01



Ceiling (vertical section): expansion joint formation, backed

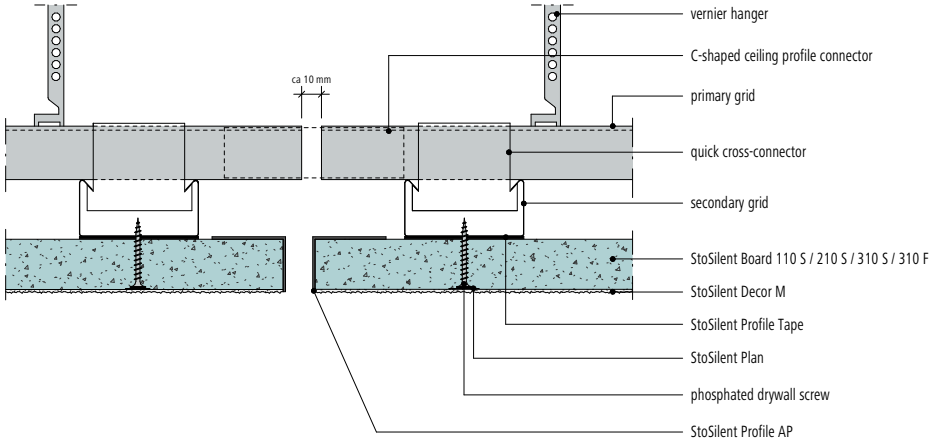
Sto-HQ-EN_SSDI S-D-0210_2021-03-01



StoSilent Distance S construction details

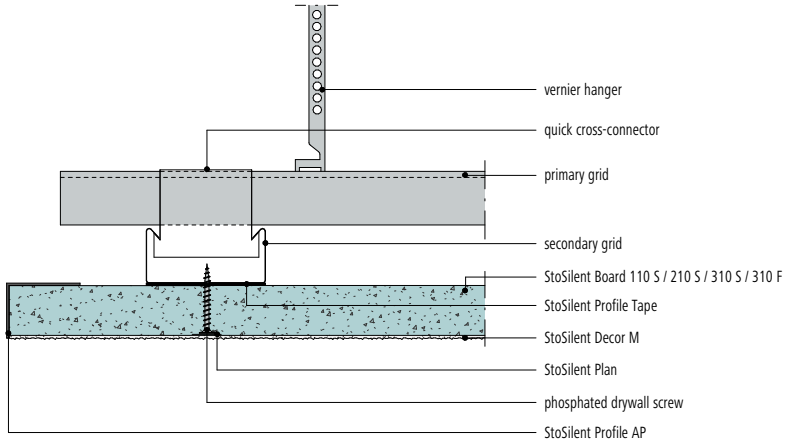
Ceiling (vertical section): expansion joint formation, open

Sto-HQ-EN_SSDI S-D-0220_2021-03-01



Ceiling (vertical section): projection without load

Sto-HQ-EN_SSDI S-D-0310_2021-03-01

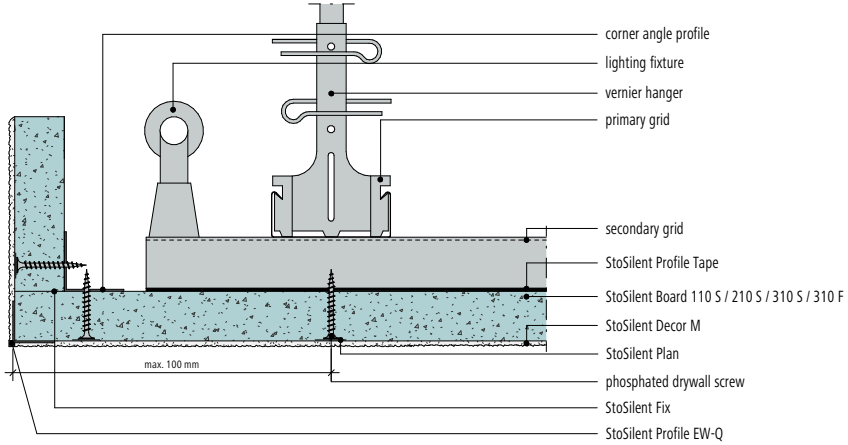


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

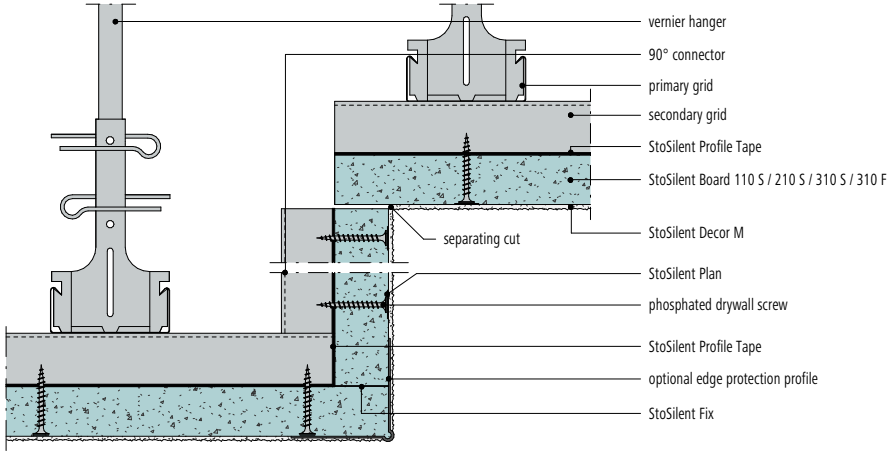
Ceiling (vertical section): projection with upstanding edge and load

Sto-HQ-EN_SSDI S-D-0320_2021-03-01



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

Sto-HQ-EN_SSDI S-D-0410_2021-03-01

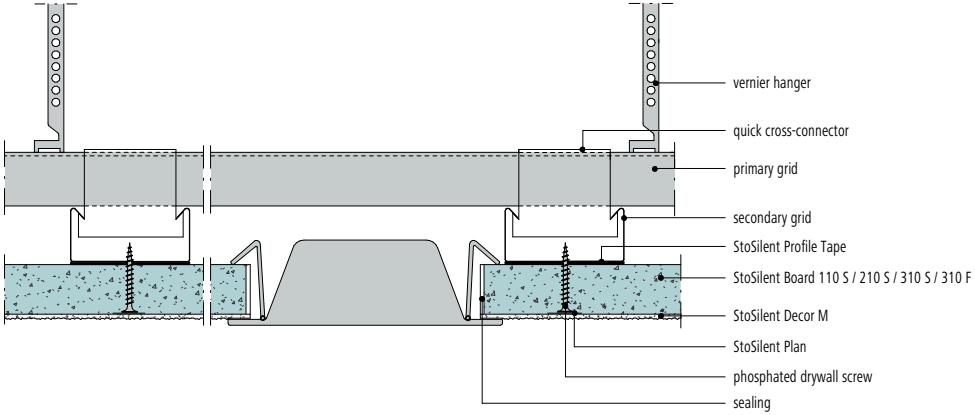


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

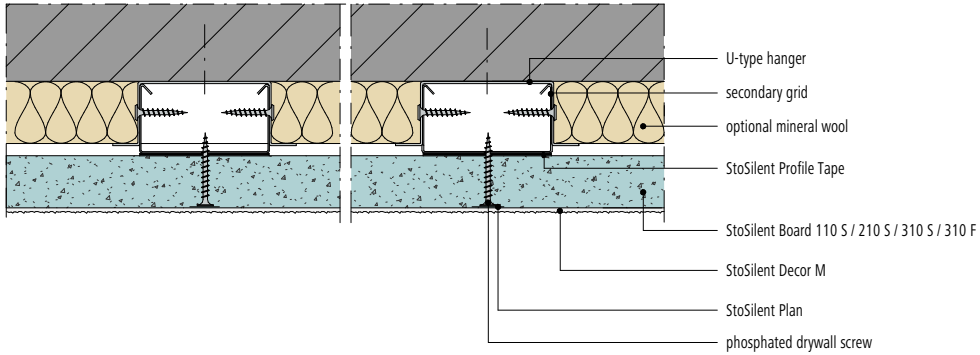
Ceiling (vertical section): installation of lamps

Sto-HQ-EN_SSDI S-D-0610_2021-03-01



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

Sto-HQ-EN_SSDI S-D-0530_2021-03-01

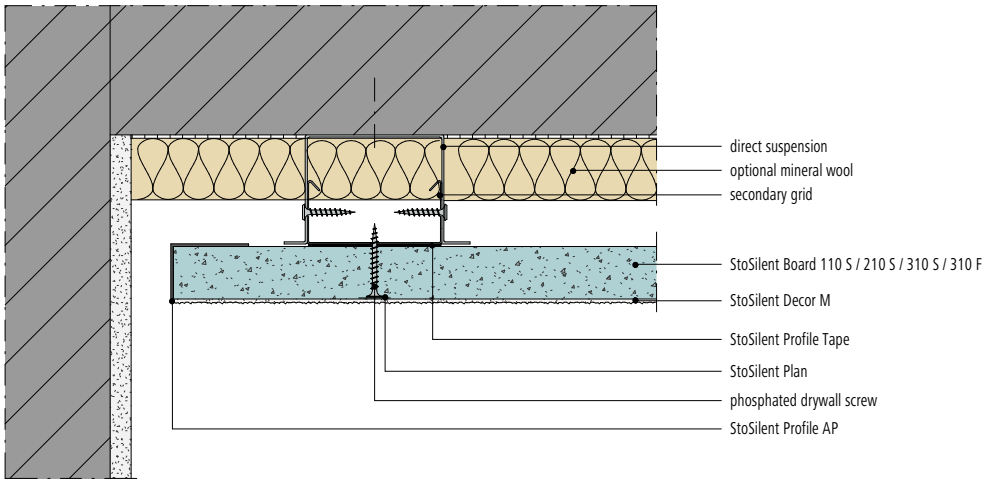


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

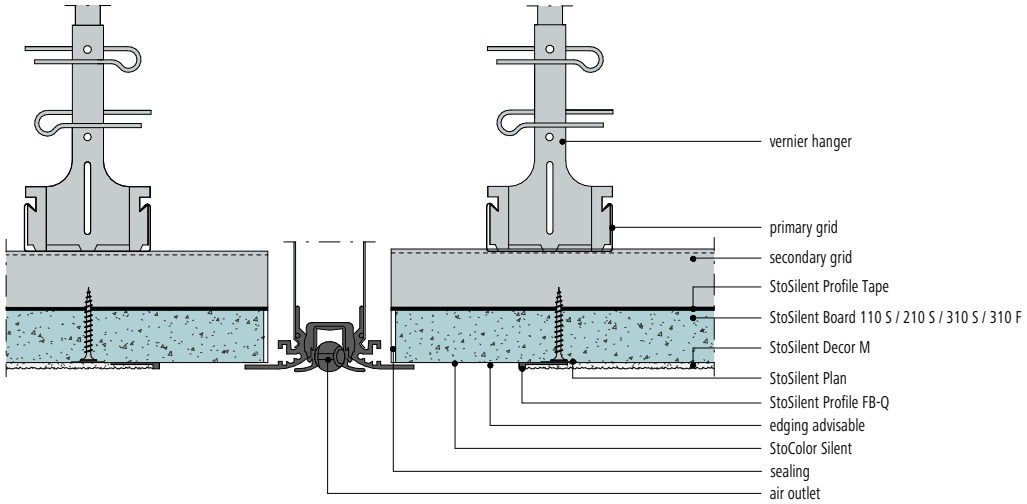
Wall (horizontal section): lateral connection to a wall covering

Sto-HQ-EN_SSDI S-D-0540_2021-03-01



Ceiling (vertical section): air outlet

Sto-HQ-EN_SSDI S-D-0630_2021-03-01

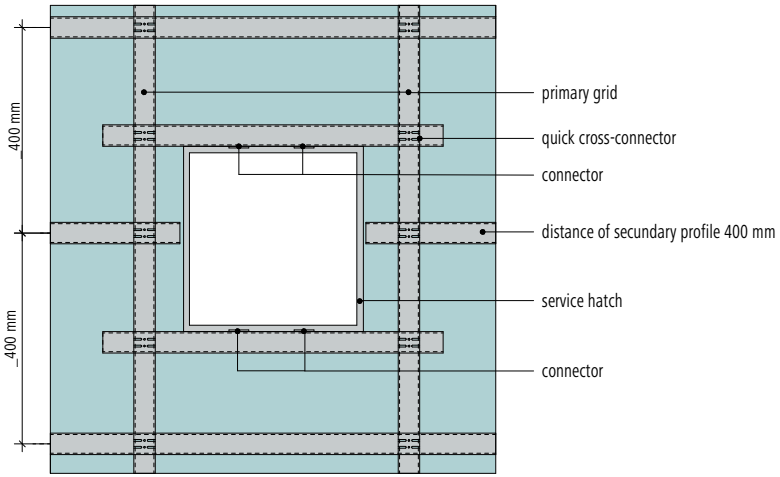


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance S construction details

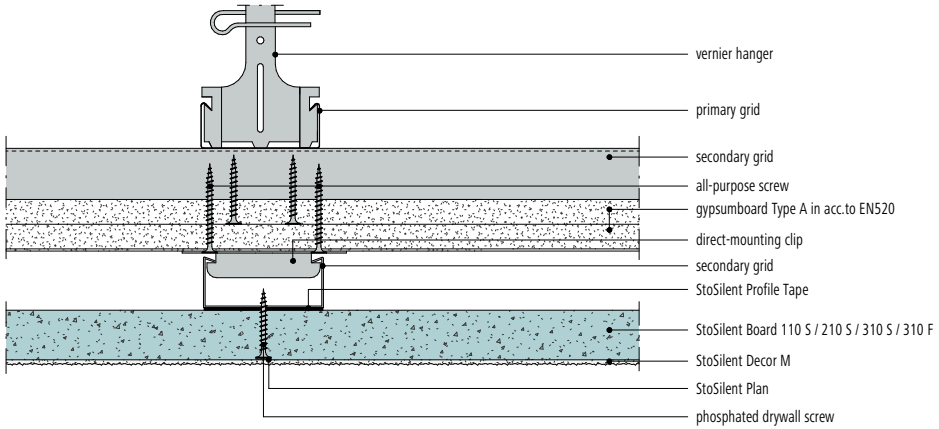
Ceiling (horizontal section): service hatch with trimmer in the sub-construction

Sto-HQ-EN_SSDI S-D-0640_2021-03-01



Ceiling (vertical section): ceiling under ceiling

Sto-HQ-EN_SSDI S-D-0720_2021-03-01

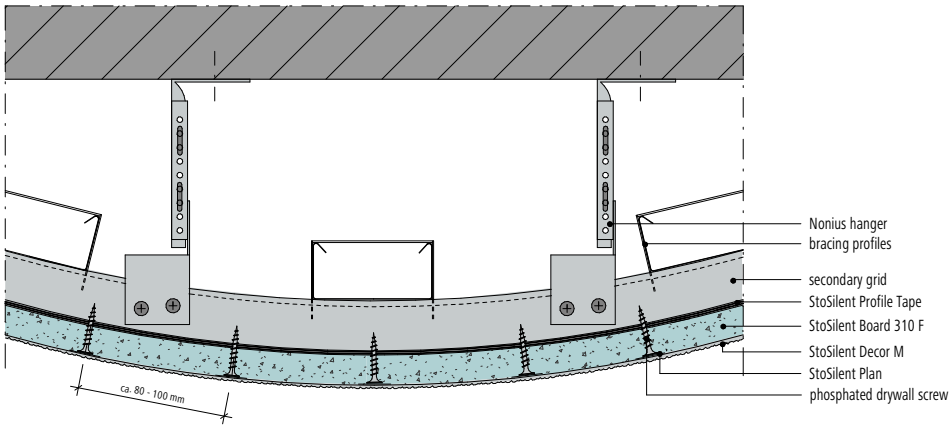


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Distance F construction details

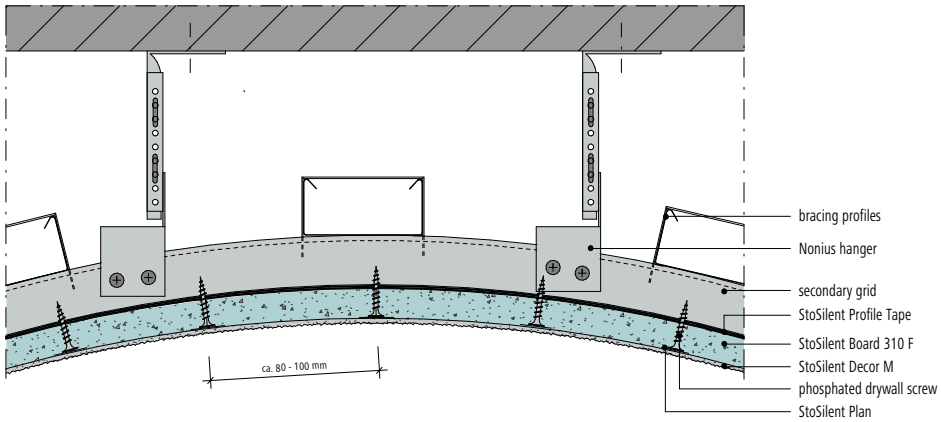
Ceiling (vertical section): curved ceiling and wall areas for R > 5 m

Sto-HQ-EN_SSDI F-D-0715_2022-04-01



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

Sto-HQ-EN_SSDI F-D-0710_2022-04-01



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Direct

Directly bonded acoustic system for seamless surfaces
The StoSilent Direct acoustic system is a high-quality acoustic sandwich of expanded glass granulate and stone wool. This is applied directly to the substrate and is ideal for large surface areas.

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

StoSilent Direct can be installed seamlessly or with visible joints, depending on the finishing coat.

To surfaces

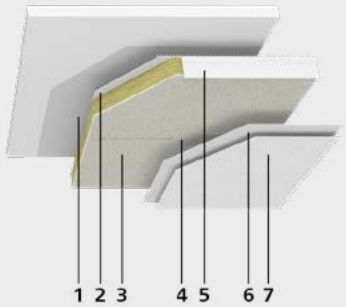
To absorption values

To construction details

To references

The system

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



Carrier layer
1 — Priming coat
2 — Bonding

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

Material layer
6 — Intermediate coat
7 — Finishing coat

Material layer options

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

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

Mineral acoustic spray plaster
- StoSilent Miral AP
- Rough surface
- Limited tintability with StoTint Aqua

System properties

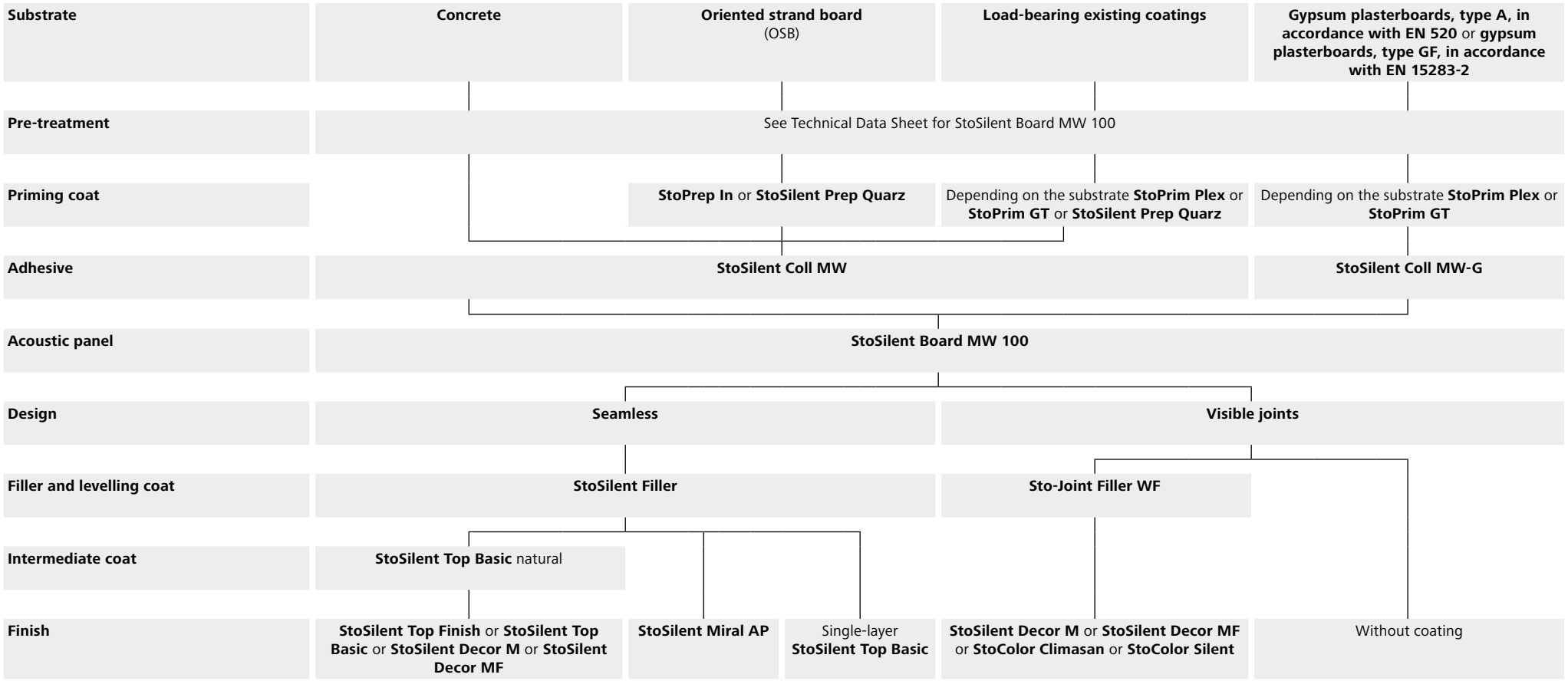
Application
- Interior
- For ceilings and upper wall areas
- Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress
- Exterior, for selected areas
- For smooth surfaces and curved surfaces (convex, concave, no spherical surfaces)

Reaction to fire
- Class A2-s1, d0 in accordance with EN 13501-1, non-combustible
- Fire resistance class REI60 in accordance with EN 13501-2 (wooden beam ceiling), classification report no. KB 3.2/19-423-1
- Class $K_2$60 covering, classification report no. KB 3.2/19-423-2

Application
- Bonded directly to substrate
- By trained specialists

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

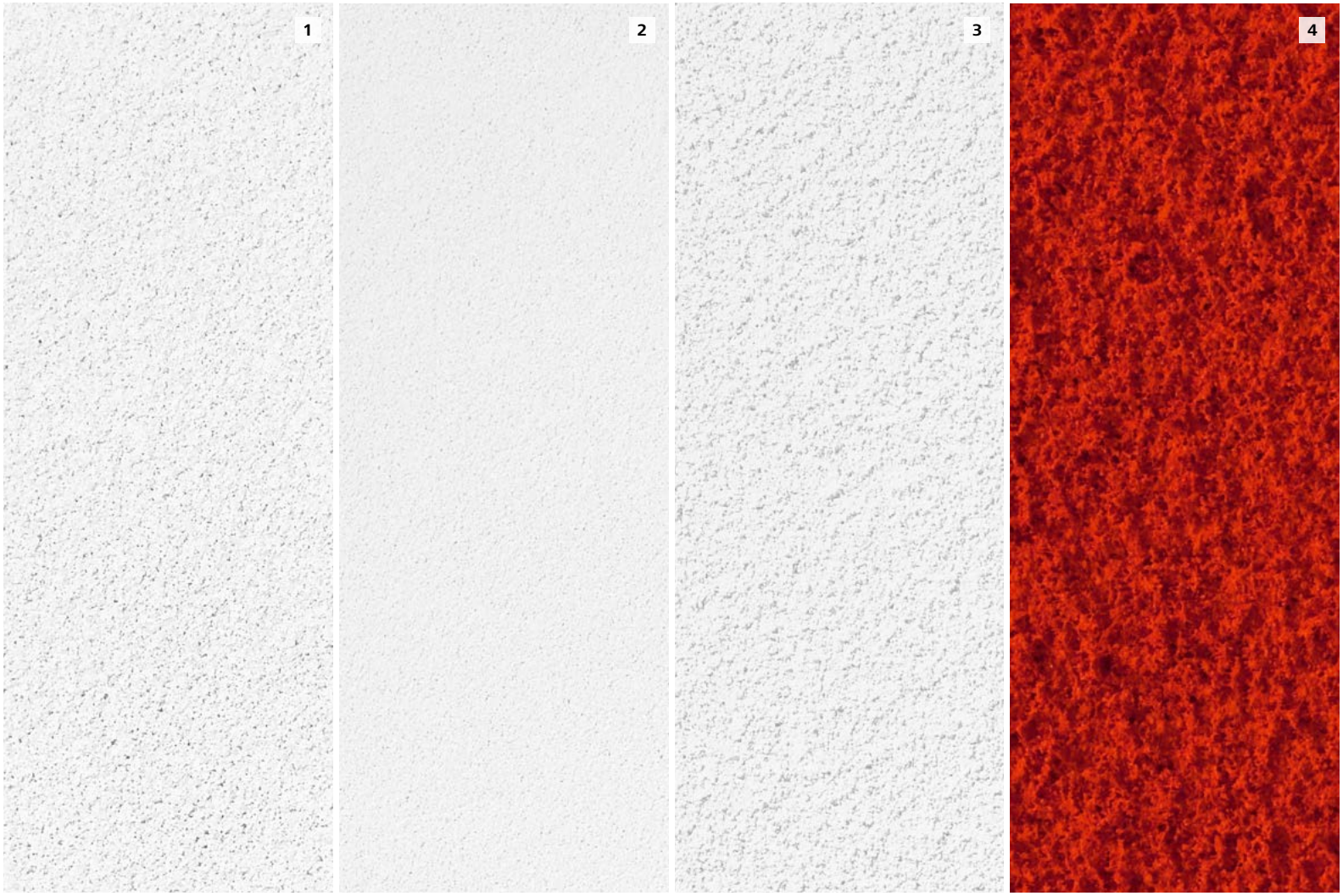
System versions



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Surfaces

1 StoSilent Top Basic
2 StoSilent Top Finish
3 StoSilent Decor M
4 StoSilent Decor MF

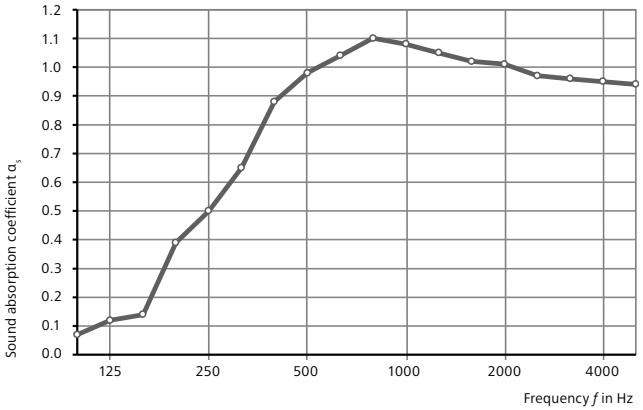


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Seals of approval and quality

Products and systems		Seals of approval and test procedures							
								**Fire classification in accordance with EN 13501**	
Systems	**StoSilent Direct, all versions**	–	–	–	–	–	–	A2-1, d0	–
		–	–	–	–	–	–	50 mm structure REI 60 K260 (wood joist ceiling, ceiling with 12.5 mm gypsum plasterboard)	–
Products	**StoSilent Coll MW**	A+	–	–	–	–	–	Fire classification dependent on use within system	EN 12004
	StoSilent Coll MW-G	A+	–	–	–	–	–	–	–
	StoSilent Decor M	A+	Test standard TM-10 Emulsion-based plasters 06/09	Preservative-free (untinted versions: white and Sto white shades)	Test standard TM-10 Emulsion-based plasters 06/09	–	–	–	–
	StoSilent Decor MF	A+	–	–	–	–	–	Fire classification dependent on use within system	–
	StoSilent Filler	A+	–	–	–	–	–		–
	StoSilent Plan	A+	–	–	–	–	–		EN 15824
	StoSilent Prep Quarz	A+	–	–	–	–	–		–
	StoSilent Top Basic	A+	–	–	–	–	–		EN 15824
	StoSilent Top Finish	A+	–	–	–	–	–		EN 15824
	StoSilent Board MW 100	A+	–	–	–	–	–	A2-1, d0	–

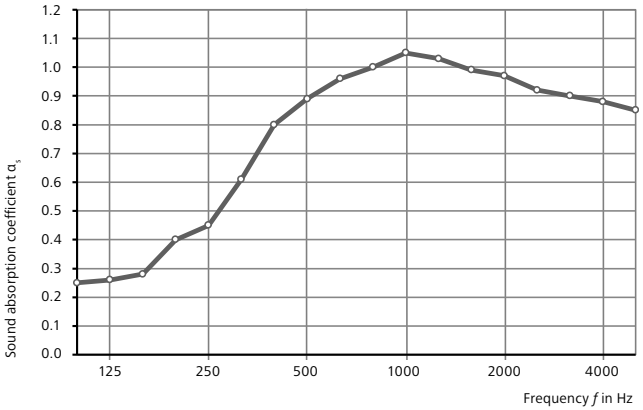
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 36 mm (type A)
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.80 (H)
Coating:	Without finishing coat (visible joints)	$\alpha_{p,\ 125}$:	0.10
Thickness:	36 mm	*NRC*:	0.90

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.07	0.39	0.88	1.10	1.02	0.96
Octave band	**0.12**	**0.50**	**0.98**	**1.08**	**1.01**	**0.95**
Third-octave band	0.14	0.65	1.04	1.05	0.97	0.94
α_p	0.10	0.50	0.95	1.00	1.00	0.95

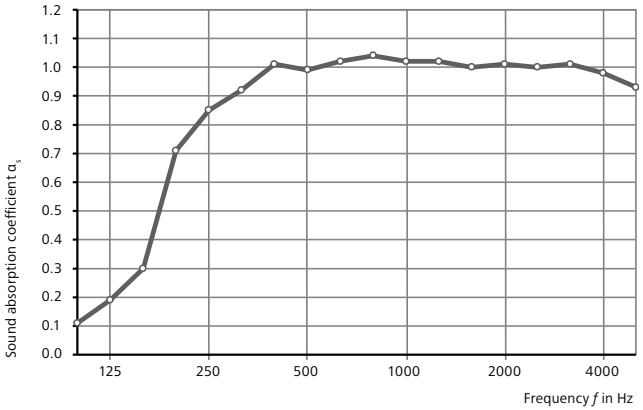
Test certificate: 100960_2017-12-12_6



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.80
Coating:	Without finishing coat (visible joints)	$\alpha_{p,\ 125}$:	0.25
Thickness:	36 mm	*NRC*:	0.85

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.25	0.40	0.80	1.00	0.99	0.90
Octave band	**0.26**	**0.45**	**0.89**	**1.05**	**0.97**	**0.88**
Third-octave band	0.28	0.61	0.96	1.03	0.92	0.85
α_p	0.25	0.50	0.90	1.00	0.95	0.90

Test certificate: 100960_2017-03-20_5



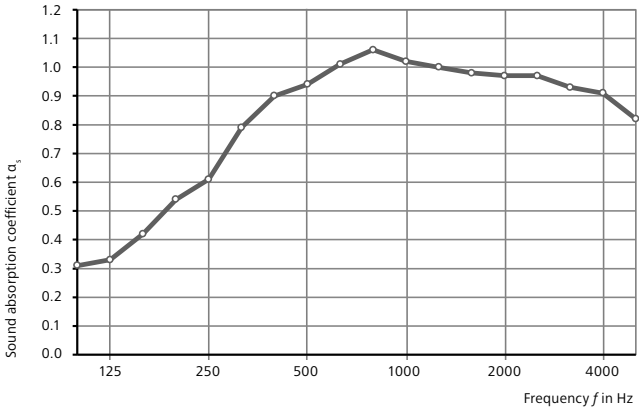
System:	StoSilent Direct	**Structural height:**	approx. 46 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	1.00
Coating:	Without finishing coat (visible joints)	$\alpha_{p,\ 125}$:	0.20
Thickness:	46 mm	*NRC*:	0.95

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.11	0.71	1.01	1.04	1.00	1.01
Octave band	**0.19**	**0.85**	**0.99**	**1.02**	**1.01**	**0.98**
Third-octave band	0.30	0.92	1.02	1.02	1.00	0.93
α_p	0.20	0.85	1.00	1.00	1.00	0.95

Test certificate: 100960_2017-12-12_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

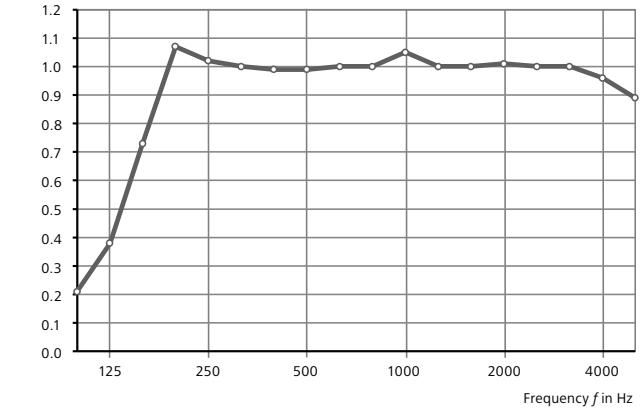
Sound characteristics



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 46 mm	α_w**:**	0.95
Coating:	Without finishing coat (visible joints)	$\alpha_{p,\,125}$**:**	0.35
Thickness:	46 mm	***NRC*:**	0.90

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

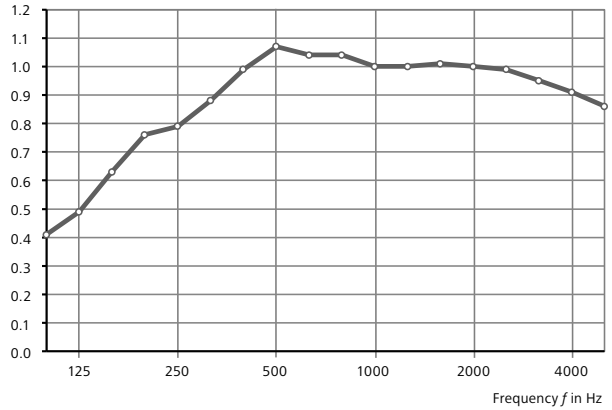
Test certificate: 100960_2014-11-20_1



System:	StoSilent Direct	**Structural height:**	approx. 66 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w**:**	1.00
Coating:	Without finishing coat (visible joints)	$\alpha_{p,\,125}$**:**	0.45
Thickness:	66 mm	***NRC*:**	1.00

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.21	1.07	0.99	1.00	1.00	1.00
Octave band	**0.38**	**1.02**	**0.99**	**1.05**	**1.01**	**0.96**
Third-octave band	0.73	1.00	1.00	1.00	1.00	0.89
α_p	0.45	1.00	1.00	1.00	1.00	0.95

Test certificate: 100960_2017-12-12_2



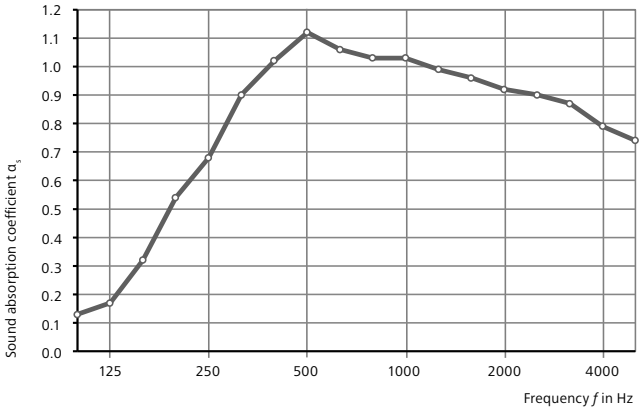
System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	α_w**:**	1.00
Coating:	Without finishing coat (visible joints)	$\alpha_{p,\,125}$**:**	0.50
Thickness:	66 mm	***NRC*:**	0.95

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2014-11-20_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

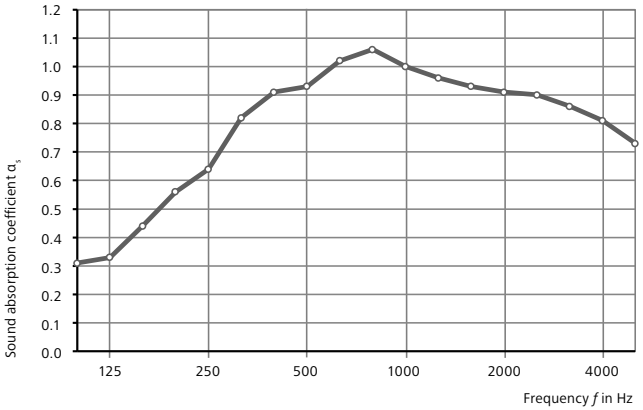
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 46 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.95
Coating:	StoColor Climasan (visible joints)	$\alpha_{p,\ 125}$:	0.20
Thickness:	46 mm	*NRC*:	0.95

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

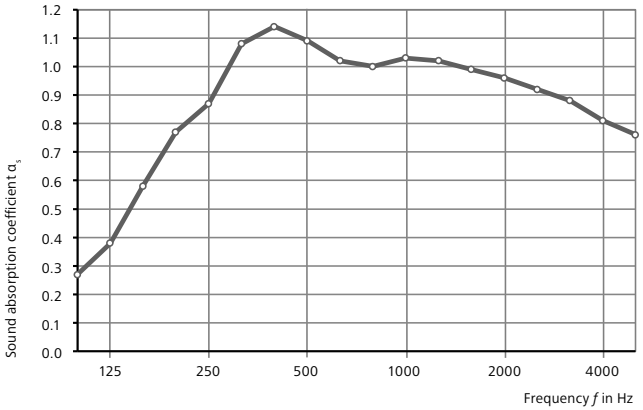
Test certificate: 100960_2014-11-20_14



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.90
Coating:	StoColor Climasan (visible joints)	$\alpha_{p,\ 125}$:	0.35
Thickness:	46 mm	*NRC*:	0.85

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2014-11-20_2



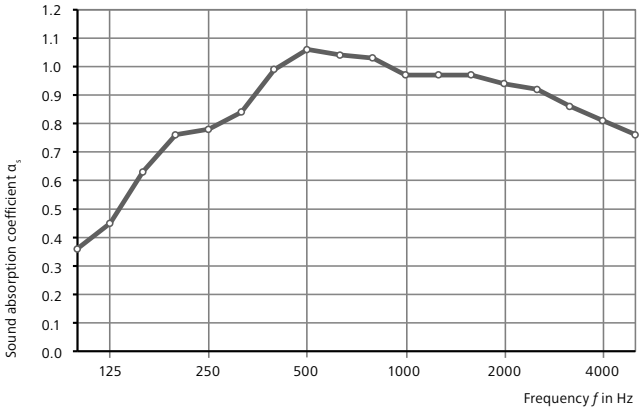
System:	StoSilent Direct	**Structural height:**	approx. 66 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.95
Coating:	StoColor Climasan (visible joints)	$\alpha_{p,\ 125}$:	0.40
Thickness:	66 mm	*NRC*:	1.00

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2014-11-20_11

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

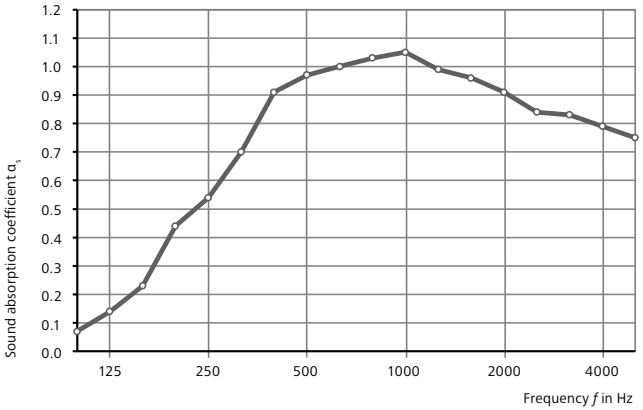
Sound characteristics



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	**α_w:**	0.95
Coating:	StoColor Climasan (visible joints)	**$\alpha_{p,\,125}$:**	0.50
Thickness:	66 mm	***NRC*:**	0.95

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

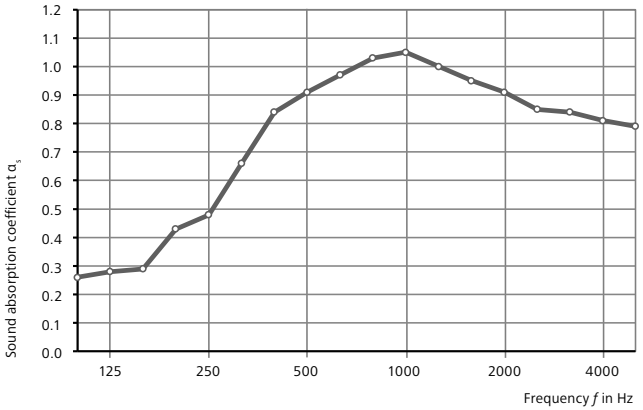
Test certificate: 100960_2014-11-20_6



System:	StoSilent Direct	**Structural height:**	approx. 40 mm (type A)
Build-up:	StoSilent Board MW 100, 36 mm	**α_w:**	0.85
Coating:	StoSilent Decor (visible joints)	**$\alpha_{p,\,125}$:**	0.15
Thickness:	36 mm	***NRC*:**	0.85

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.07	0.44	0.91	1.03	0.96	0.83
Octave band	**0.14**	**0.54**	**0.97**	**1.05**	**0.91**	**0.79**
Third-octave band	0.23	0.70	1.00	0.99	0.84	0.75
α_p	0.15	0.55	0.95	1.00	0.90	0.80

Test certificate: 100960_2017-03-20_2



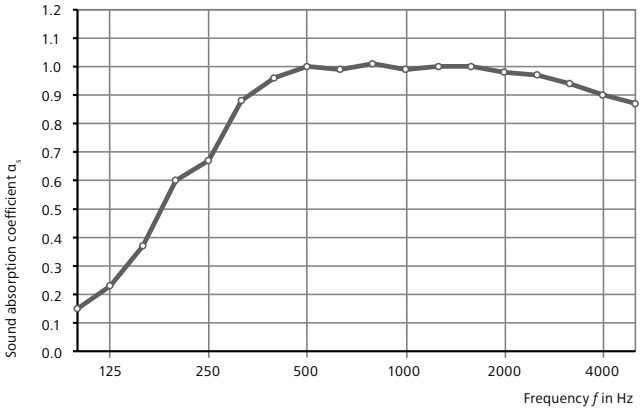
System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 36 mm	**α_w:**	0.80
Coating:	StoSilent Decor (visible joints)	**$\alpha_{p,\,125}$:**	0.30
Thickness:	36 mm	***NRC*:**	0.85

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.26	0.43	0.84	1.03	0.95	0.84
Octave band	**0.28**	**0.48**	**0.91**	**1.05**	**0.91**	**0.81**
Third-octave band	0.29	0.66	0.97	1.00	0.85	0.79
α_p	0.30	0.50	0.90	1.00	0.90	0.80

Test certificate: 100960_2017-03-20_6

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

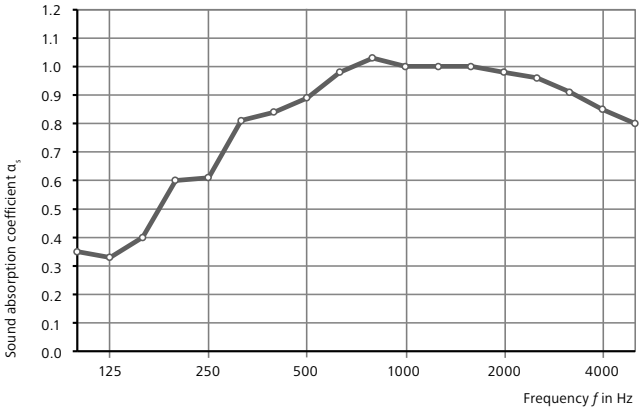
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 50 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	1.00
Coating:	StoSilent Decor (visible joints)	$\alpha_{p,\ 125}$:	0.25
Thickness:	46 mm	*NRC*:	0.90

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

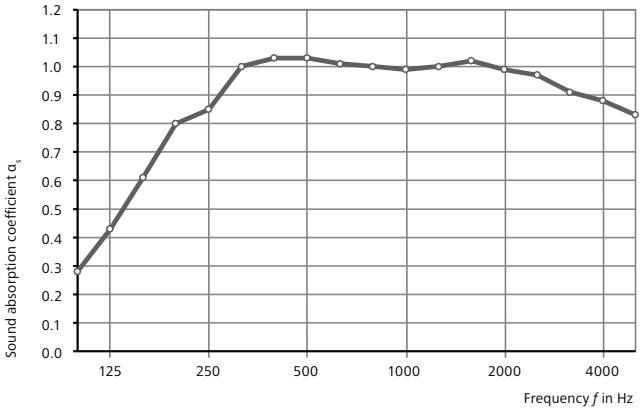
Test certificate: 100960_2015-04-21_7



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.90
Coating:	StoSilent Decor (visible joints)	$\alpha_{p,\ 125}$:	0.35
Thickness:	46 mm	*NRC*:	0.85

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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	0.96	0.80
α_p	0.35	0.65	0.90	1.00	1.00	0.85

Test certificate: 100960_2015-04-21_2



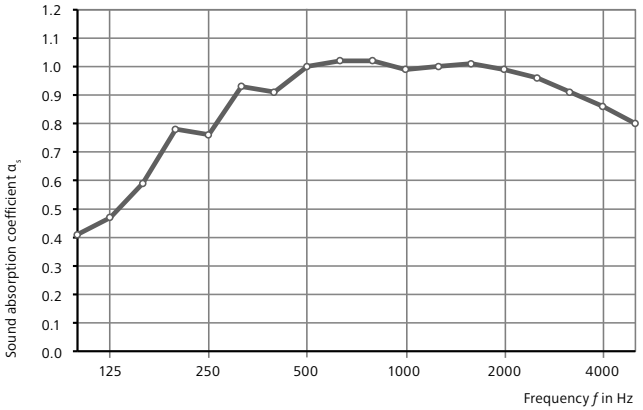
System:	StoSilent Direct	**Structural height:**	approx. 70 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	1.00
Coating:	StoSilent Decor (visible joints)	$\alpha_{p,\ 125}$:	0.45
Thickness:	66 mm	*NRC*:	0.95

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-21_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

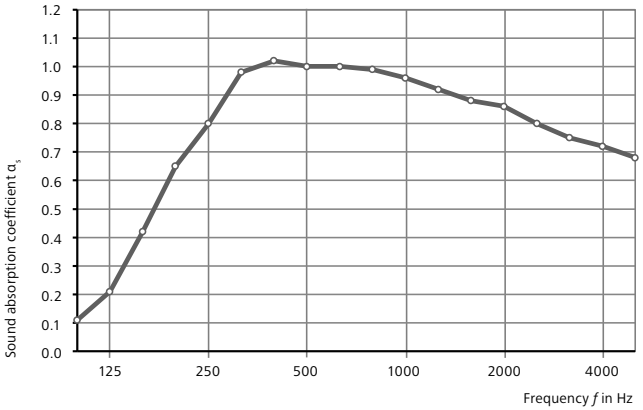
Sound characteristics



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	**α_w:**	1.00
Coating:	StoSilent Decor (visible joints)	**$\alpha_{p,\,125}$:**	0.50
Thickness:	66 mm	***NRC*:**	0.95

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

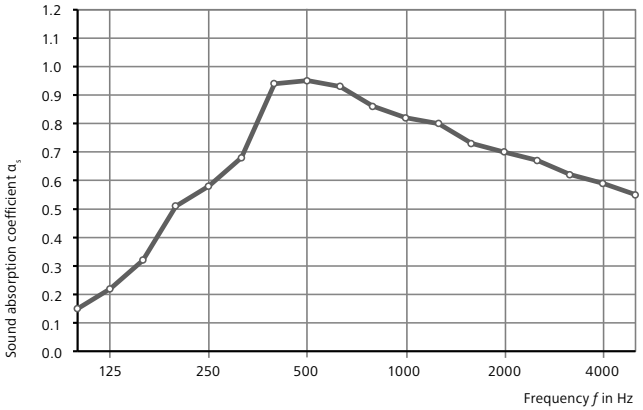
Test certificate: 100960_2015-04-21_4



System:	StoSilent Direct	**Structural height:**	approx. 53 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	**α_w:**	0.85
Coating:	StoSilent Miral AP, sprayed	**$\alpha_{p,\,125}$:**	0.25
Thickness:	46 mm	***NRC*:**	0.90

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.11	0.65	1.02	0.99	0.88	0.75
Octave band	**0.21**	**0.80**	**1.00**	**0.96**	**0.86**	**0.72**
Third-octave band	0.42	0.98	1.00	0.92	0.80	0.68
α_p	0.25	0.80	1.00	0.95	0.85	0.70

Test certificate: 100960-2021-05 HR_2



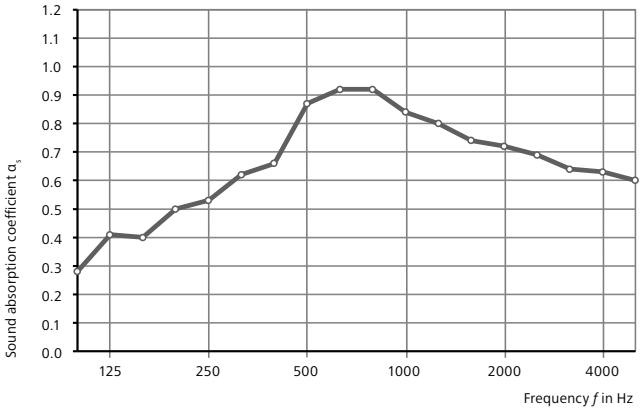
System:	StoSilent Direct	**Structural height:**	approx. 41 mm (type A)
Build-up:	StoSilent Board MW 100, 36 mm	**α_w:**	0.75
Coating:	StoSilent Top Basic white, single-layer	**$\alpha_{p,\,125}$:**	0.25
Thickness:	36 mm	***NRC*:**	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.15	0.51	0.94	0.86	0.73	0.62
Octave band	**0.22**	**0.58**	**0.95**	**0.82**	**0.70**	**0.59**
Third-octave band	0.32	0.68	0.93	0.80	0.67	0.55
α_p	0.25	0.60	0.95	0.85	0.70	0.60

Test certificate: 100960_2019-09-19_4

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

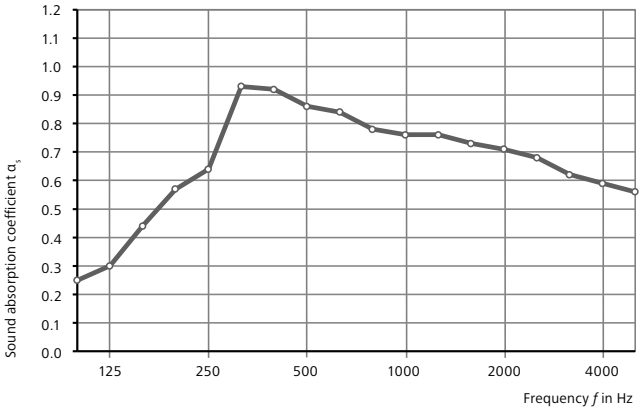
Sound characteristics



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.75
Coating:	StoSilent Top Basic white, single-layer	$\alpha_{p,\,125}$:	0.35
Thickness:	36 mm	*NRC*:	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.28	0.50	0.66	0.92	0.74	0.64
Octave band	**0.41**	**0.53**	**0.87**	**0.84**	**0.72**	**0.63**
Third-octave band	0.40	0.62	0.92	0.80	0.69	0.60
α_p	0.35	0.55	0.80	0.85	0.70	0.60

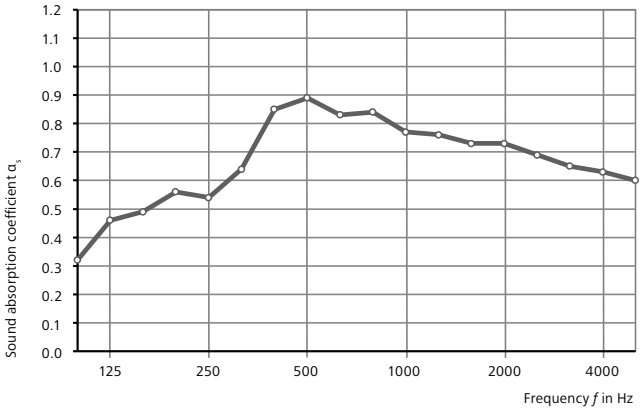
Test certificate: 100960_2019-09-19_7



System:	StoSilent Direct	**Structural height:**	approx. 51 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.75
Coating:	StoSilent Top Basic white, single-layer	$\alpha_{p,\,125}$:	0.35
Thickness:	46 mm	*NRC*:	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.25	0.57	0.92	0.78	0.73	0.62
Octave band	**0.30**	**0.64**	**0.86**	**0.76**	**0.71**	**0.59**
Third-octave band	0.44	0.93	0.84	0.76	0.68	0.56
α_p	0.35	0.70	0.85	0.75	0.70	0.60

Test certificate: 100960_2019-09-19_2



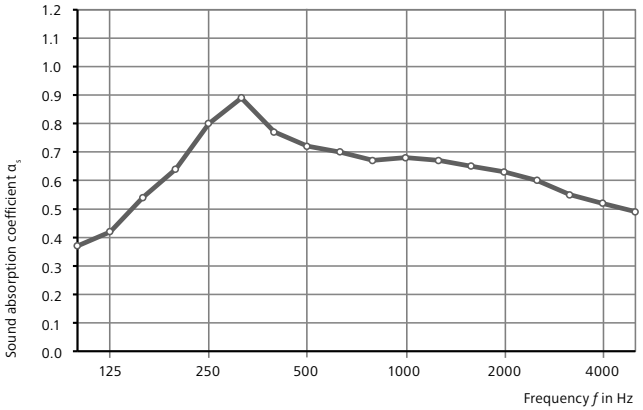
System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.75
Coating:	StoSilent Top Basic white, single-layer	$\alpha_{p,\,125}$:	0.40
Thickness:	46 mm	*NRC*:	0.75

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.32	0.56	0.85	0.84	0.73	0.65
Octave band	**0.46**	**0.54**	**0.89**	**0.77**	**0.73**	**0.63**
Third-octave band	0.49	0.64	0.83	0.76	0.69	0.60
α_p	0.40	0.60	0.85	0.80	0.70	0.65

Test certificate: 100960_2019-09-19_9

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

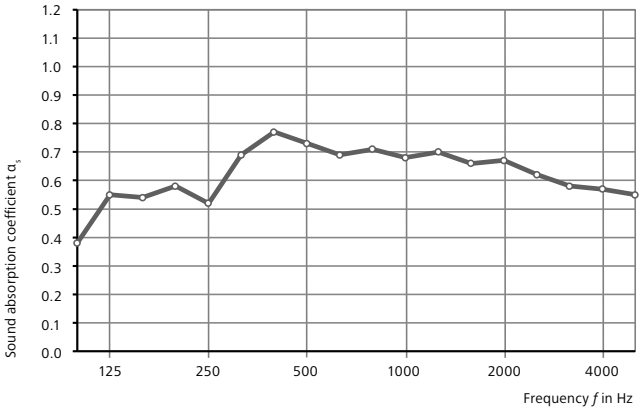
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 71 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.65 (L)
Coating:	StoSilent Top Basic white, single-layer	$\alpha_{p,\ 125}$:	0.45
Thickness:	66 mm	*NRC*:	0.70

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.37	0.64	0.77	0.67	0.65	0.55
Octave band	**0.42**	**0.80**	**0.72**	**0.68**	**0.63**	**0.52**
Third-octave band	0.54	0.89	0.70	0.67	0.60	0.49
α_p	0.45	0.80	0.75	0.65	0.65	0.50

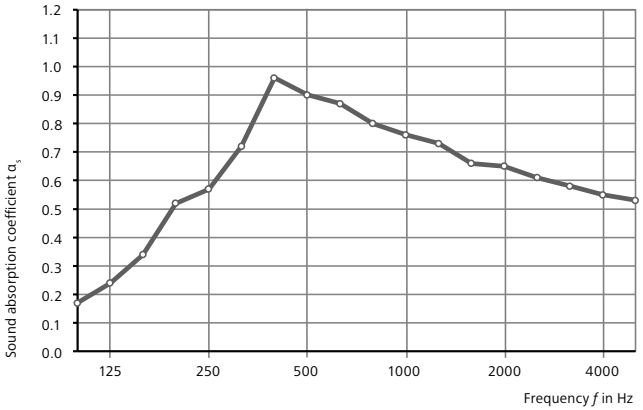
Test certificate: 100960_2019-09-19_1



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.70
Coating:	StoSilent Top Basic white, single-layer	$\alpha_{p,\ 125}$:	0.50
Thickness:	66 mm	*NRC*:	0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.38	0.58	0.77	0.71	0.66	0.58
Octave band	**0.55**	**0.52**	**0.73**	**0.68**	**0.67**	**0.57**
Third-octave band	0.54	0.69	0.69	0.70	0.62	0.55
α_p	0.50	0.60	0.75	0.70	0.65	0.55

Test certificate: 100960_2019-09-19_10



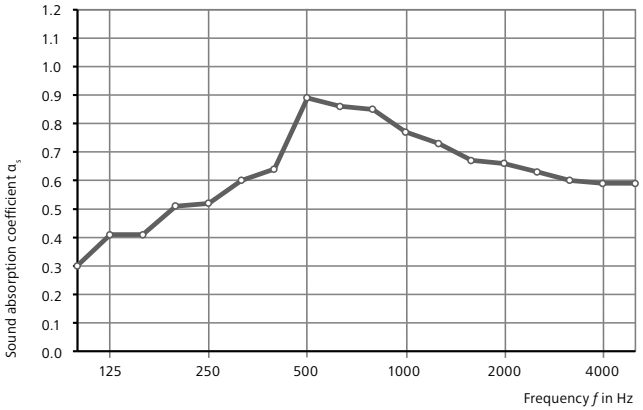
System:	StoSilent Direct	**Structural height:**	approx. 42 mm (type A)
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.70
Coating:	StoSilent Top Basic & StoSilent Decor M	$\alpha_{p,\ 125}$:	0.25
Thickness:	36 mm	*NRC*:	0.70

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.17	0.52	0.96	0.80	0.66	0.58
Octave band	**0.24**	**0.57**	**0.90**	**0.76**	**0.65**	**0.55**
Third-octave band	0.34	0.72	0.87	0.73	0.61	0.53
α_p	0.25	0.60	0.90	0.75	0.65	0.55

Test certificate: 100960_2019-09-19_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

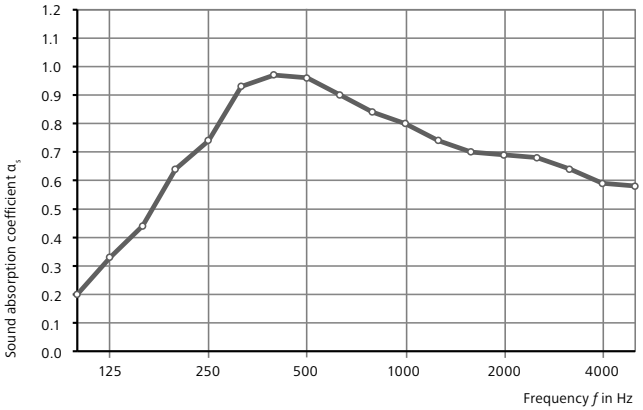
Sound characteristics



System:	StoSilent Direct	**Structural**	
Build-up:	StoSilent Board MW 100, 36 mm	**height:**	200 mm
		α_w**:**	0.70
Coating:	StoSilent Top Basic & StoSilent Decor M	$\alpha_{p,\ 125}$**:**	0.35
		***NRC*:**	0.70
Thickness:	36 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.30	0.51	0.64	0.85	0.67	0.60
Octave band	**0.41**	**0.52**	**0.89**	**0.77**	**0.66**	**0.59**
Third-octave band	0.41	0.60	0.86	0.73	0.63	0.59
α_p	0.35	0.55	0.80	0.80	0.65	0.60

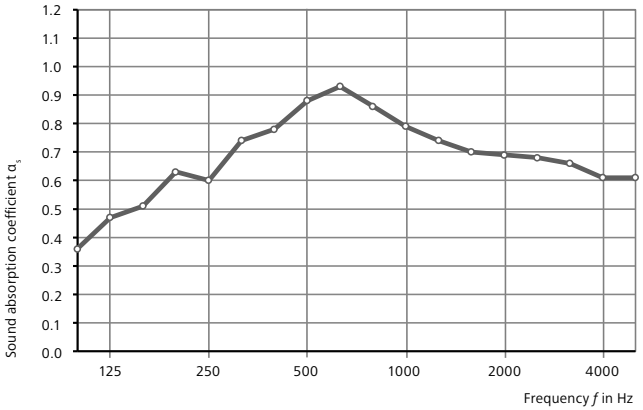
Test certificate: 100960_2019-09-19_6



System:	StoSilent Direct	**Structural**	
Build-up:	StoSilent Board MW 100, 46 mm	**height:**	approx. 52 mm (type A)
		α_w**:**	0.75
Coating:	StoSilent Top Basic & StoSilent Decor M	$\alpha_{p,\ 125}$**:**	0.30
		***NRC*:**	0.80
Thickness:	46 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-01-07_6



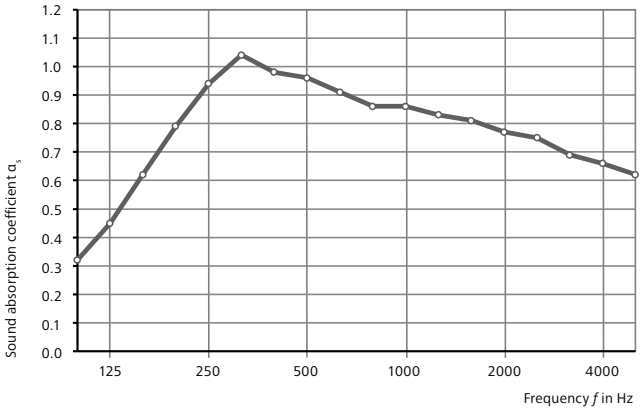
System:	StoSilent Direct	**Structural**	
Build-up:	StoSilent Board MW 100, 46 mm	**height:**	200 mm
		α_w**:**	0.75
Coating:	StoSilent Top Basic & StoSilent Decor M	$\alpha_{p,\ 125}$**:**	0.45
		***NRC*:**	0.75
Thickness:	46 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-01-07_3

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

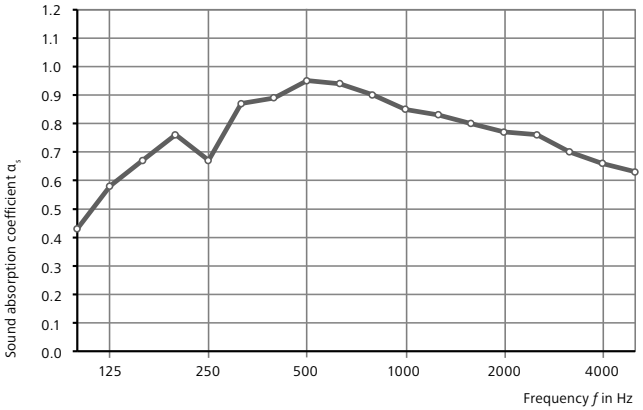
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 72 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.80 (L)
Coating:	StoSilent Top Basic & StoSilent Decor M	$\alpha_{p,\ 125}$:	0.45
Thickness:	66 mm	*NRC*:	0.90

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

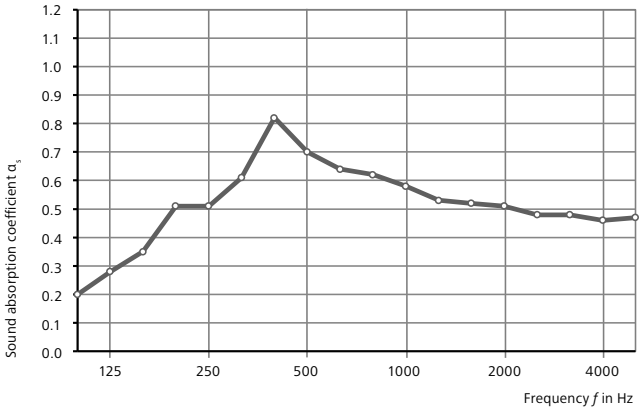
Test certificate: 100960_2015-01-07_8



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.80
Coating:	StoSilent Top Basic & StoSilent Decor M	$\alpha_{p,\ 125}$:	0.55
Thickness:	66 mm	*NRC*:	0.80

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-01-07_2



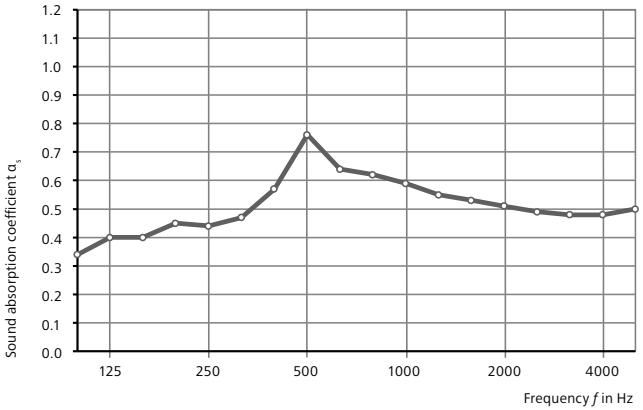
System:	StoSilent Direct	**Structural height:**	approx. 41 mm (type A)
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.55
Coating:	StoSilent Top Basic & Top Basic white	$\alpha_{p,\ 125}$:	0.30
Thickness:	36 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.20	0.51	0.82	0.62	0.52	0.48
Octave band	**0.28**	**0.51**	**0.70**	**0.58**	**0.51**	**0.46**
Third-octave band	0.35	0.61	0.64	0.53	0.48	0.47
α_p	0.30	0.55	0.70	0.60	0.50	0.45

Test certificate: 100960_2017-12-12_4

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

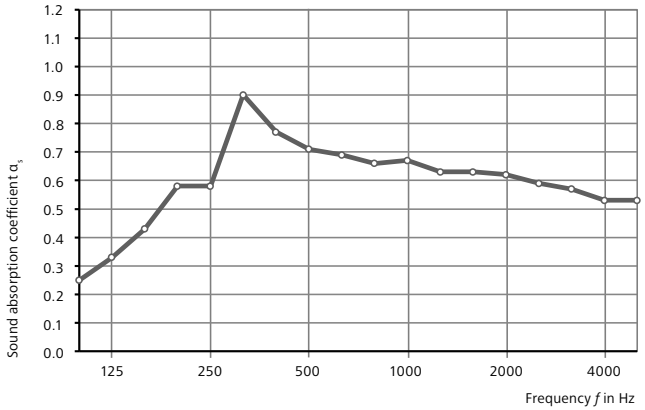
Sound characteristics



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.60
Coating:	StoSilent Top Basic & Top Basic white	$\alpha_{p,\,125}$:	0.40
		NRC:	0.60
Thickness:	36 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.34	0.45	0.57	0.62	0.53	0.48
Octave band	**0.40**	**0.44**	**0.76**	**0.59**	**0.51**	**0.48**
Third-octave band	0.40	0.47	0.64	0.55	0.49	0.50
α_p	0.40	0.45	0.65	0.60	0.50	0.50

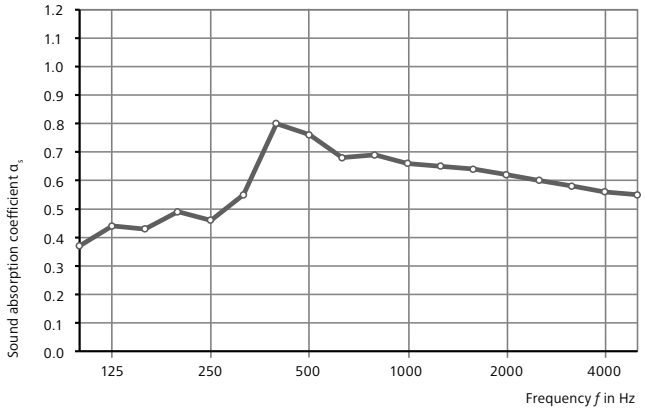
Test certificate: 100960_2017-12-12_9



System:	StoSilent Direct	**Structural height:**	approx. 51 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.65 (L)
Coating:	StoSilent Top Basic & Top Basic white	$\alpha_{p,\,125}$:	0.35
		NRC:	0.65
Thickness:	46 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.25	0.58	0.77	0.66	0.63	0.57
Octave band	**0.33**	**0.58**	**0.71**	**0.67**	**0.62**	**0.53**
Third-octave band	0.43	0.90	0.69	0.63	0.59	0.53
α_p	0.35	0.70	0.70	0.65	0.60	0.55

Test certificate: 100960_2017-12-12_3



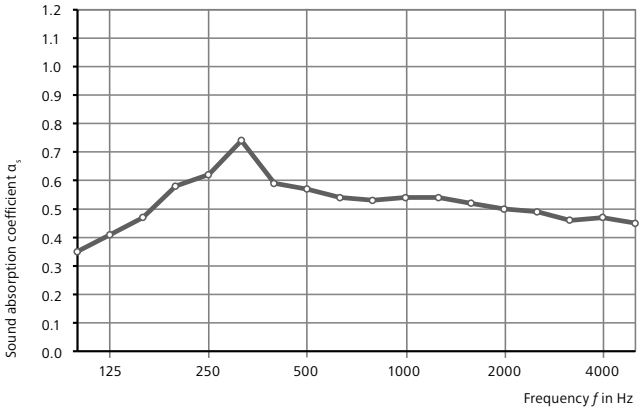
System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.65
Coating:	StoSilent Top Basic & Top Basic white	$\alpha_{p,\,125}$:	0.40
		NRC:	0.65
Thickness:	46 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.37	0.49	0.80	0.69	0.64	0.58
Octave band	**0.44**	**0.46**	**0.76**	**0.66**	**0.62**	**0.56**
Third-octave band	0.43	0.55	0.68	0.65	0.60	0.55
α_p	0.40	0.50	0.75	0.65	0.60	0.55

Test certificate: 100960_2017-12-12_8

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

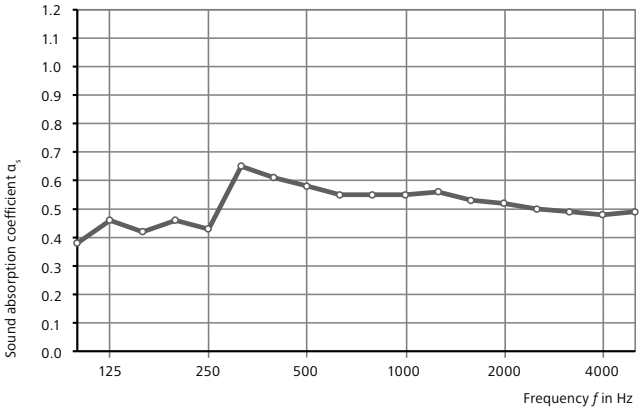
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 71 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.55 (L)
Coating:	StoSilent Top Basic & Top Basic white	$\alpha_{p,\ 125}$:	0.40
Thickness:	66 mm	*NRC*:	0.55

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.35	0.58	0.59	0.53	0.52	0.46
Octave band	**0.41**	**0.62**	**0.57**	**0.54**	**0.50**	**0.47**
Third-octave band	0.47	0.74	0.54	0.54	0.49	0.45
α_p	0.40	0.65	0.55	0.55	0.50	0.45

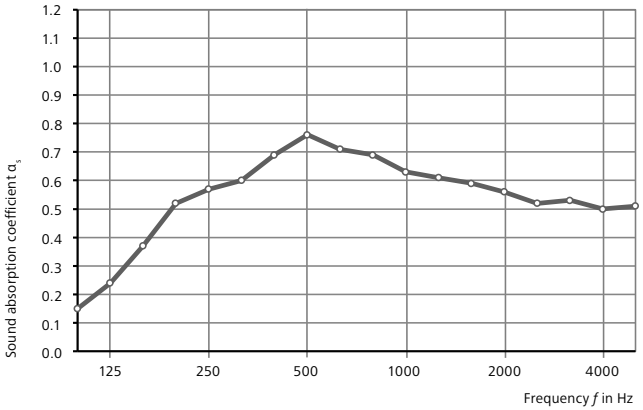
Test certificate: 100960_2017-12-12_1



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.55
Coating:	StoSilent Top Basic & Top Basic white	$\alpha_{p,\ 125}$:	0.40
Thickness:	66 mm	*NRC*:	0.50

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.38	0.46	0.61	0.55	0.53	0.49
Octave band	**0.46**	**0.43**	**0.58**	**0.55**	**0.52**	**0.48**
Third-octave band	0.42	0.65	0.55	0.56	0.50	0.49
α_p	0.40	0.50	0.60	0.55	0.50	0.50

Test certificate: 100960_2017-12-12_7



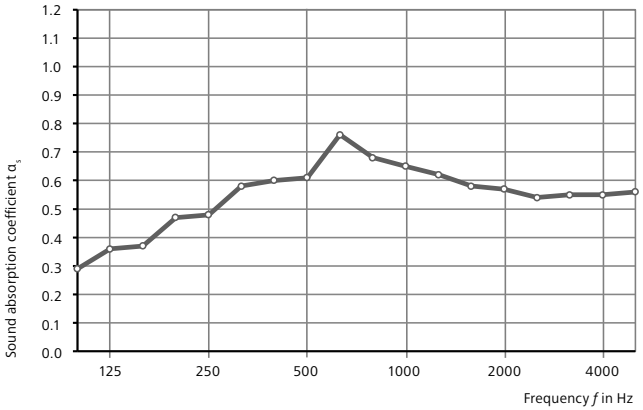
System:	StoSilent Direct	**Structural height:**	approx. 41 mm (type A)
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.60
Coating:	StoSilent Top Basic & Top Finish	$\alpha_{p,\ 125}$:	0.25
Thickness:	36 mm	*NRC*:	0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.15	0.52	0.69	0.69	0.59	0.53
Octave band	**0.24**	**0.57**	**0.76**	**0.63**	**0.56**	**0.50**
Third-octave band	0.37	0.60	0.71	0.61	0.52	0.51
α_p	0.25	0.55	0.70	0.65	0.55	0.50

Test certificate: 100960_2017-03-20_4

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

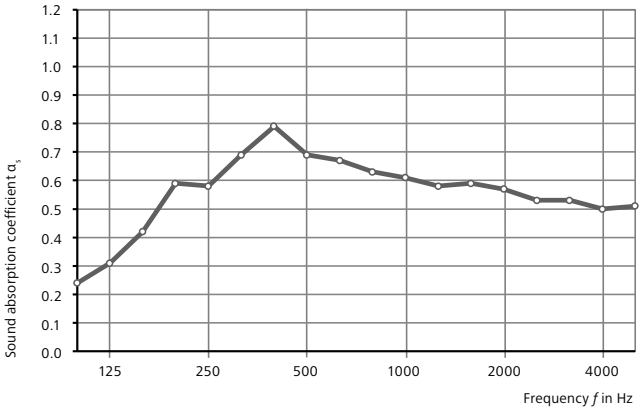
Sound characteristics



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 36 mm	α_w:	0.65
Coating:	StoSilent Top Basic & Top Finish	$\alpha_{p,\,125}$:	0.35
Thickness:	36 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.29	0.47	0.60	0.68	0.58	0.55
Octave band	**0.36**	**0.48**	**0.61**	**0.65**	**0.57**	**0.55**
Third-octave band	0.37	0.58	0.76	0.62	0.54	0.56
α_p	0.35	0.50	0.65	0.65	0.55	0.55

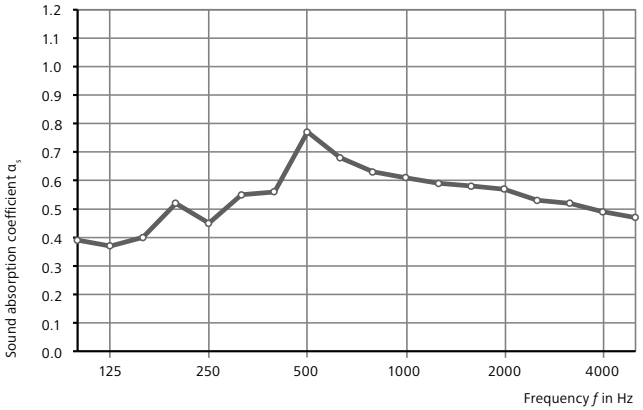
Test certificate: 100960_2017-03-20_8



System:	StoSilent Direct	**Structural height:**	approx. 51 mm (type A)
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.60
Coating:	StoSilent Top Basic & Top Finish	$\alpha_{p,\,125}$:	0.30
Thickness:	46 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-21_8



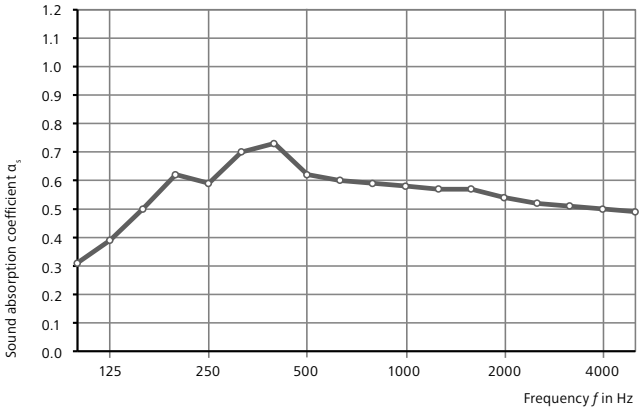
System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 46 mm	α_w:	0.60
Coating:	StoSilent Top Basic & Top Finish	$\alpha_{p,\,125}$:	0.40
Thickness:	46 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-21_1

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

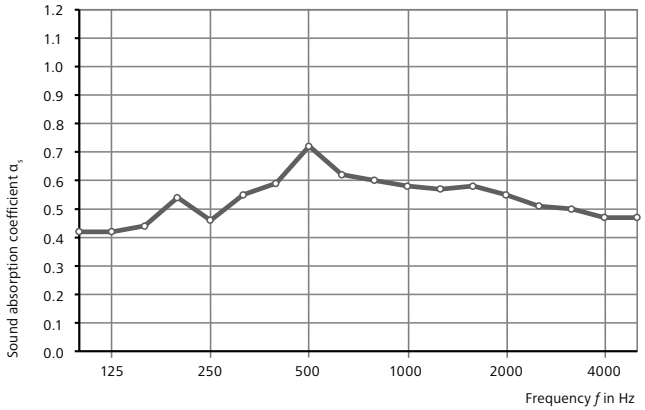
Sound characteristics



System:	StoSilent Direct	**Structural height:**	approx. 71 mm (type A)
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.60 (L)
Coating:	StoSilent Top Basic & Top Finish	$\alpha_{p,\,125}$:	0.40
Thickness:	66 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-21_6



System:	StoSilent Direct	**Structural height:**	200 mm
Build-up:	StoSilent Board MW 100, 66 mm	α_w:	0.60
Coating:	StoSilent Top Basic & Top Finish	$\alpha_{p,\,125}$:	0.45
Thickness:	66 mm	*NRC*:	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

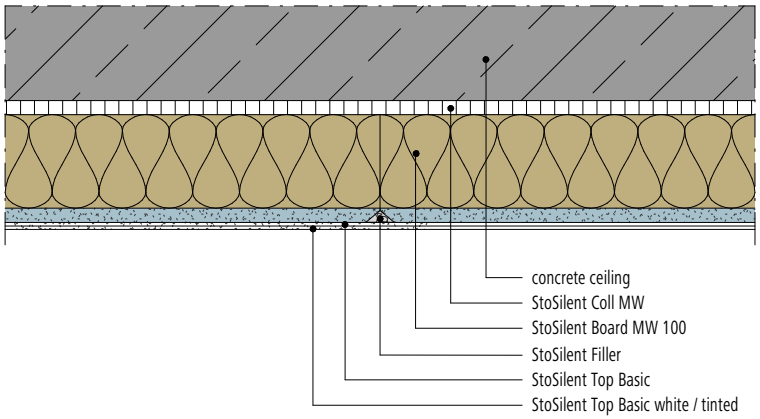
Test certificate: 100960_2015-04-21_3

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

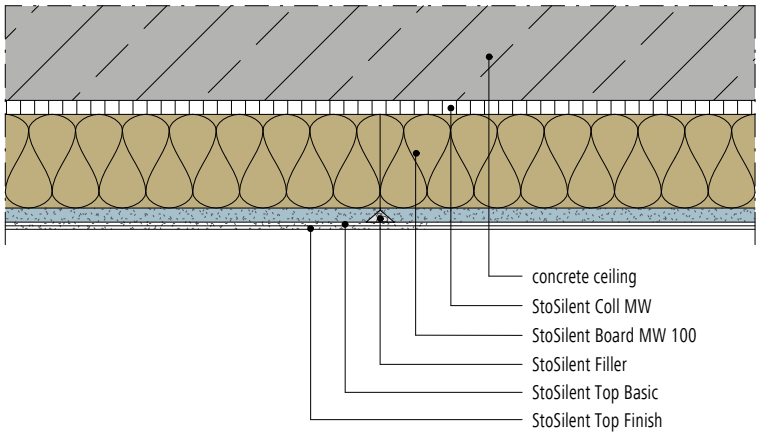
Ceiling (section): system build-up with bonding and StoSilent Top Basic as coating

Sto-HQ-EN_SSDR-BB-1010_2019-12-01



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

Sto-HQ-EN_SSDR-BT-1010_2019-12-01

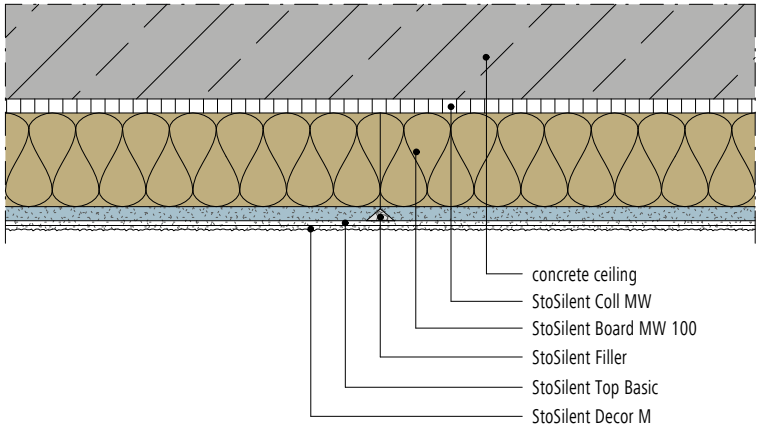


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

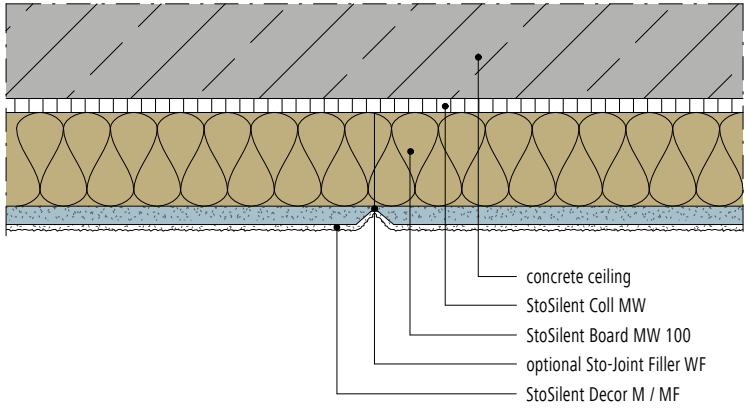
Ceiling (section): system build-up with bonding and StoSilent Top Basic and StoSilent Decor M as coating

Sto-HQ-EN_SSDR-BD-1010_2019-12-01



Ceiling (section): system build-up with bonding and StoSilent Decor M/MF as coating

Sto-HQ-EN_SSDR-D-1010_2019-12-01

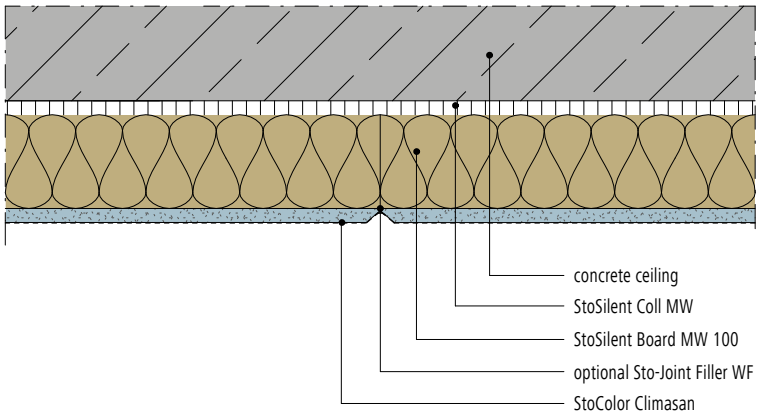


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

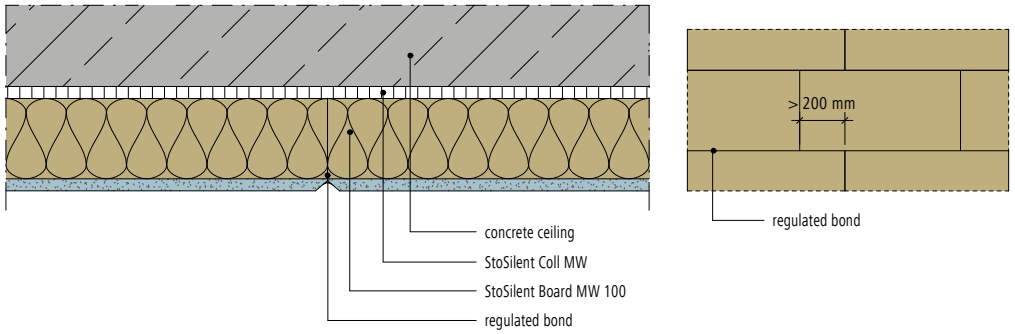
Ceiling (section): system build-up with bonding and StoColor Climasan as coating

Sto-HQ-EN_SSDR-C-1010_2019-12-01



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

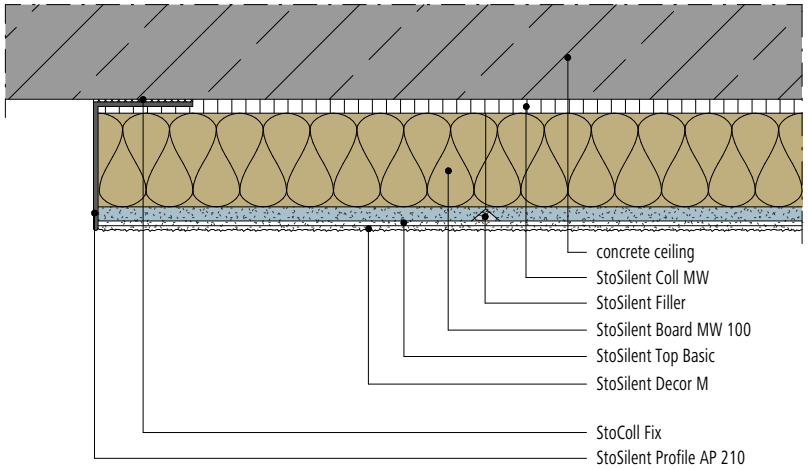
Sto-HQ-EN_SSDR-O-1010_2019-12-01



Construction details

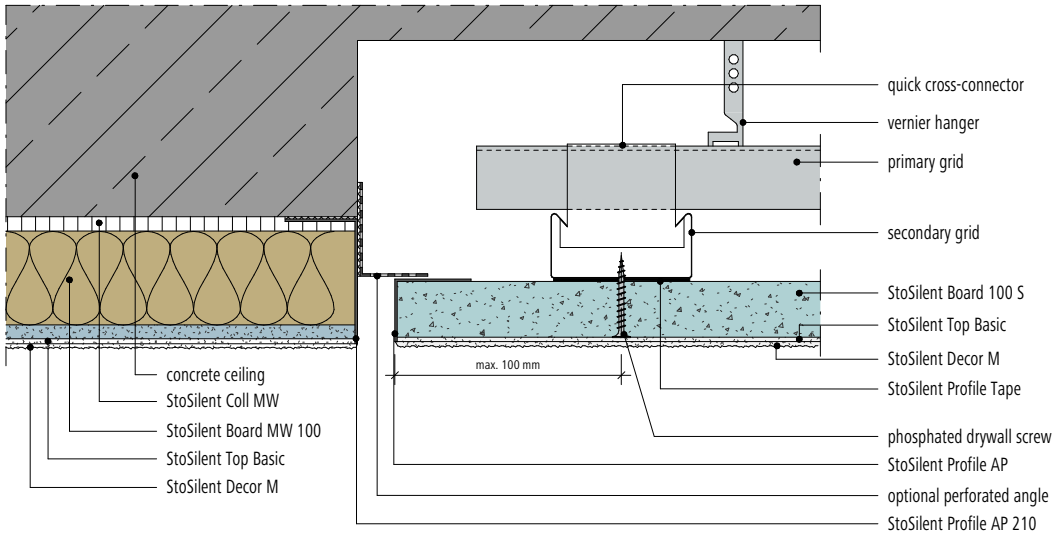
Ceiling (section): connection to a partially insulated ceiling with StoSilent Profile AP 210

Sto-HQ-EN_SSDR-BD-1110_2019-12-01



Ceiling (section): connection to a suspended ceiling

Sto-HQ-EN_SSDR-BD-1200_2019-12-01

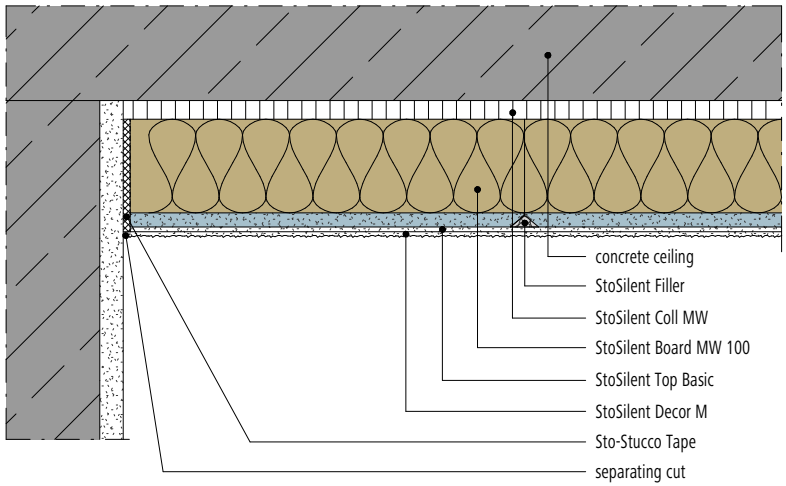


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

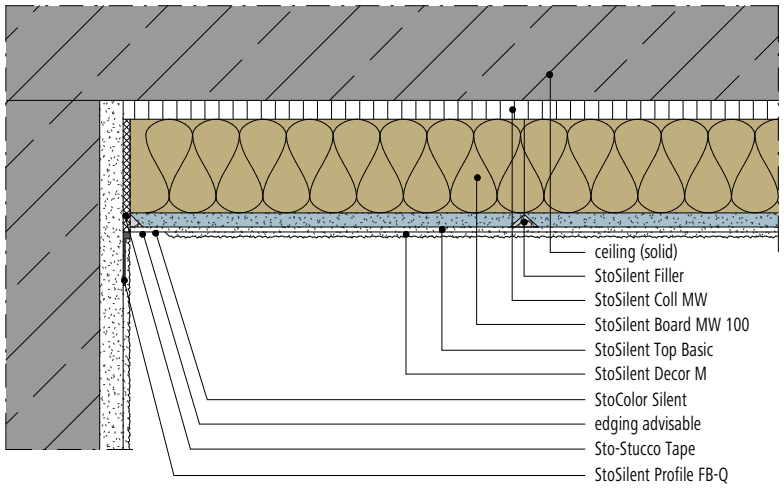
Ceiling (section): connection to existing plaster with separating cut

Sto-HQ-EN_SSDR-BD-1205_2019-12-01



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

Sto-HQ-EN_SSDR-BD-1206_2019-12-01

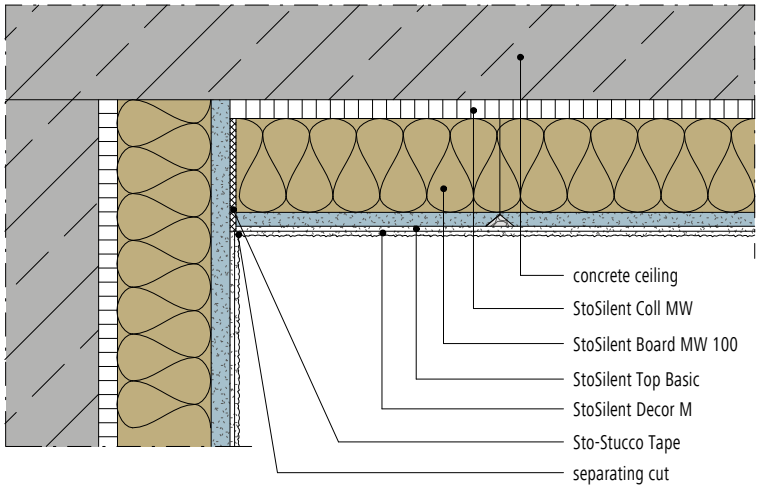


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

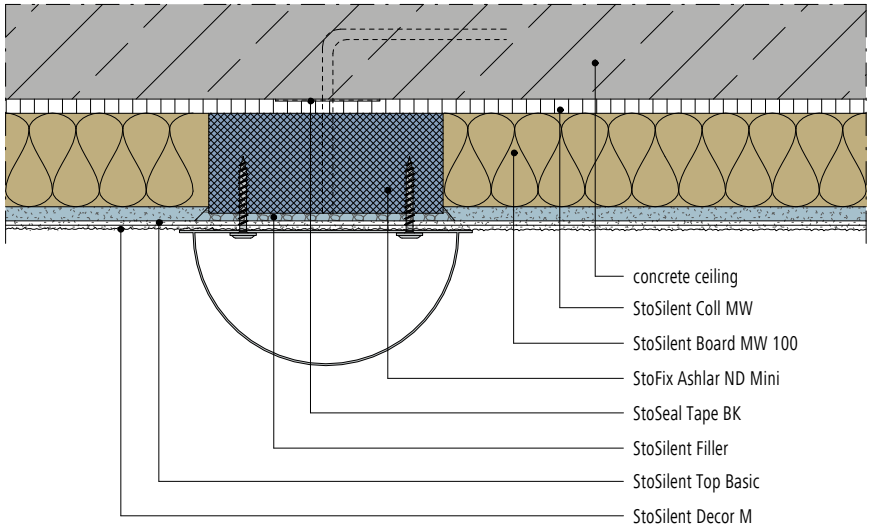
Ceiling (section): connection to an internal corner with separating cut

Sto-HQ-EN_SSDR-BD-1210_2019-12-01



Ceiling (section): lamp fixing

Sto-HQ-EN_SSDR-BD-1215_2019-12-01

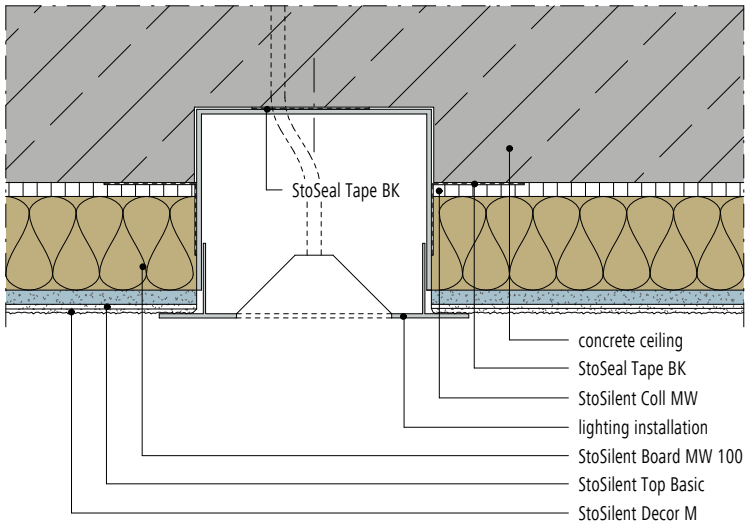


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

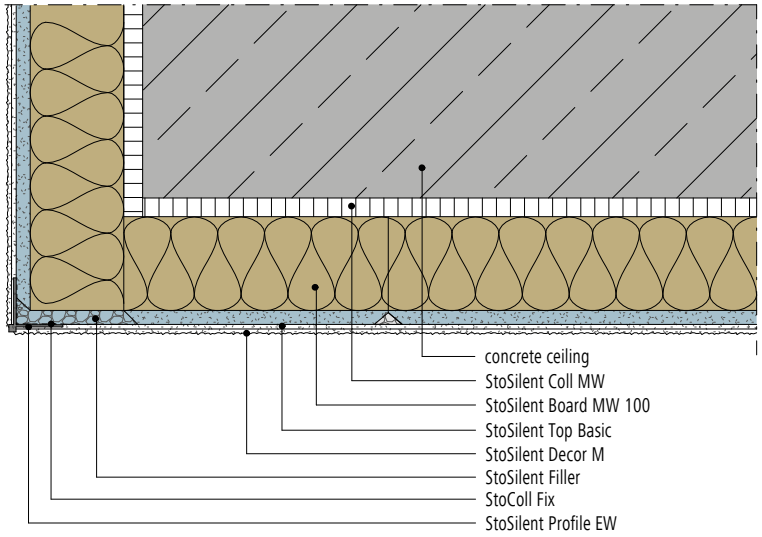
Ceiling (section): fixing of lights

Sto-HQ-EN_SSDR-BD-1225_2019-12-01



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

Sto-HQ-EN_SSDR-BD-1230_2019-12-01

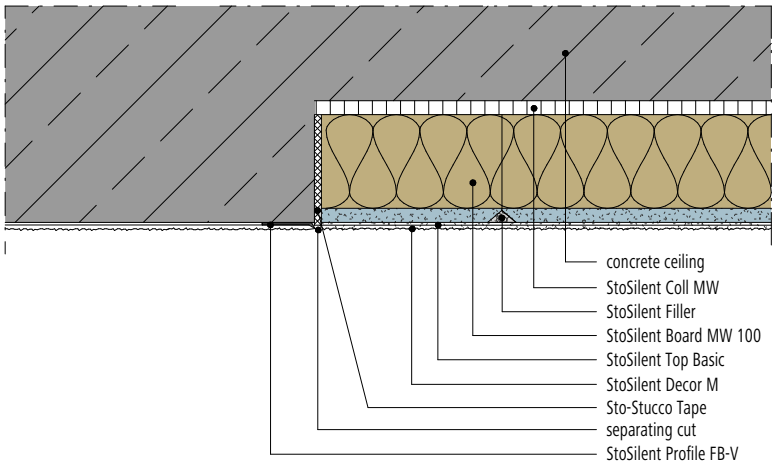


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

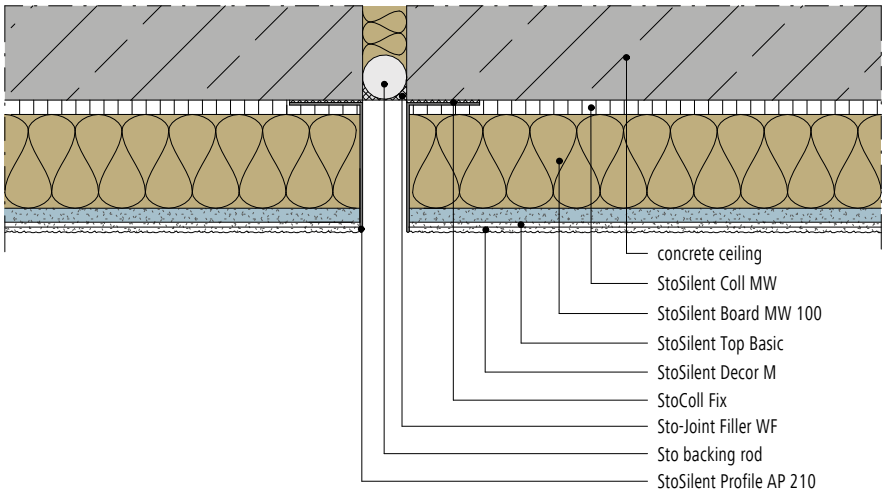
Ceiling (section): connection to a transition for a change in material using StoSilent Profile FB

Sto-HQ-EN_SSDR-BD-1241_2019-12-01



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

Sto-HQ-EN_SSDR-BD-1800_2019-12-01

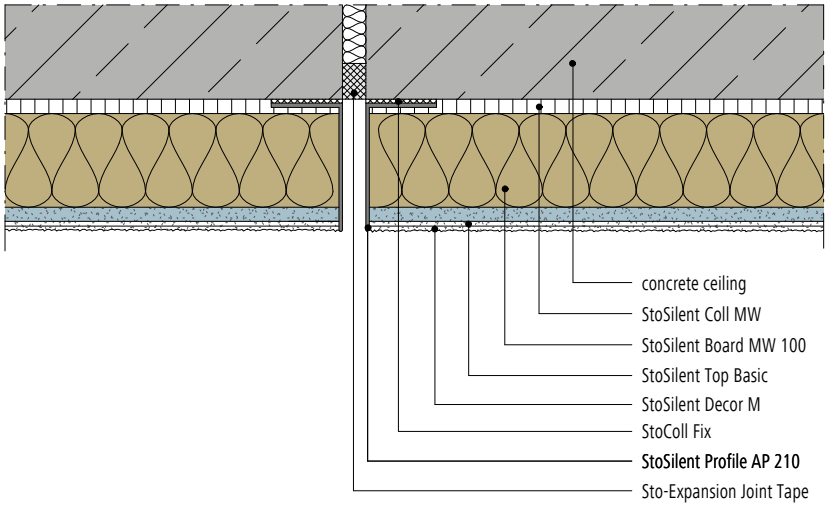


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

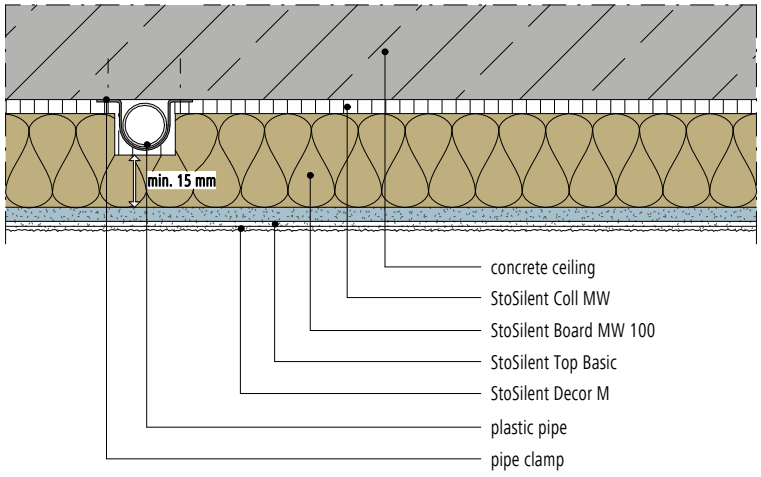
Ceiling (section): structural expansion joint with Sto-Expansion Joint Tape

Sto-HQ-EN_SSDR-BD-1805_2019-12-01



Ceiling (section): integration of a duct for installations

Sto-HQ-EN_SSDR-BD-1900_2019-12-01

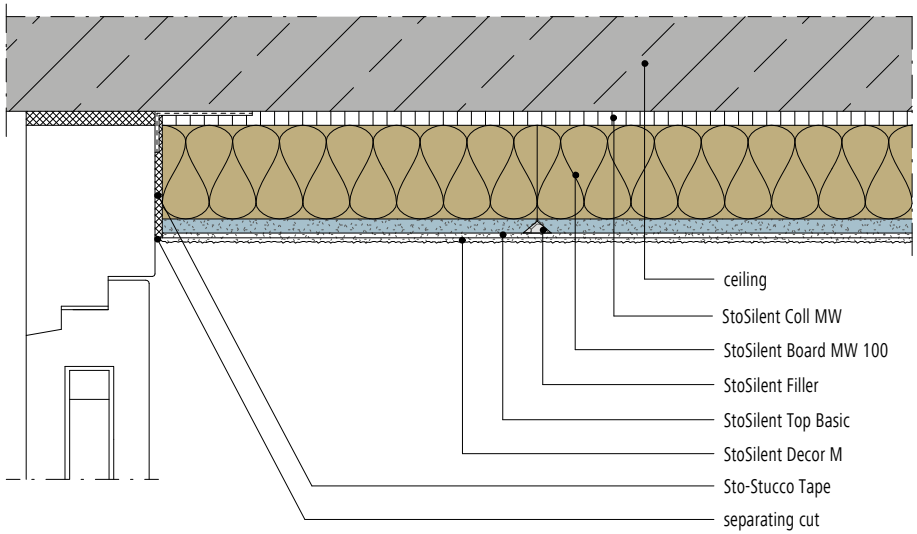


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

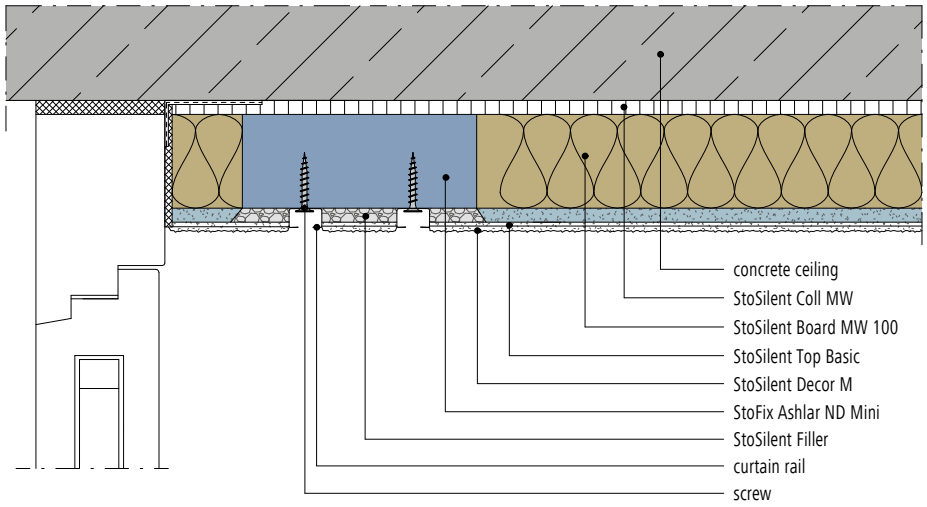
Ceiling (section): connection to a window

Sto-HQ-EN_SSDR-BD-1920_2019-12-01



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

Sto-HQ-EN_SSDR-BD-1925_2019-12-01

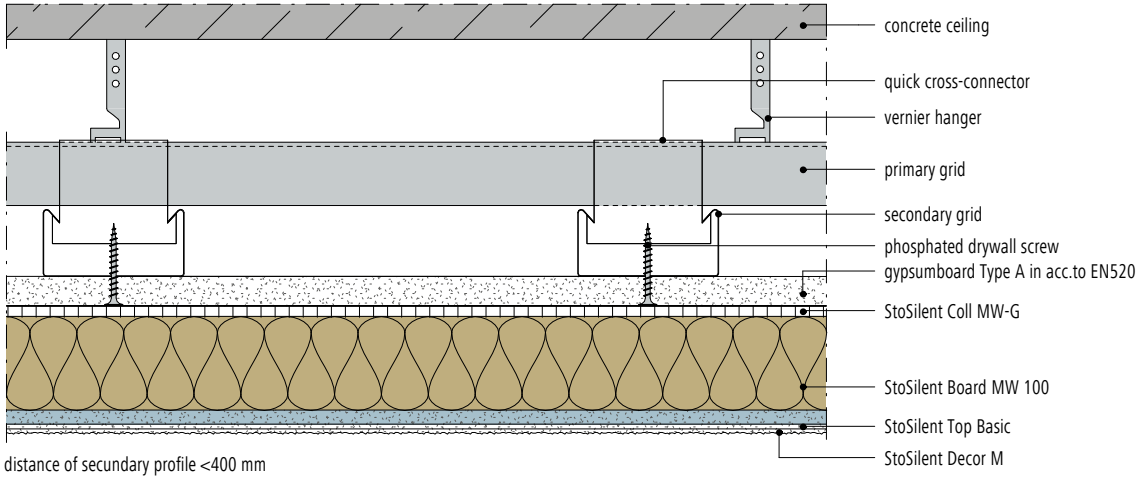


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

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

Sto-HQ-EN_SSDR-BD-2000_2019-12-01



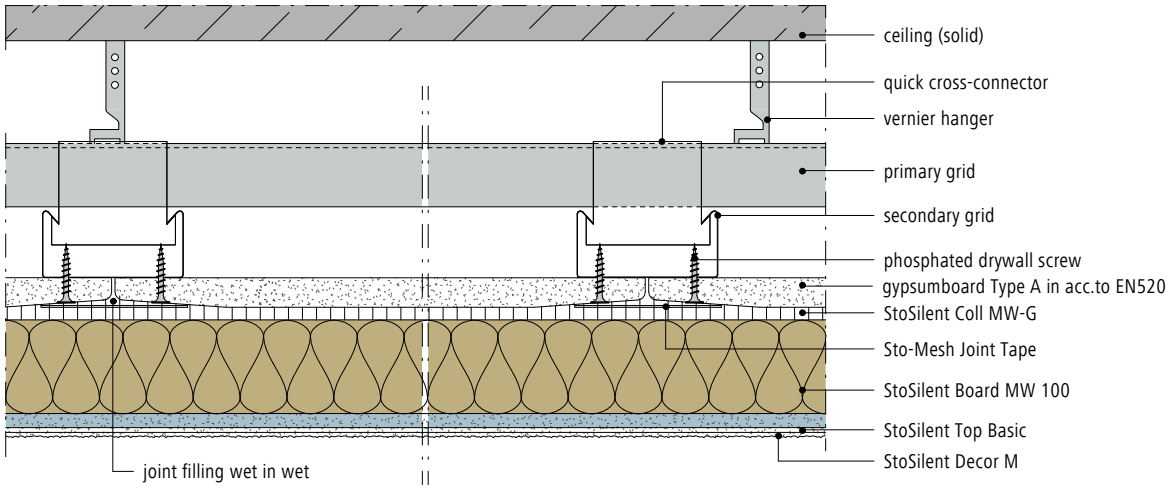
distance of secundary profile <400 mm

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

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

Sto-HQ-EN_SSDR-BD-2020_2019-12-01

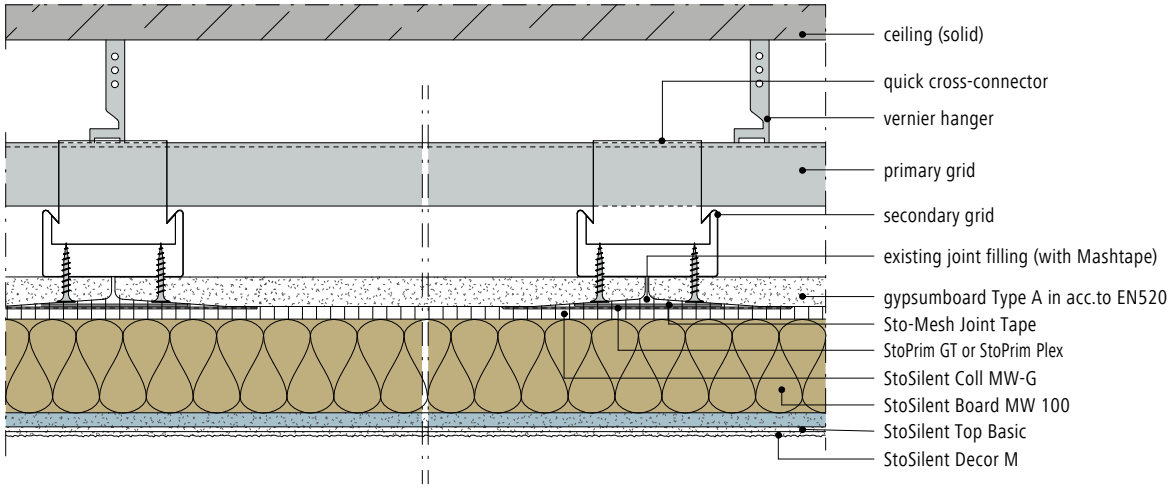


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

Ceiling (section): system build-up on existing joint filler and levelling coat

Sto-HQ-EN_SSDR-BD-2025_2019-12-01

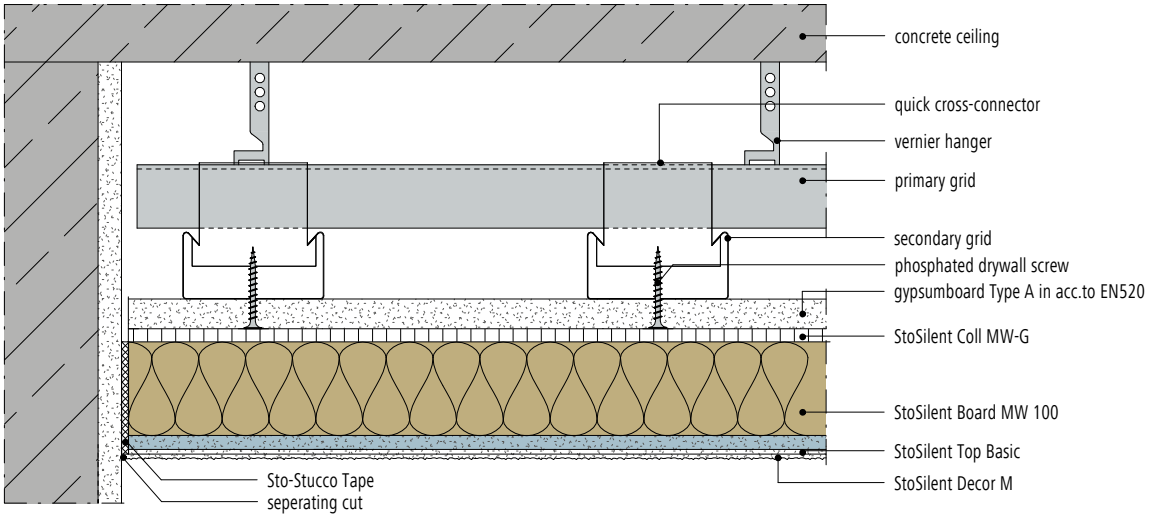


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

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

Sto-HQ-EN_SSDR-BD-2010_2019-12-01

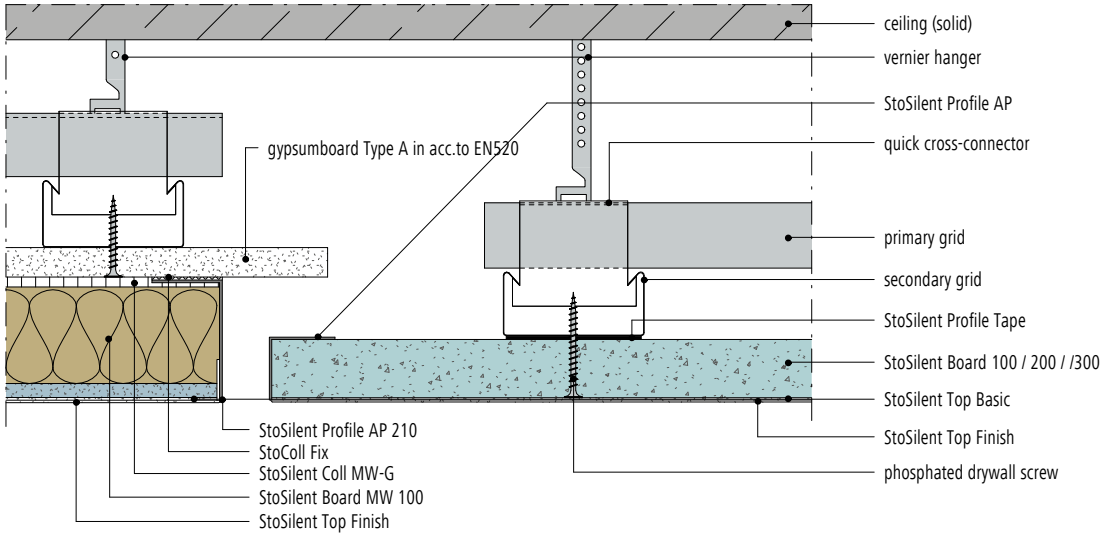


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

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

Sto-HQ-EN_SSDR-BD-1930_2019-12-01

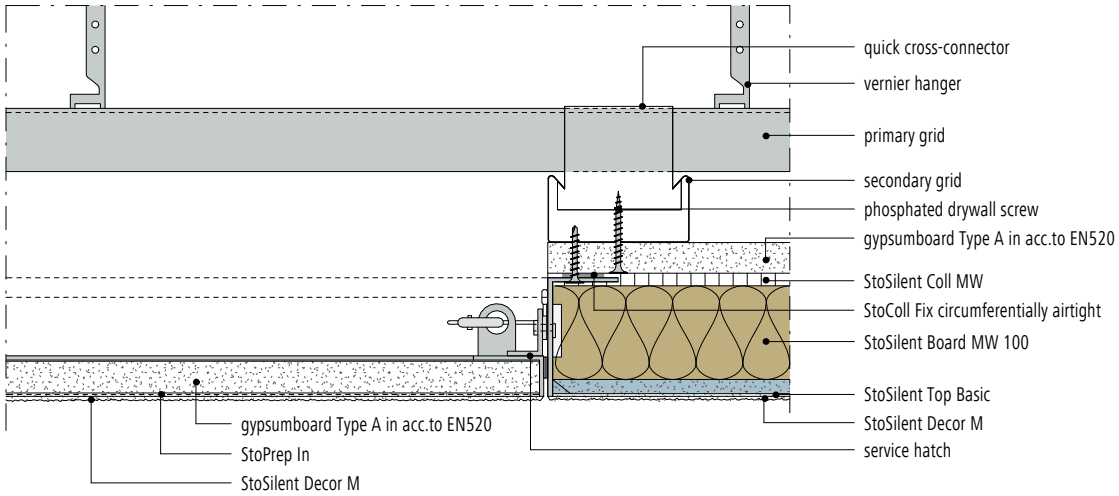


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

Ceiling (vertical section): installation of a service hatch

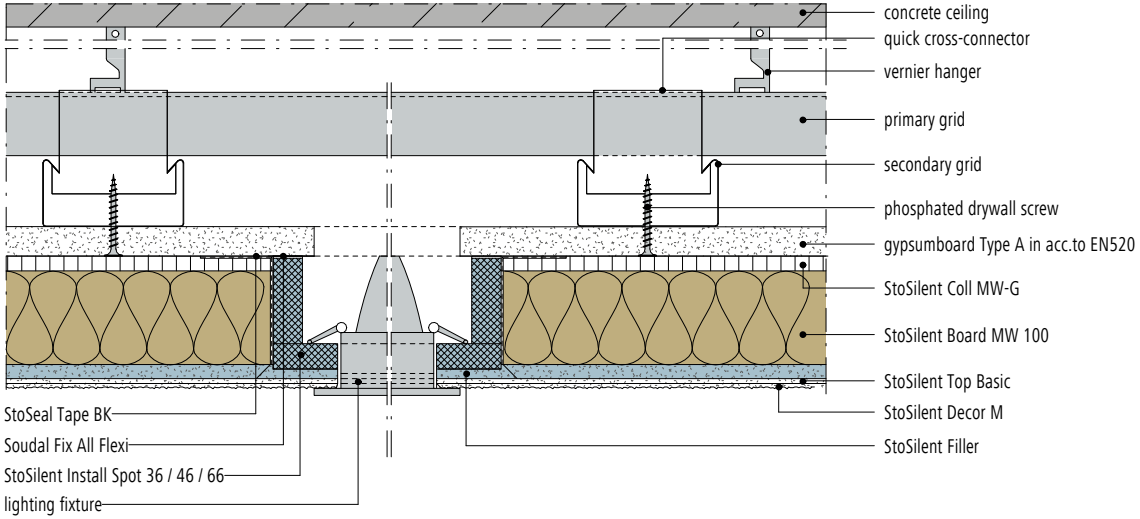
Sto-HQ-EN_SSDR-BD-2100_2019-12-01



Construction details

Ceiling (section): installation of lights with StoSilent Install Spot

Sto-HQ-EN_SSDR-BD-2200_2019-12-01

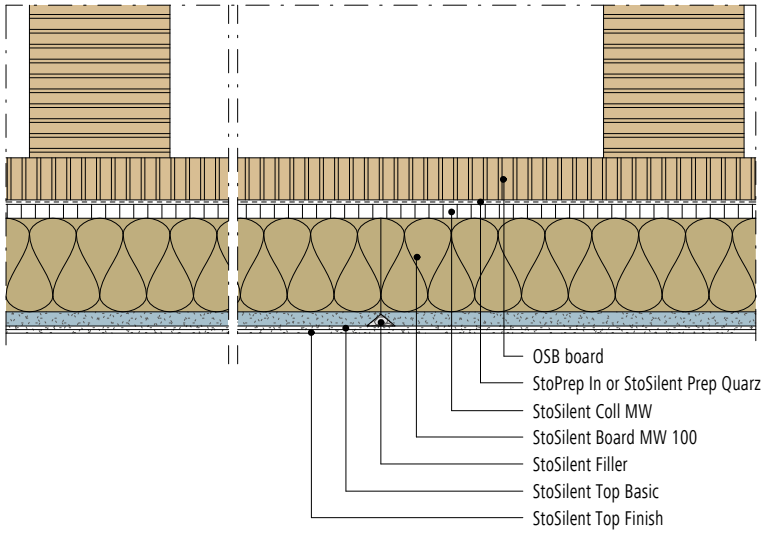


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

Ceiling (section): system build-up with bonding on oriented strand board

Sto-HQ-EN_SSDR-BT-1016_2019-12-01



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Frame

Directly bonded acoustic system for ceiling edges
The StoSilent Frame system was developed specially for the quick and cost-effective acoustic optimisation of rooms. Unlike other systems, the sound insulation material is applied in a ring around the room where the walls meet the ceiling.

System advantages
- Consists of 95 % recycled material and does not contain any synthetic mineral fibres
- The acoustic panels are tested for harmful substances by TÜV Süd and are low-emission and recyclable
- Hard-wearing and hygienic absorber material
- Quick and simple application

To absorption values

To construction details

To references

The system

Build-up: StoSilent Frame

Carrier layer
1 — Priming coat
2 — Bonding

Acoustic layer
3 — Acoustic panel, coated at the factory

System properties

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

Design options
- StoSilent Board R 400: coated at the factory

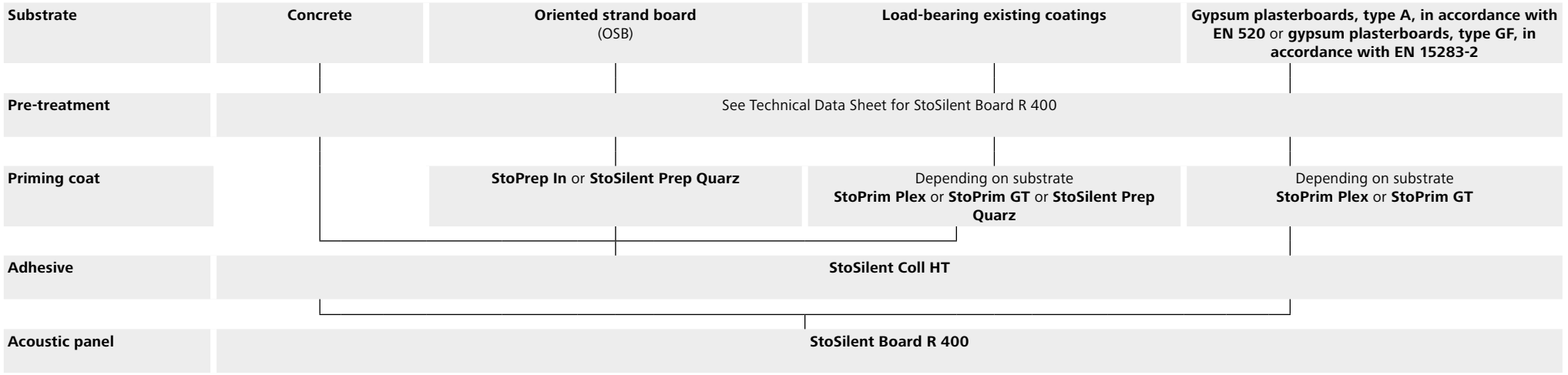
Colour range
- Colour shades in accordance with RAL colour fans

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

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

System versions

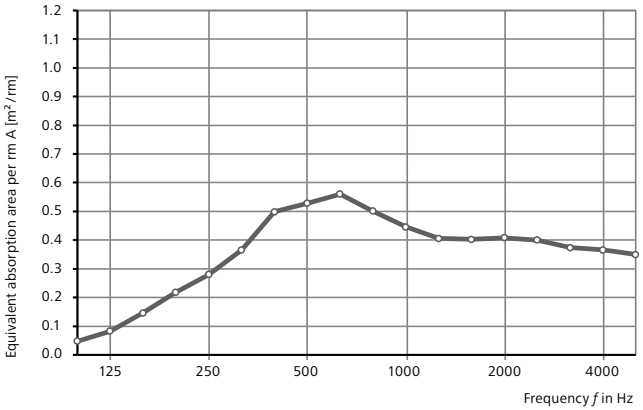
StoSilent Frame system description



Seals of approval and quality

Products and systems		Seals of approval and test procedures						Fire classification in accordance with EN 13501	CE
Products	**StoColl HT**	A+	–	Preservative-free	–	–	EC1 Plus	depending on the system	EN 12004
	StoSilent Board R 400	A+	–	Preservative-free	–	–	EC1 Plus	depending on the system	EN 12004

Sound characteristics



System:	StoSilent Frame	**Thickness:**	50 mm
Build-up:	StoSilent Board R 400	**Structural**	
Coating:	colour coating	**height:**	approx. 50 mm

	Equivalent absorption area per rm A [m²/rm]					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.05	0.22	0.50	0.50	0.40	0.37
Octave band	**0.08**	**0.28**	**0.53**	**0.45**	**0.41**	**0.37**
Third-octave band	0.15	0.37	0.56	0.41	0.40	0.35

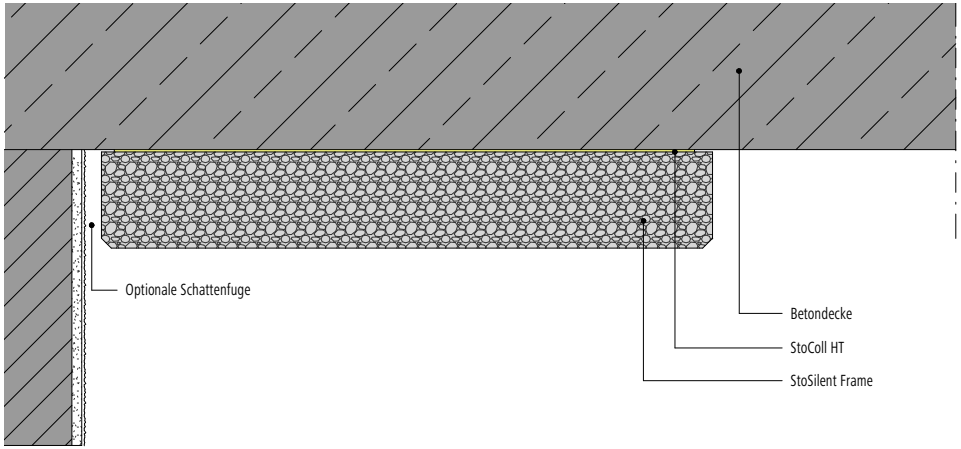
Test certificate: 100960_2021-05 HR_3 (analysis)

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Construction details

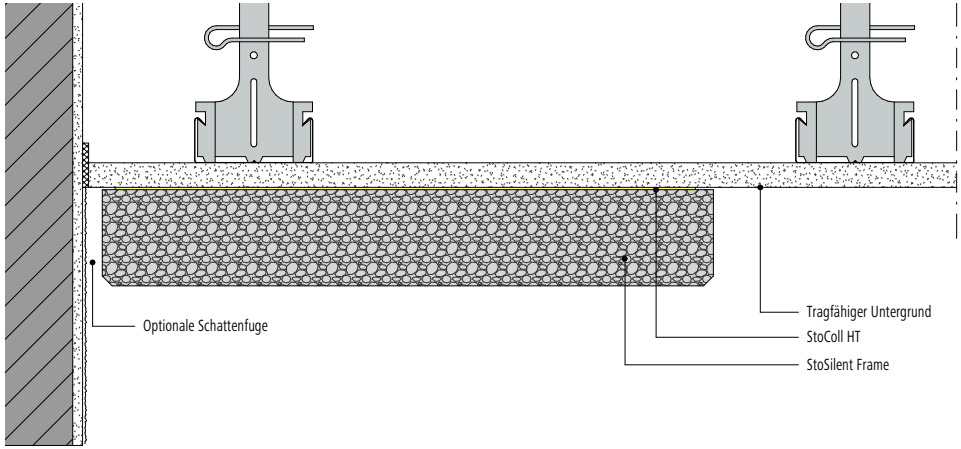
Ceiling (vertical section): wall junction with optional shadow gap

Sto-HQ-DE_SSFR-0100_2022-10-01



Ceiling (vertical section): wall junction with optional shadow gap

Sto-HQ-DE_SSFR-0110_2022-10-01



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Compact

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

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

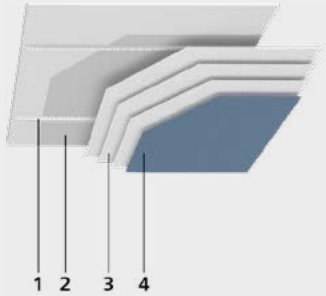
To surfaces

To absorption values

To references

The system

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



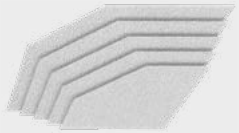
Carrier layer
1 — System profile
2 — Priming coat

Acoustic layer
3 — Intermediate coat

Material layer
4 — Finishing coat

Material layer options

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



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

System properties

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

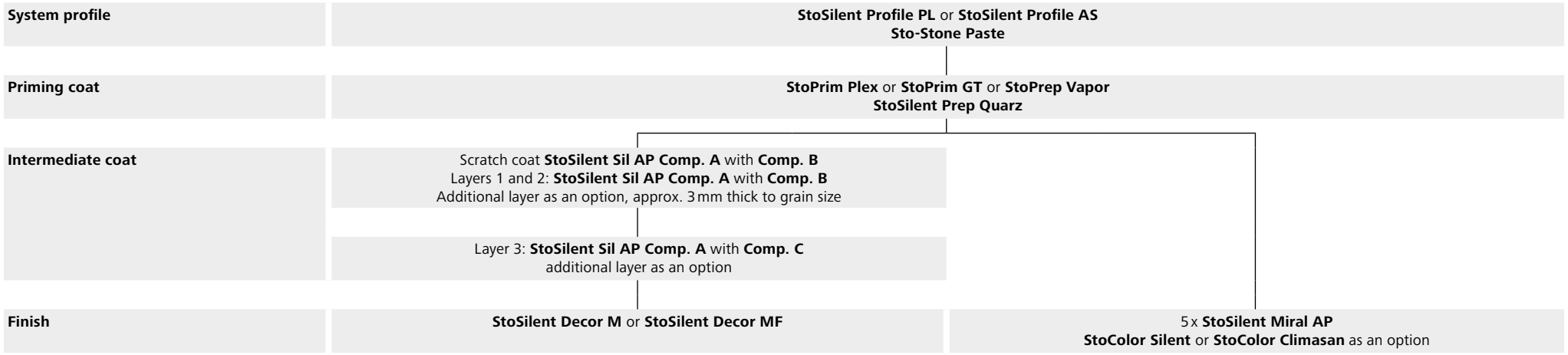
Reaction to fire
- Reaction to fire (class) in accordance with EN 13501-1: C-s1, d0

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

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

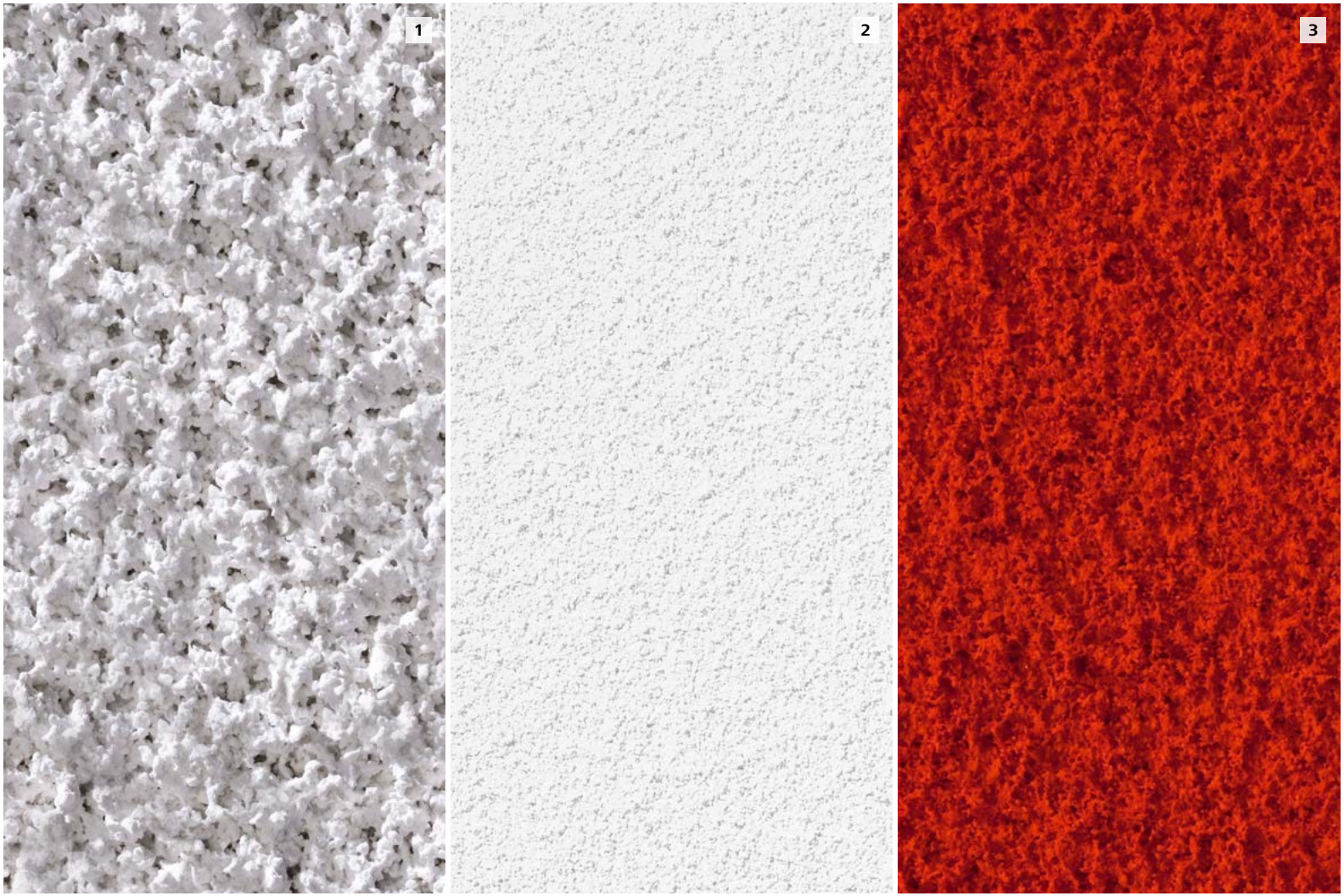
System versions

StoSilent Compact system description



Surfaces

1 StoSilent Miral AP
2 StoSilent Decor M
3 StoSilent Decor MF

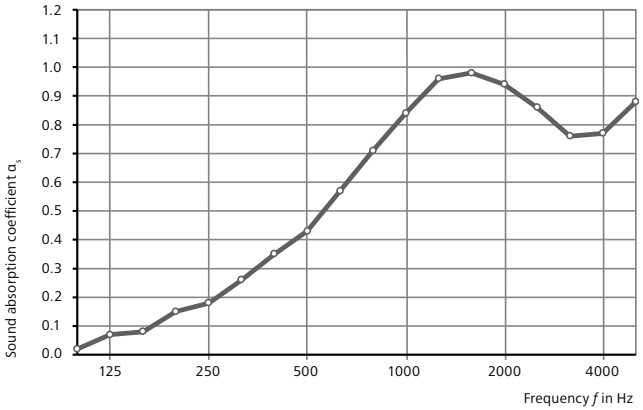


The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Seals of approval and quality

Products and systems		Seals of approval and test procedures							
								**Fire classification in accordance with EN 13501**	
Products	**StoSilent Sil AP**	–	–	–	–	–	–	C-s1, d0	EN 15824
	StoSilent Miral AP	–	–	–	–	–	–	A2-s1, d0 (EN 13501-1), Class 1/A (ASTM E84)	–
	StoSilent Decor M	A+	Test standard TM-10 Emulsion-based plasters 06/09	Preservative-free (untinted versions: white and Sto white shades)	Test standard TM-10 Emulsion-based plasters 06/09	–	–	–	–
	StoSilent Decor MF	A+	–	–	–	–	–	Fire classification dependent on use within system	–
	StoSilent Prep Quarz	A+	–	–	–	–	–		–

Sound characteristics

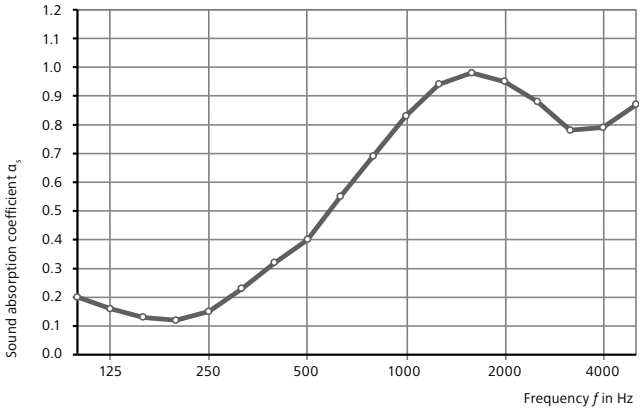


System: StoSilent Compact
Build-up: StoSilent Sil AP
Coating: StoSilent Decor MF
Thickness: 25 mm

Structural height: approx. 25 mm (type B)
α_w: 0.45 (MH)
$\alpha_{p,\ 125}$: 0.05
***NRC*:** 0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 35120_95_16

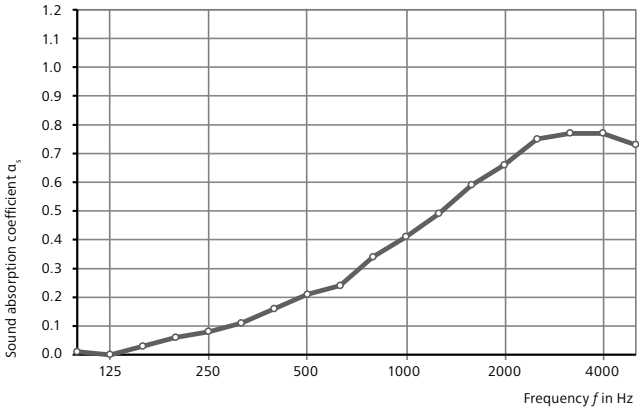


System: StoSilent Compact
Build-up: StoSilent Sil AP
Coating: StoSilent Decor MF
Thickness: 25 mm

Structural height: 285 mm
α_w: 0.40 (MH)
$\alpha_{p,\ 125}$: 0.15
***NRC*:** 0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 35120_95_15



System: StoSilent Compact
Build-up: StoSilent Miral AP, 15 mm, processing by machine with screw pump
Coating: none
Thickness: 15 mm

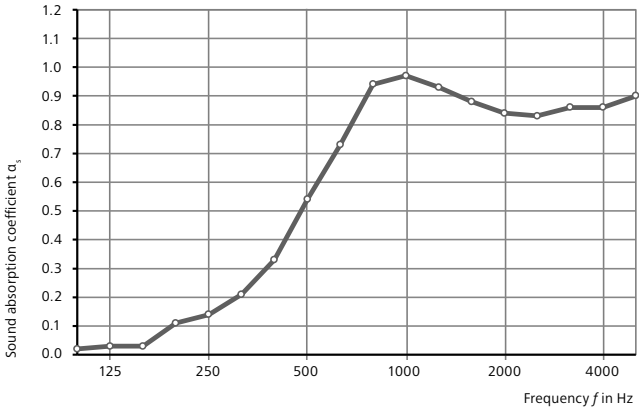
Structural height: approx. 15 mm (type A)
α_w: 0.30 (H)
$\alpha_{p,\ 125}$: 0.00
***NRC*:** 0.35

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2014-09-11_3

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

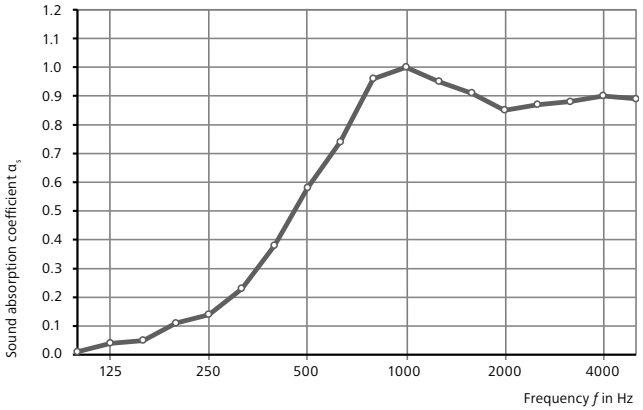
Sound characteristics



System: StoSilent Compact
Build-up: StoSilent Miral AP, 25 mm, processing by machine with screw pump
Coating: none
Thickness: 25 mm
Structural height: approx. 25 mm (type A)
α_w: 0.45 (MH)
$\alpha_{p,\ 125}$: 0.05
***NRC*:** 0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

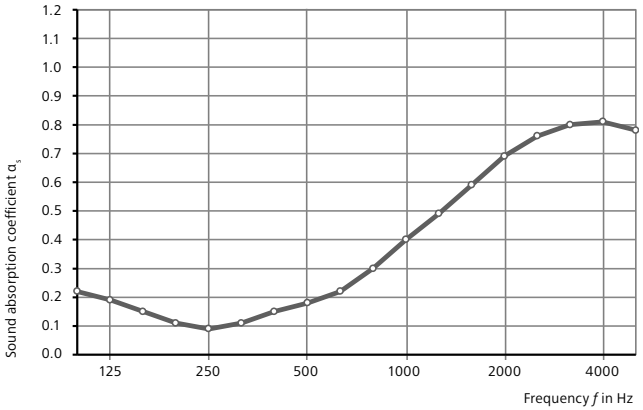
Test certificate: 100960_2015-08-31_18



System: StoSilent Compact
Build-up: StoSilent Miral AP, 25 mm (screw pump) + renovation
Coating: colour coating as a renovation coat
Thickness: 25 mm
Structural height: approx. 25 mm (type A)
α_w: 0.45 (MH)
$\alpha_{p,\ 125}$: 0.05
***NRC*:** 0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.01	0.11	0.38	0.96	0.91	0.88
Octave band	**0.04**	**0.14**	**0.58**	**1.00**	**0.85**	**0.90**
Third-octave band	0.05	0.23	0.74	0.95	0.87	0.89
α_p	0.05	0.15	0.55	0.95	0.90	0.90

Test certificate: 100960_2015-12-01_9



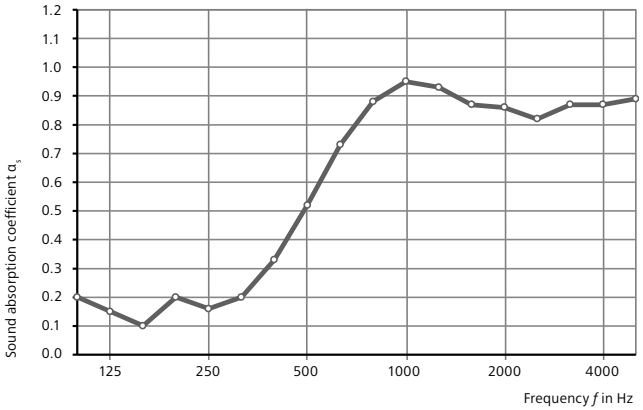
System: StoSilent Compact
Build-up: StoSilent Miral AP, 15 mm, processing by machine with screw pump
Coating: none
Thickness: 15 mm
Structural height: 200 mm
α_w: 0.30 (H)
$\alpha_{p,\ 125}$: 0.20
***NRC*:** 0.35

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2014-09-11_2

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Sound characteristics



System:	StoSilent Compact	**Thickness:**	25 mm
Build-up:	StoSilent Miral AP, 25 mm, processing by machine with screw pump	**Structural height:**	200 mm
		α_w:	0.50 (MH)
		$\alpha_{p,\,125}$:	0.15
Coating:	none	***NRC*:**	0.60

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-08-31_5

StoSilent Modular

Sound-absorbing ceiling elements
The use of StoSilent Modular ceiling elements is recommended wherever suspended or directly bonded systems are not possible, or where the acoustics need to be optimised when the room is already in use. The modules are designed to add a visual accent to the space. We offer a wide range of materials, colour shades, shapes, and integrated lighting elements, opening up a whole spectrum of design possibilities.

System advantages
- Wide range of format and colour designs
- Quick to install and remove

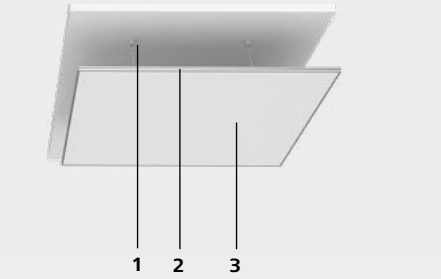
To surfaces

To absorption values

To references

The system

Build-up: StoSilent Modular 100



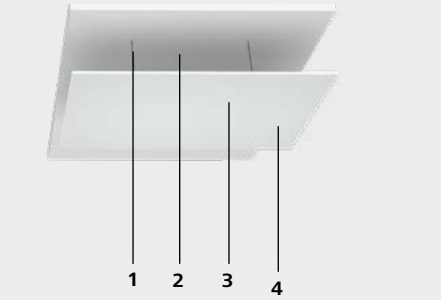
Carrier layer
1 — Hanger
2 — Aluminium frame
Acoustic layer
3 — PET fibre board

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

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

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

Build-up: StoSilent Modular 230



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

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

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

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

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

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Surfaces

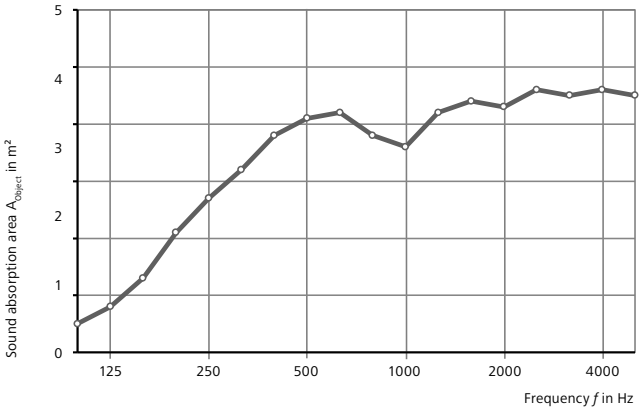
1) Colour coating on StoSilent Modular 230
2) Nonwoven surface on Modular 100

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Seals of approval and quality

Products and systems		Seals of approval and test procedures							
								**Fire classification in accordance with EN 13501**	
Products	**StoSilent Modular 100**	–	–	–	–	Oeko-Tex® standard 100, product class I (PET board)	EC1 Plus very low-emission (adhesive)	B-1, d0 (PET board), E (adhesive)	EN 13964
	StoSilent Modular 230 (layer of PET fibre)	–	–	–	–	–	–	C-1, d0	EN 13964
	StoSilent Modular 230 (expanded glass granulate carrier board)	A+	–	–	–	–	–	A2-1, d0 (with coating)	EN 13964
	StoSilent Modular 400 (layer of PET fibre)	–	–	–	–	–	–	C-1, d0	EN 13964
	StoSilent Modular 400 (expanded glass granulate carrier board)	A+	–	–	–	–	–	A2-1, d0	EN 13964

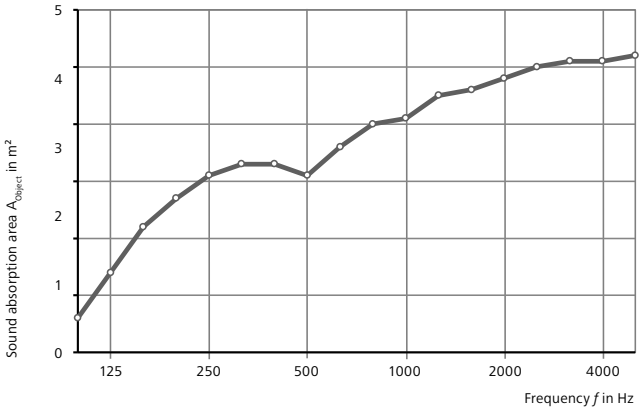
Sound characteristics



System: StoSilent Modular 100
Format: 3.00 m x 1.25 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**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

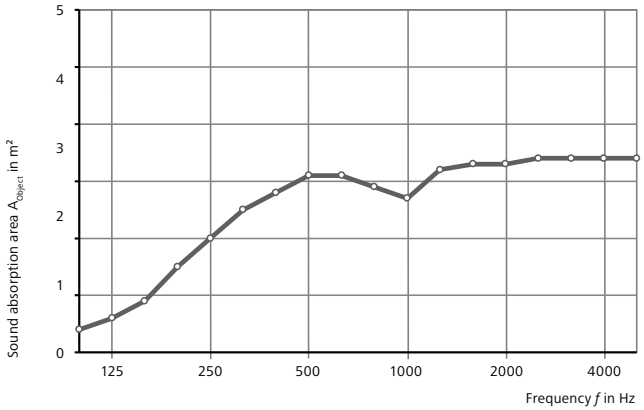
Test certificate: 100960_2015-04-02_1



System: StoSilent Modular 100
Format: 3.00 m x 1.25 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 400 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-02_2



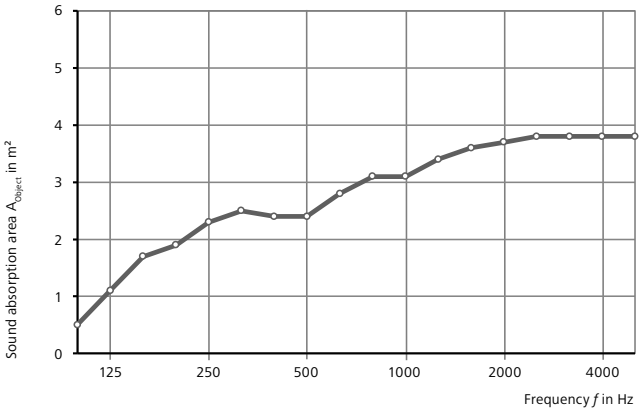
System: StoSilent Modular 100
Format: 2.35 m x 1.15 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-02_5

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

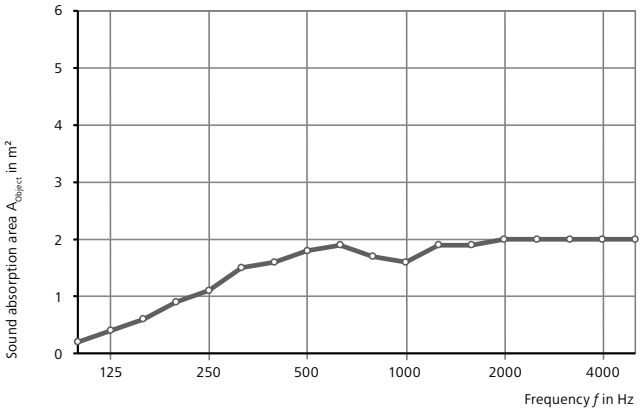
Sound characteristics



System: StoSilent Modular 100
Format: 2.35 m x 1.15 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 400 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**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

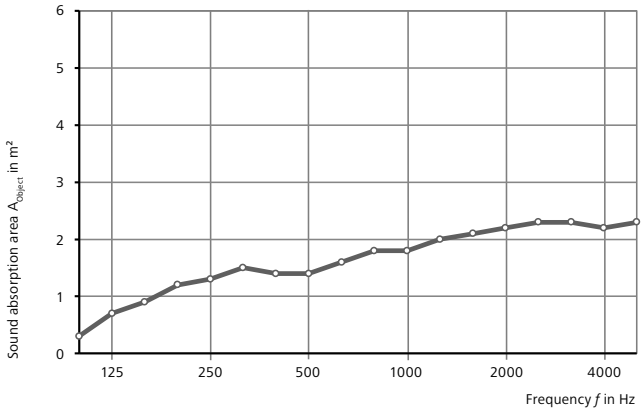
Test certificate: 100960_2015-04-02_6



System: StoSilent Modular 100
Format: 1.25 m x 1.25 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-02_3



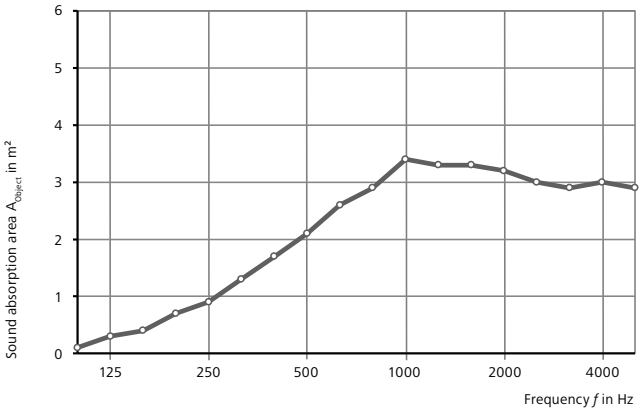
System: StoSilent Modular 100
Format: 1.25 m x 1.25 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 400 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**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

Test certificate: 100960_2015-04-02_4

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

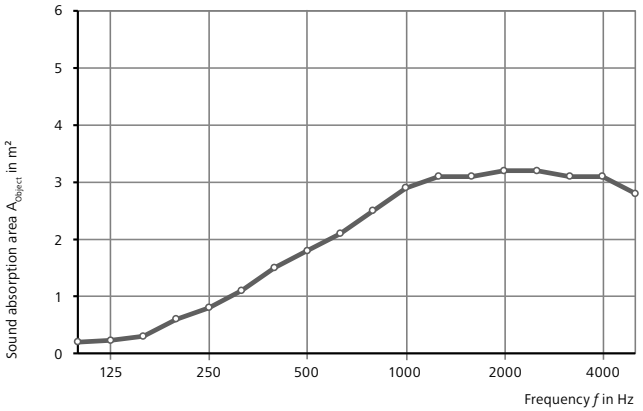
Sound characteristics



System: StoSilent Modular 100 mounted with Connector
Format: 2.35 m x 1.15 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 71 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.10	0.70	1.70	2.90	3.30	2.90
Octave band	**0.30**	**0.90**	**2.10**	**3.40**	**3.20**	**3.00**
Third-octave band	0.40	1.30	2.60	3.30	3.00	2.90

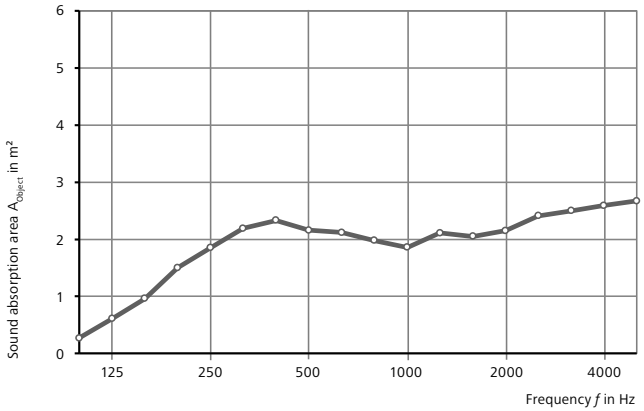
Test certificate: 100960_2019-12-17_4



System: StoSilent Modular 100 as wall element
Format: 2.35 m x 1.15 m
Coating: PET nonwoven fibre, white
Thickness: 26 mm
Structural height: 40 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.20	0.60	1.50	2.50	3.10	3.10
Octave band	**0.20**	**0.80**	**1.80**	**2.90**	**3.20**	**3.10**
Third-octave band	0.30	1.10	2.10	3.10	3.20	2.80

Test certificate: 100960_2016-01-18_18



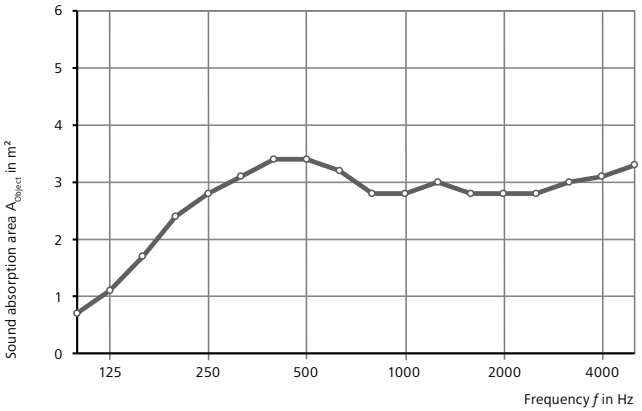
System: StoSilent Modular 230
Format: 2.35 m x 1.15 m
Coating: fine-textured colour coating, white
Thickness: 19 mm
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.30	1.50	2.30	2.00	2.10	2.50
Octave band	**0.60**	**1.90**	**2.20**	**1.90**	**2.20**	**2.60**
Third-octave band	1.00	2.20	2.10	2.10	2.40	2.70

Test certificate: 100960_2021-05 HR_16

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

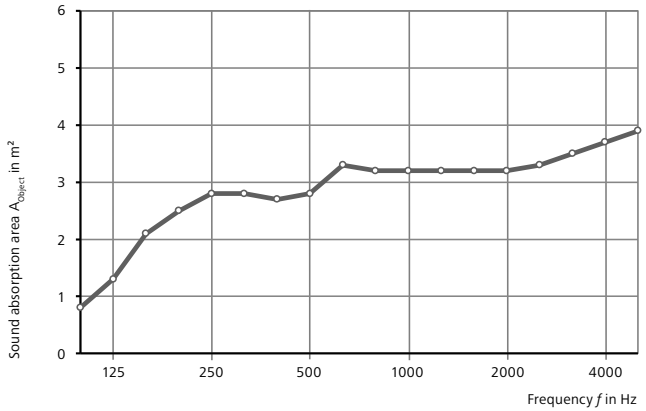
Sound characteristics



System: StoSilent Modular 230 + PET
Format: 2.35 m x 1.15 m
Coating: fine-textured colour coating, white
Thickness: 19 mm (without PET)
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.70	2.40	3.40	2.80	2.80	3.00
Octave band	**1.10**	**2.80**	**3.40**	**2.80**	**2.80**	**3.10**
Third-octave band	1.70	3.10	3.20	3.00	2.80	3.30

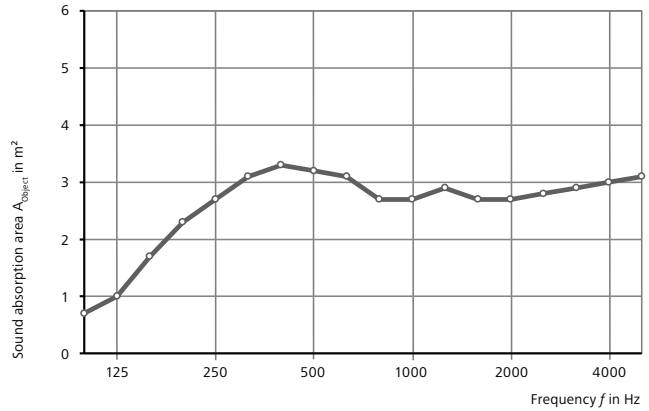
Test certificate: 100960-2019-09-19-11



System: StoSilent Modular 230 + PET
Format: 2.35 m x 1.15 m
Coating: fine-textured colour coating, white
Thickness: 19 mm (without PET)
Structural height: 400 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.80	2.50	2.70	3.20	3.20	3.50
Octave band	**1.30**	**2.80**	**2.80**	**3.20**	**3.20**	**3.70**
Third-octave band	2.10	2.80	3.30	3.20	3.30	3.90

Test certificate: 100960-2019-09-19-12



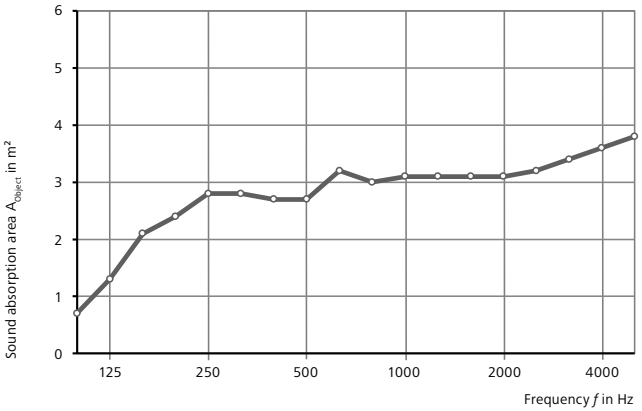
System: StoSilent Modular 230 + PET
Format: 2.35 m x 1.15 m
Coating: fine-textured colour coating, tinted (dark blue)
Thickness: 19 mm (without PET)
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.70	2.30	3.30	2.70	2.70	2.90
Octave band	**1.00**	**2.70**	**3.20**	**2.70**	**2.70**	**3.00**
Third-octave band	1.70	3.10	3.10	2.90	2.80	3.10

Test certificate: 100960-2019-12-17_2

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

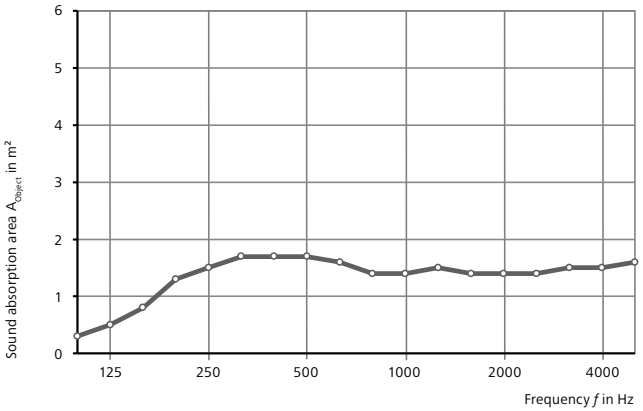
Sound characteristics



System: StoSilent Modular 230 + PET
Format: 2.35 m x 1.15 m
Coating: fine-textured colour coating, tinted (dark blue)
Thickness: 19 mm (without PET)
Structural height: 400 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.70	2.40	2.70	3.00	3.10	3.40
Octave band	**1.30**	**2.80**	**2.70**	**3.10**	**3.10**	**3.60**
Third-octave band	2.10	2.80	3.20	3.10	3.20	3.80

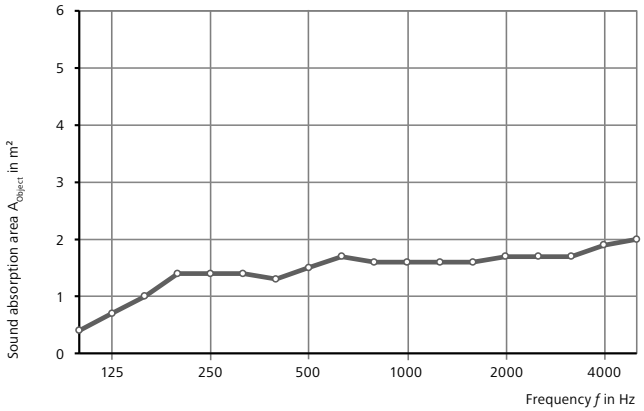
Test certificate: 100960-2019-12-17_3



System: StoSilent Modular 230 + PET
Format: 1.15 m x 1.15 m
Coating: fine-textured colour coating, white
Thickness: 19 mm (without PET)
Structural height: 200 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.30	1.30	1.70	1.40	1.40	1.50
Octave band	**0.50**	**1.50**	**1.70**	**1.40**	**1.40**	**1.50**
Third-octave band	0.80	1.70	1.60	1.50	1.40	1.60

Test certificate: 100960-2019-09-19-14



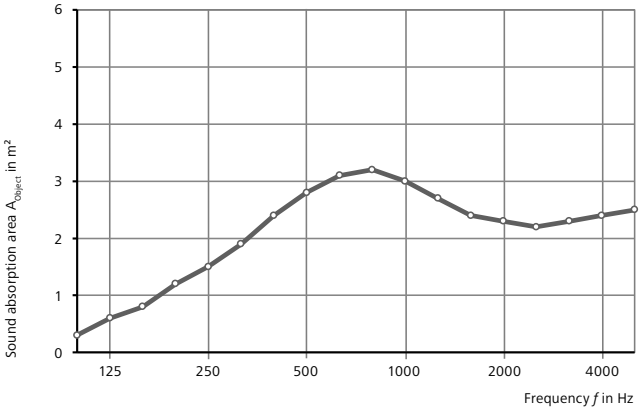
System: StoSilent Modular 230 + PET
Format: 1.15 m x 1.15 m
Coating: fine-textured colour coating, white
Thickness: 19 mm (without PET)
Structural height: 400 mm

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.40	1.40	1.30	1.60	1.60	1.70
Octave band	**0.70**	**1.40**	**1.50**	**1.60**	**1.70**	**1.90**
Third-octave band	1.00	1.40	1.70	1.60	1.70	2.00

Test certificate: 100960-2019-09-19-13

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Sound characteristics



System:	StoSilent Modular 230 as wall element + PET	**Thickness:**	coating, white 19 mm (without PET)
Format:	2.35 m x 1.15 m	**Structural height:**	51 mm
Coating:	fine-textured colour		

	Sound absorption area A_{Object} in m²					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.30	1.20	2.40	3.20	2.40	2.30
Octave band	**0.60**	**1.50**	**2.80**	**3.00**	**2.30**	**2.40**
Third-octave band	0.80	1.90	3.10	2.70	2.20	2.50

Test certificate: 100960-2019-12-17_1

StoSilent Baffle

Sound-absorbing acoustic element
Baffles are frameless absorbers that – unlike ceiling elements – are suspended from the ceiling in a vertical position. They are designed for use in rooms where the ceiling cannot extend from wall to wall.

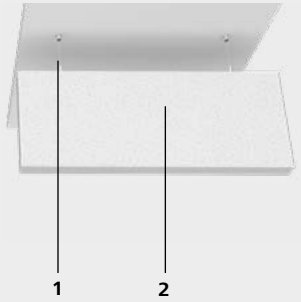
System advantages
- Consists of 95 % recycled material and does not contain any synthetic mineral fibres
- Sound absorption through front and rear side
- Hard-wearing and hygienic absorber material
- The acoustic panels are tested for harmful substances by TÜV Süd and are low-emission and recyclable
- Simple application

To absorption values

To references

The system

Build-up: StoSilent Baffle



Carrier layer
1 — Hanger

Acoustic layer
2 — Acoustic panel, coated at the factory

System properties

Application
- Interior
- For ceilings
- Ideal for offices, sport and educational facilities, or retail
- Ideal for rooms in which other acoustic solutions are not possible for technical or aesthetic reasons

Design options
- Coated at the factory

Colour range
- Colour shades in accordance with RAL colour fans

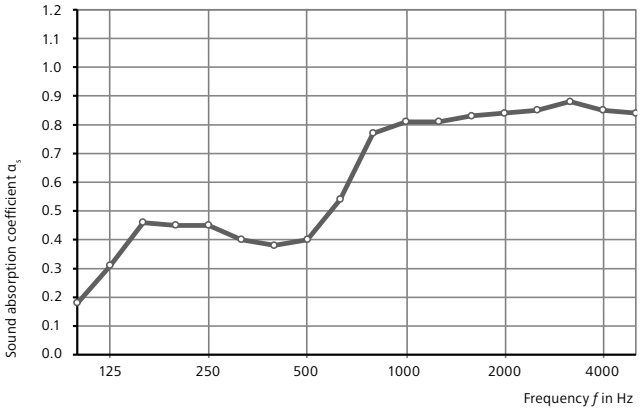
Application
- Fast and simple installation
- For immediate installation
- Vertical suspension

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Seals of approval and quality

Products		Seals of approval and test procedures						Fire classification in accordance with EN 13501	CE
Products	**StoSilent Baffle R 100**	A+	–	Preservative-free	–	–	–	Fire classification on request	–

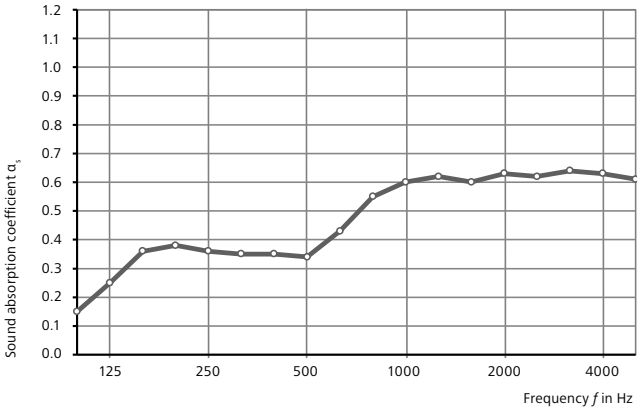
Sound characteristics



System: StoSilent Baffle
Build-up: StoSilent Baffle R 100, AH 0 mm, LA 50 mm, RAM 310 mm
Coating: colour coating
Thickness: 50 mm
Structural height: approx. 310 mm (type J)
α_w: 0.55 (MH)
$\alpha_{p,\,125}$: 0.30
***NRC*:** 0.65

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.18	0.45	0.38	0.77	0.83	0.88
Octave band	**0.31**	**0.45**	**0.40**	**0.81**	**0.84**	**0.85**
Third-octave band	0.46	0.40	0.54	0.81	0.85	0.84
α_p	0.30	0.45	0.45	0.80	0.85	0.85

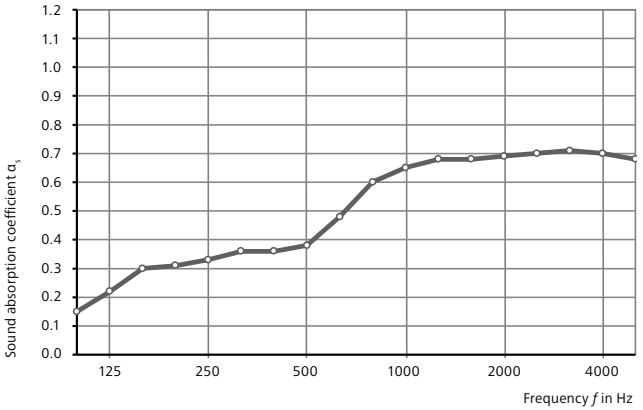
Test certificate: 100960-2021-05 HR_4



System: StoSilent Baffle
Build-up: StoSilent Baffle R 100, AH 0 mm, LA 50 mm, RAM 620 mm
Coating: colour coating
Thickness: 50 mm
Structural height: approx. 310 mm (type J)
α_w: 0.45 (H)
$\alpha_{p,\,125}$: 0.25
***NRC*:** 0.50

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.15	0.38	0.35	0.55	0.60	0.64
Octave band	**0.25**	**0.36**	**0.34**	**0.60**	**0.63**	**0.63**
Third-octave band	0.36	0.35	0.43	0.62	0.62	0.61
α_p	0.25	0.35	0.35	0.60	0.60	0.65

Test certificate: 100960-2021-05 HR_5



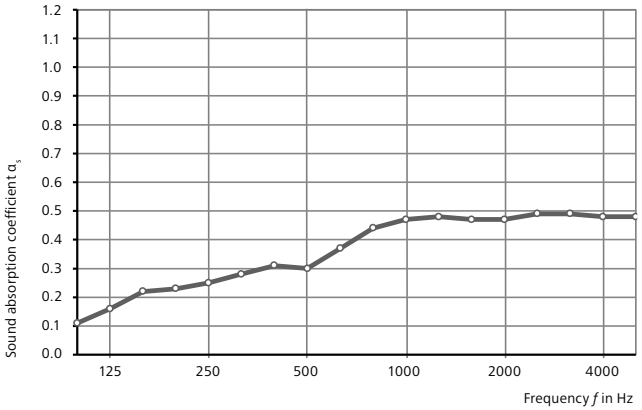
System: StoSilent Baffle
Build-up: StoSilent Baffle R 100, AH 0 mm, LA 575 mm, RAM 310 mm
Coating: colour coating
Thickness: 50 mm
Structural height: approx. 310 mm (type J)
α_w: 0.50 (H)
$\alpha_{p,\,125}$: 0.20
***NRC*:** 0.50

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.15	0.31	0.36	0.60	0.68	0.71
Octave band	**0.22**	**0.33**	**0.38**	**0.65**	**0.69**	**0.70**
Third-octave band	0.30	0.36	0.48	0.68	0.70	0.68
α_p	0.20	0.35	0.40	0.65	0.70	0.70

Test certificate: 100960-2021-05 HR_7

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

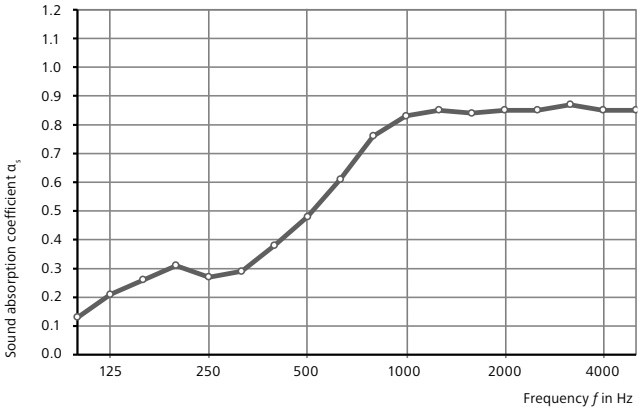
Sound characteristics



System:	StoSilent Baffle	**Structural height:**	approx. 310 mm (type J)
Build-up:	StoSilent Baffle R 100, AH 0 mm, LA 575 mm, RAM 620 mm	α_w:	0.45
		$\alpha_{p,\ 125}$:	0.15
Coating:	colour coating	*NRC*:	0.35
Thickness:	50 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.11	0.23	0.31	0.44	0.47	0.49
Octave band	**0.16**	**0.25**	**0.30**	**0.47**	**0.47**	**0.48**
Third-octave band	0.22	0.28	0.37	0.48	0.49	0.48
α_p	0.15	0.25	0.35	0.45	0.50	0.50

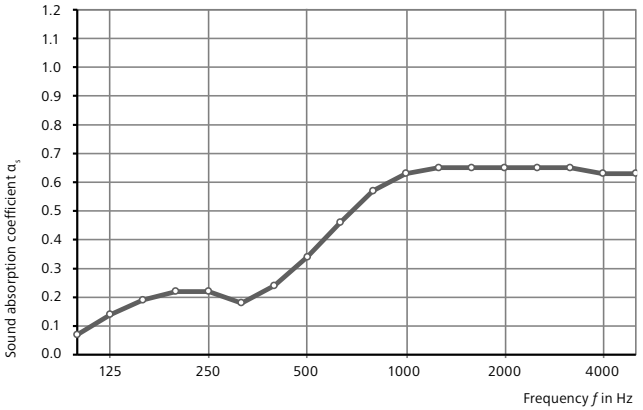
Test certificate: 100960-2021-05 HR_6



System:	StoSilent Baffle	**Structural height:**	approx. 510 mm (type J)
Build-up:	StoSilent Baffle R 100, AH 200 mm, LA 50 mm, RAM 310 mm	α_w:	0.55 (MH)
		$\alpha_{p,\ 125}$:	0.20
Coating:	colour coating	*NRC*:	0.60
Thickness:	50 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.13	0.31	0.38	0.76	0.84	0.87
Octave band	**0.21**	**0.27**	**0.48**	**0.83**	**0.85**	**0.85**
Third-octave band	0.26	0.29	0.61	0.85	0.85	0.85
α_p	0.20	0.30	0.50	0.80	0.85	0.85

Test certificate: 100960-2021-05 HR_11



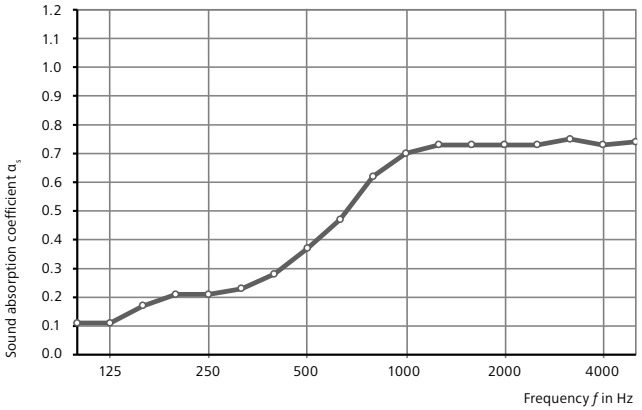
System:	StoSilent Baffle	**Structural height:**	approx. 510 mm (type J)
Build-up:	StoSilent Baffle R 100, AH 200 mm, LA 50 mm, RAM 620 mm	α_w:	0.40 (H)
		$\alpha_{p,\ 125}$:	0.15
Coating:	colour coating	*NRC*:	0.45
Thickness:	50 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.07	0.22	0.24	0.57	0.65	0.65
Octave band	**0.14**	**0.22**	**0.34**	**0.63**	**0.65**	**0.63**
Third-octave band	0.19	0.18	0.46	0.65	0.65	0.63
α_p	0.15	0.20	0.35	0.60	0.65	0.65

Test certificate: 100960-2021-05 HR_10

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

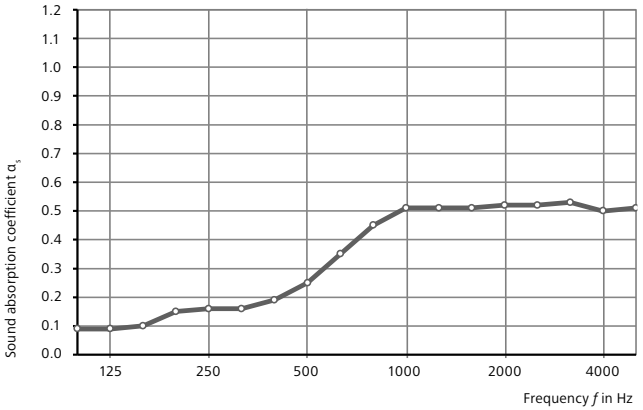
Sound characteristics



System:	StoSilent Baffle	**Structural height:**	approx. 510 mm (type J)
Build-up:	StoSilent Baffle R 100, AH 200 mm, LA 575 mm, RAM 310 mm	α_w:	0.40 (MH)
		$\alpha_{p,\ 125}$:	0.15
Coating:	colour coating	*NRC*:	0.50
Thickness:	50 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.11	0.21	0.28	0.62	0.73	0.75
Octave band	**0.11**	**0.21**	**0.37**	**0.70**	**0.73**	**0.73**
Third-octave band	0.17	0.23	0.47	0.73	0.73	0.74
α_p	0.15	0.20	0.35	0.70	0.75	0.75

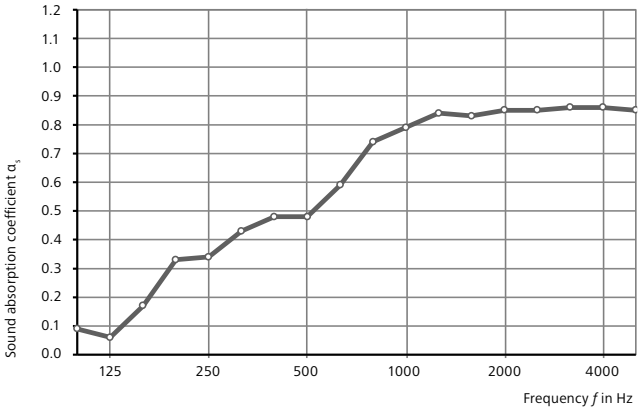
Test certificate: 100960-2021-05 HR_8



System:	StoSilent Baffle	**Structural height:**	approx. 510 mm (type J)
Build-up:	StoSilent Baffle R 100, AH 200 mm, LA 575 mm, RAM 620 mm	α_w:	0.35 (H)
		$\alpha_{p,\ 125}$:	0.10
Coating:	colour coating	*NRC*:	0.35
Thickness:	50 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.09	0.15	0.19	0.45	0.51	0.53
Octave band	**0.09**	**0.16**	**0.25**	**0.51**	**0.52**	**0.50**
Third-octave band	0.10	0.16	0.35	0.51	0.52	0.51
α_p	0.10	0.15	0.25	0.50	0.50	0.50

Test certificate: 100960-2021-05 HR_9



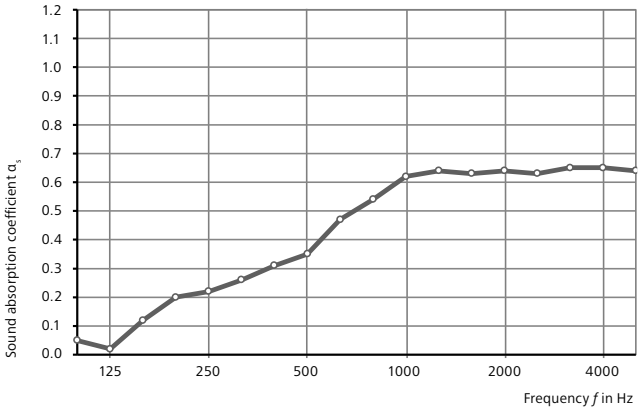
System:	StoSilent Baffle	**Structural height:**	approx. 810 mm (type J)
Build-up:	StoSilent Baffle R 100, AH 500 mm, LA 50 mm, RAM 310 mm	α_w:	0.55 (MH)
		$\alpha_{p,\ 125}$:	0.10
Coating:	colour coating	*NRC*:	0.60
Thickness:	50 mm		

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.09	0.33	0.48	0.74	0.83	0.86
Octave band	**0.06**	**0.34**	**0.48**	**0.79**	**0.85**	**0.86**
Third-octave band	0.17	0.43	0.59	0.84	0.85	0.85
α_p	0.10	0.35	0.50	0.80	0.85	0.85

Test certificate: 100960-2021-05 HR_12

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Sound characteristics

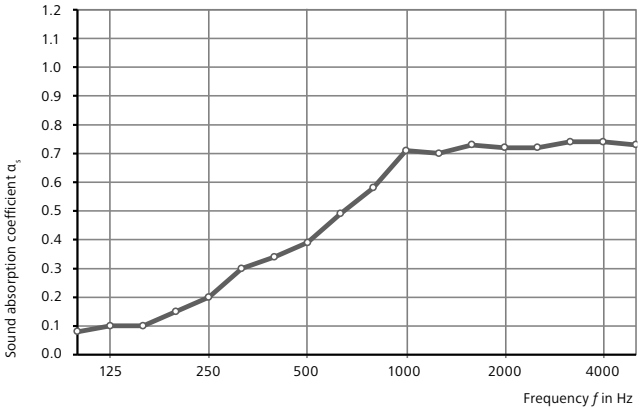


System: StoSilent Baffle
Build-up: StoSilent Baffle R 100, AH 500 mm, LA 50 mm, RAM 620 mm
Coating: colour coating
Thickness: 50 mm

Structural height: approx. 810 mm (type J)
α_w: 0.45 (H)
$\alpha_{p,\ 125}$: 0.05
NRC: 0.45

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.05	0.20	0.31	0.54	0.63	0.65
Octave band	**0.02**	**0.22**	**0.35**	**0.62**	**0.64**	**0.65**
Third-octave band	0.12	0.26	0.47	0.64	0.63	0.64
α_p	0.05	0.25	0.40	0.60	0.65	0.65

Test certificate: 100960-2021-05 HR_13

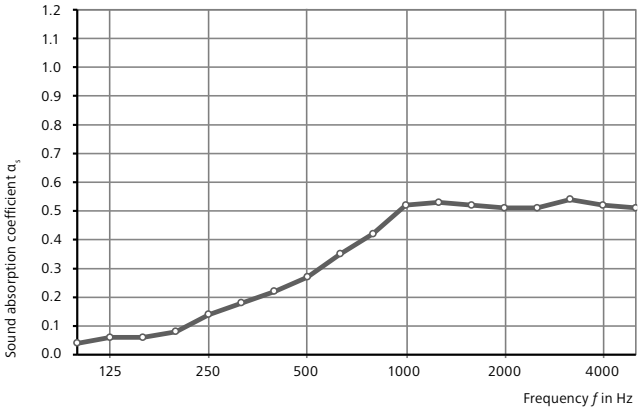


System: StoSilent Baffle
Build-up: StoSilent Baffle R 100, AH 500 mm, LA 575 mm, RAM 310 mm
Coating: colour coating
Thickness: 50 mm

Structural height: approx. 810 mm (type J)
α_w: 0.45 (H)
$\alpha_{p,\ 125}$: 0.10
NRC: 0.50

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.08	0.15	0.34	0.58	0.73	0.74
Octave band	**0.10**	**0.20**	**0.39**	**0.71**	**0.72**	**0.74**
Third-octave band	0.10	0.30	0.49	0.70	0.72	0.73
α_p	0.10	0.20	0.40	0.65	0.70	0.75

Test certificate: 100960-2021-05 HR_15



System: StoSilent Baffle
Build-up: StoSilent Baffle R 100, AH 500 mm, LA 575 mm, RAM 620 mm
Coating: colour coating
Thickness: 50 mm

Structural height: approx. 810 mm (type J)
α_w: 0.35 (H)
$\alpha_{p,\ 125}$: 0.05
NRC: 0.35

	Sound absorption coefficient α_s					
Frequency *f* in Hz	**125**	**250**	**500**	**1000**	**2000**	**4000**
Third-octave band	0.04	0.08	0.22	0.42	0.52	0.54
Octave band	**0.06**	**0.14**	**0.27**	**0.52**	**0.51**	**0.52**
Third-octave band	0.06	0.18	0.35	0.53	0.51	0.51
α_p	0.05	0.15	0.30	0.50	0.50	0.50

Test certificate: 100960-2021-05 HR_14

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Reference overview


MOAE – Huamao Museum of Art Education, Ningbo, CN


Harbitz Torg, Oslo, NO


Haus der Bayerischen Geschichte, Regensburg, DE


Cafe Giuseppe × Kunstmühle, Rosenheim, DE


Unilever's Indonesia headquarters in Jakarta, ID


Dr. Jean Bausch GmbH & Co. KG, Cologne, DE


MAC II Museum Art & Cars 2, Singen, DE


Arter, Istanbul, TR


Operation Smile Centre, Oujda, MAR


Vocational schools, Donaueschingen, DE


Öschberghof, Donaueschingen, DE


IHK for Munich and Upper Bavaria (IHK für München und Oberbayern), headquarters, Munich, DE

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Reference overview


Auditorium of the University of Cervera, ES


Restaurant Toro Tapas – Osborne Group, Cádiz, ES


New building: Post Sportverein e.V., Augsburg, DE


Primary and secondary school FFB Nord, Fürstenfeldbruck, DE


Casino Milupa, Fulda, DE


Das Spittelberg, Vienna, AT


Safran organic catering, Radolfzell, DE


Kirnbacher Hof, Wolfach-Kirnbach, DE


St. Gallus day-care centre, Merzhausen, DE

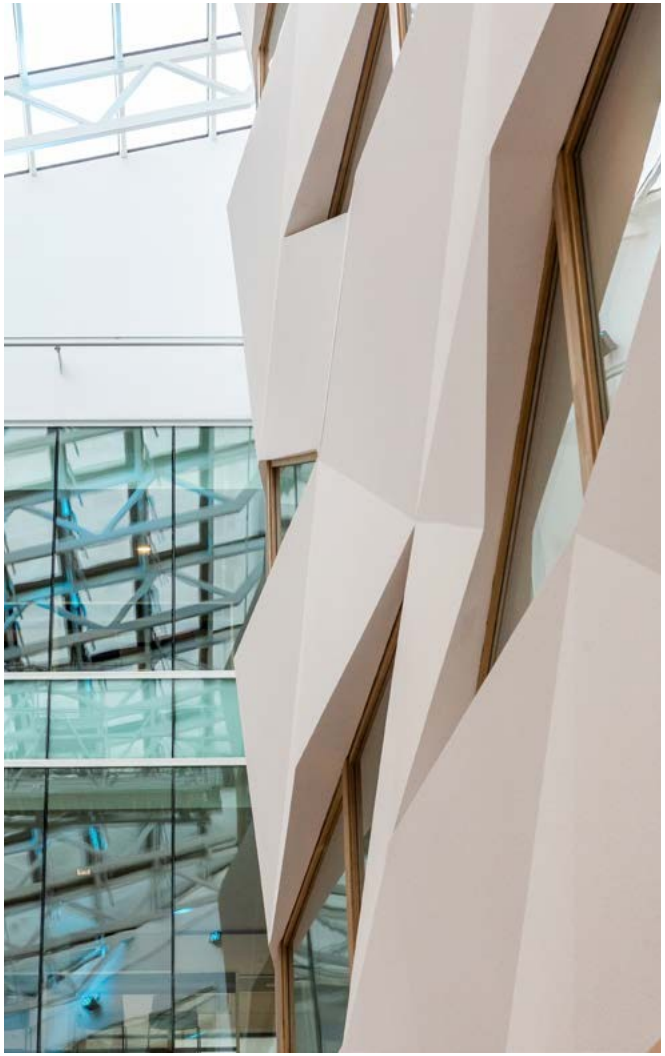
The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

MOAE – Huamao Museum of Art Education
Ningbo, CN

Planning: Carlos Castanheira & Álvaro Siza Vieira, Porto, PT
Sto expertise: StoSilent Distance S, StoSilent Decor M
Photo: HouPictures, CN

Harbitz Torg
Oslo, NO

Building owner: Møller Eiendom Holding AS, Oslo, NO
Planner: LPO arkitekter A/S, Oslo, NO
Execution: Byggimpuls AS, Oslo, NO
Sto expertise: StoSilent Distance S, StoSilent Board 310, StoSilent Decor M
Photo: Tove Lauluten, Oslo, NO



Haus der Bayerischen Geschichte
Regensburg, DE

Building owner: Staatliches Bauamt Regensburg, Regensburg, DE
Planning: wörner traxler richter planungsgesellschaft mbh, Frankfurt, DE
Execution: Akustik-, Stuck-, und Trockenbau Sommer GmbH, Kirchdorf, DE, Reiner Pock Malereibetrieb, Langenaltheim, DE
Sto expertise: StoSilent Distance S, StoSilent Board 100 S
Photo: Boris Storz, Munich, DE

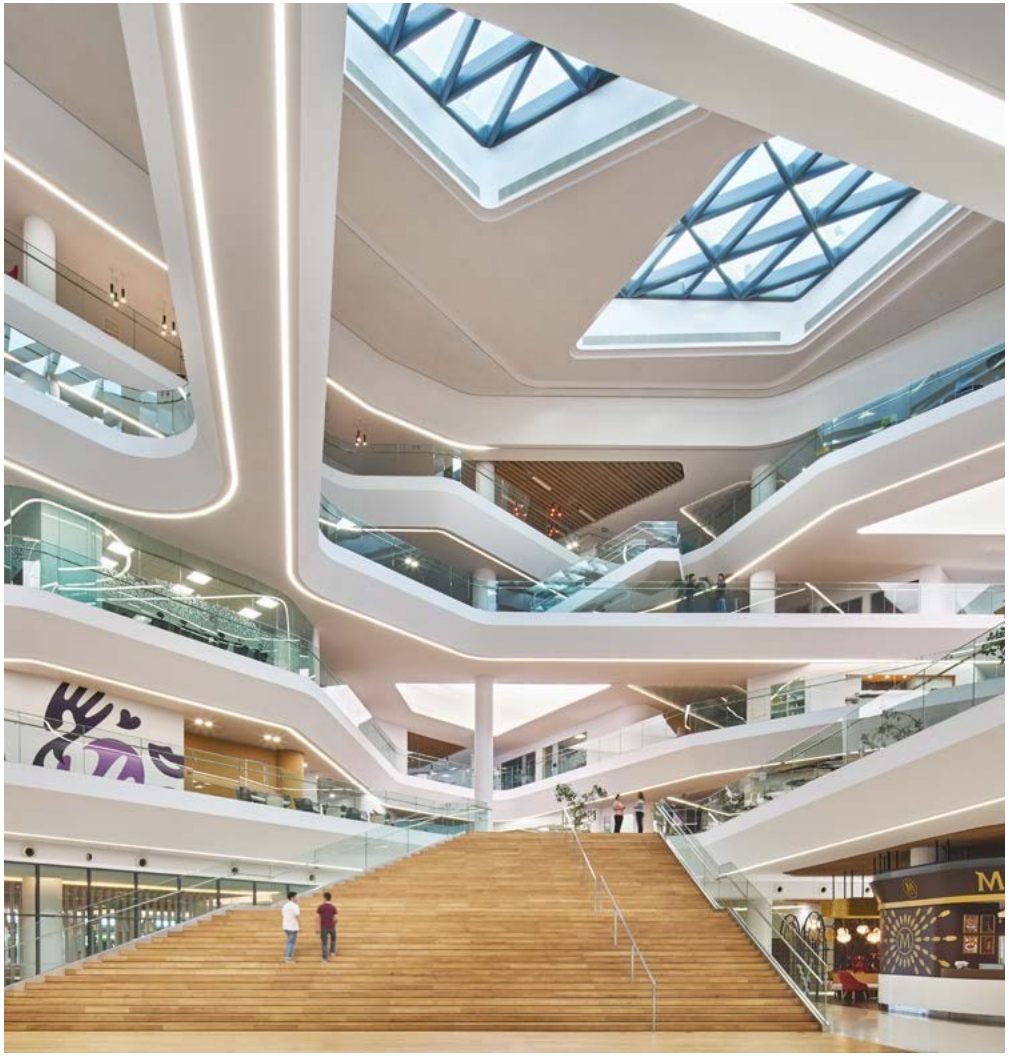
Cafe Giuseppe × Kunstmühle
Rosenheim, DE

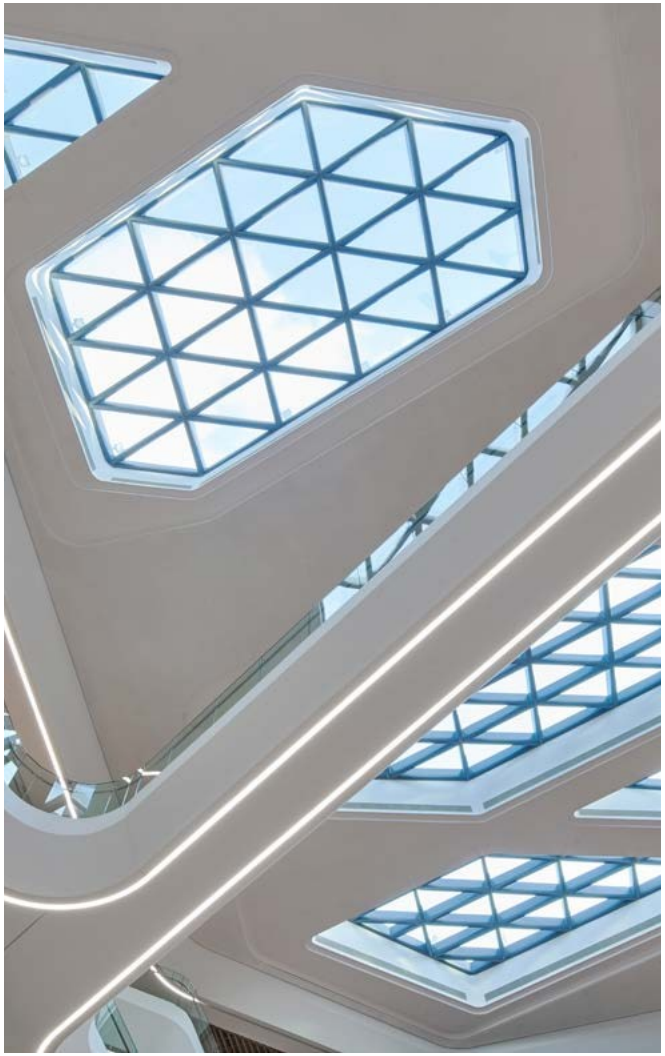
Building owner: Quest AG, Kolbermoor, DE
Planning: Guggenbichler + Wagenstaller GbR, Rosenheim, DE
Execution: Malerbetrieb Hübsch, Rosenheim, DE
Sto expertise: StoSilent Distance S, StoSilent Board 100 S, StoSilent Top Basic
Photo: Boris Storz, Munich, DE

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Unilever’s Indonesia headquarters
Jakarta, ID

Building owner: PT. Unilever Indonesia, Tbk, Banten, ID
Planning: Aedas, Singapore, SG
Execution: PT Panutan Sejati, Jakarta, ID
Sto expertise: StoSilent Distance S, StoSilent Board 110 S, StoSilent Decor M
Photo: Sasja van Vechgel, Architenthis Asia Pte, Ltd, Singapore, SG





Dr. Jean Bausch GmbH & Co. KG
Cologne, DE

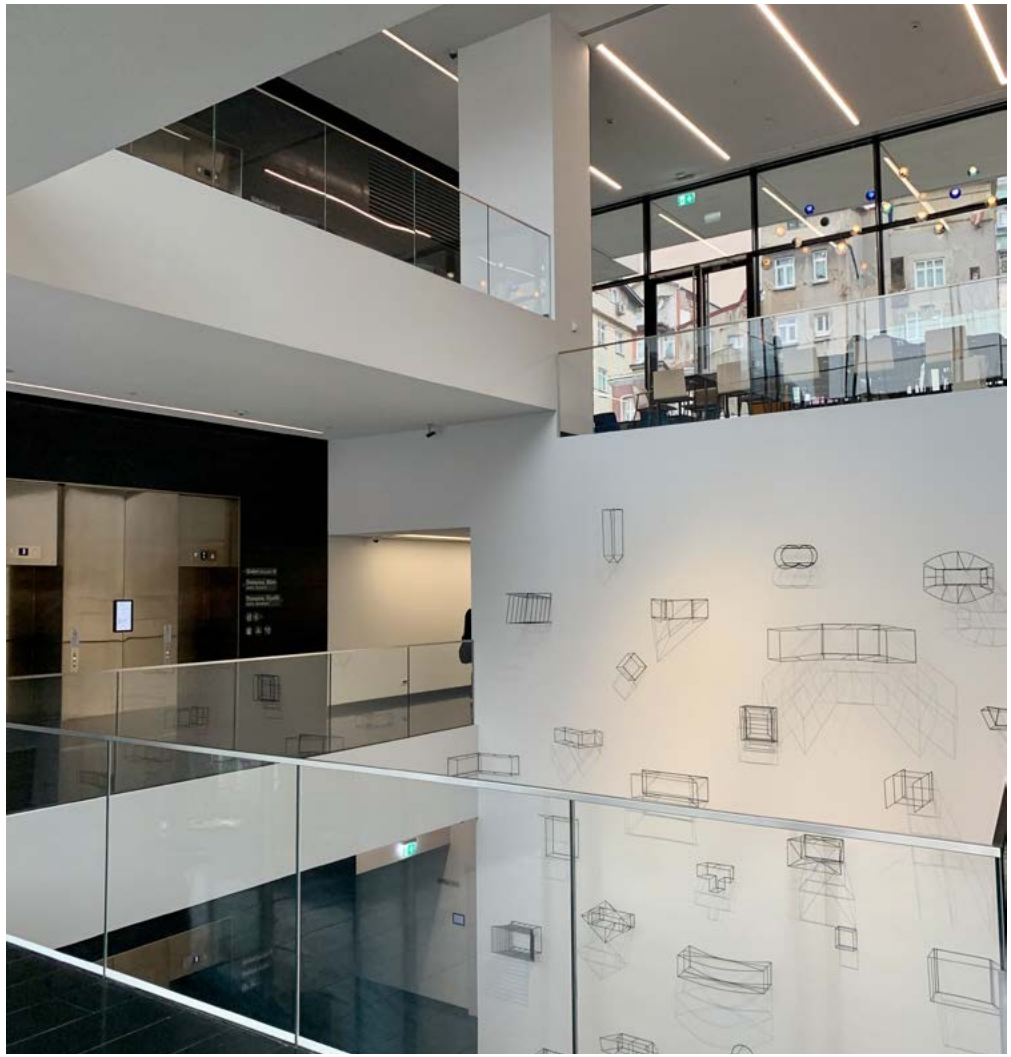
Building owner: Dr. Jean Bausch GmbH & Co. KG, Cologne, DE
Planning: Thea Löhr Architektin, Cologne, DE
Execution: Grahovic Bau, Leverkusen, DE
Sto expertise: StoSilent Modular 230, StoSilent Distance S, StoSilent Board 110 S
Photo: Guido Erbring, Cologne, DE

MAC II Museum Art & Cars 2
Singen, DE

Building owner: Hermann Maier and Gabriela Unbehaun-Maier, Singen, DE
Planning: Daniel Binder, Gottmadingen, DE
Execution: Tip-Top-Bau GmbH, Hilzingen, DE
Sto expertise: StoSilent Distance S, StoSilent Board 310, StoSilent Decor M, StoSilent Decor MF
Photo: Martin Baitinger, Böblingen, DE

Arter
Istanbul, TR

Building owner: Vehbi Koç Foundation, Istanbul, TR
Planning: Grimshaw Architects, London, UK
Execution: Baf Control, Istanbul, TR
Sto expertise: StoSilent Distance S, StoSilent Board 110 S, StoSilent Decor M, StoSilent Decor MF
Photo: Cemal Emden, Istanbul, TR



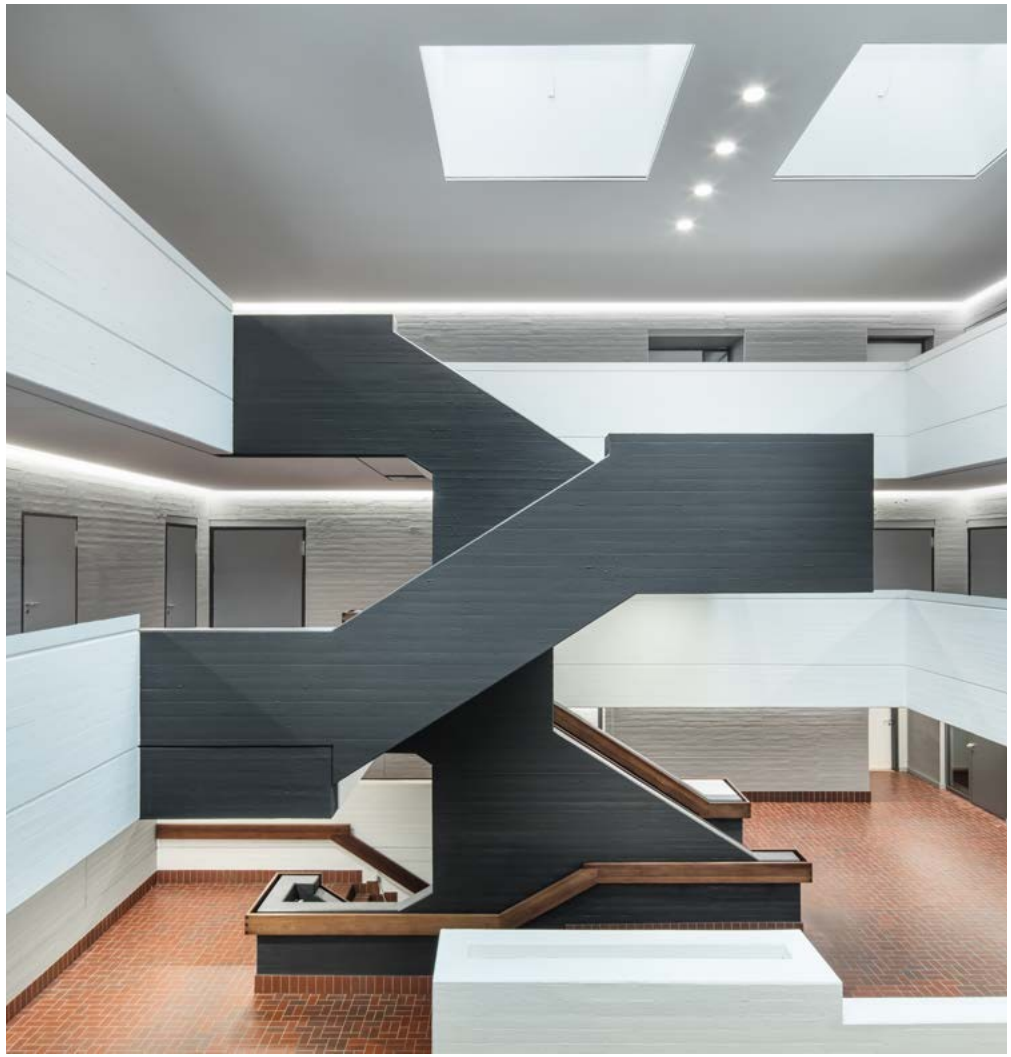
The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

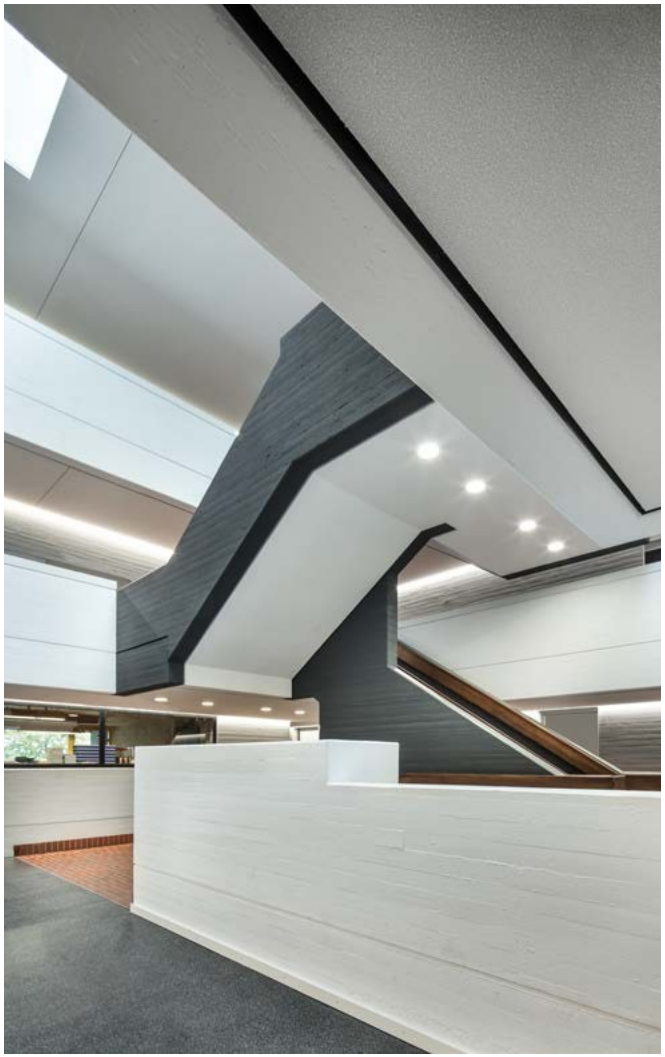
Operation Smile Clinic
Oujda, MAR

Building owner: Fouzia Mahmoudi, Oujda, MAR
Planning: Bea Sennewald, London, UK
Execution: Webb Yates Engineers ltd., London, UK
Max Fordham, London, UK
Sto expertise: StoTherm Classic, StoSignature, StoSilent Distance S, StoSilent Decor M
Photo: –

Vocational schools
Donaueschingen, DE

Building owner: Landratsamt (administrative district office), Villingen-Schwenningen, DE
Planning: Formgewand, Stühlingen, DE
Application: Stuckateurbetrieb Gemeinder, Donaueschingen, DE
Sto expertise: StoSilent Distance S, StoSilent Board 310, StoSilent Decor M
Photo: Martin Baitinger, Böblingen, DE





The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

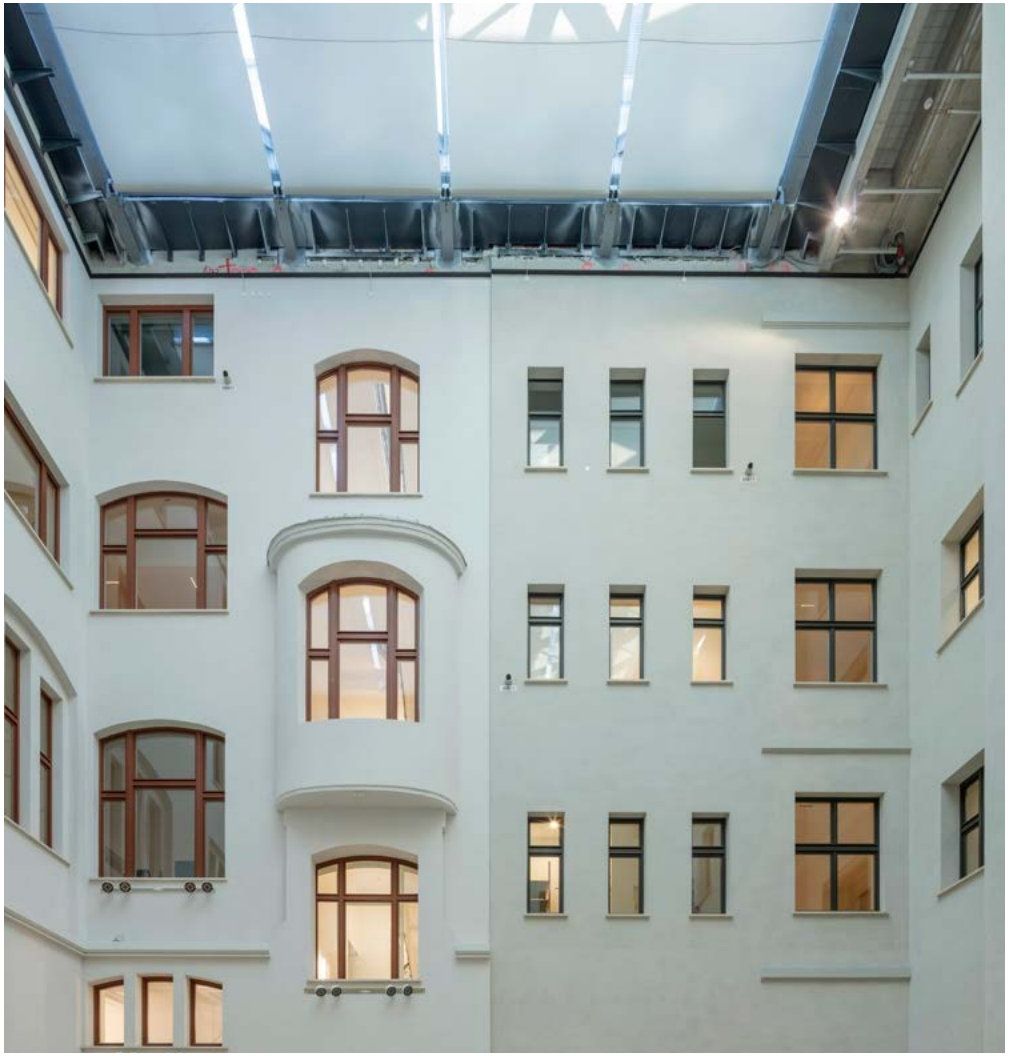
Öschberghof
Donaueschingen, DE

Building owner: Carolin Becker
Planning: Allmann Sattler, Wappner Architekten GmbH, Munich, DE
Execution: Hauch GmbH, Villingen-Schwenningen, DE, Sauter GmbH Putz & Farbe, Singen, DE
Sto expertise: StoSilent Direct, StoSilent Decor M
Photo: Martin Baitinger, Böblingen, DE

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

IHK for Munich and Upper Bavaria (IHK für München und Oberbayern), headquarters
Munich, DE

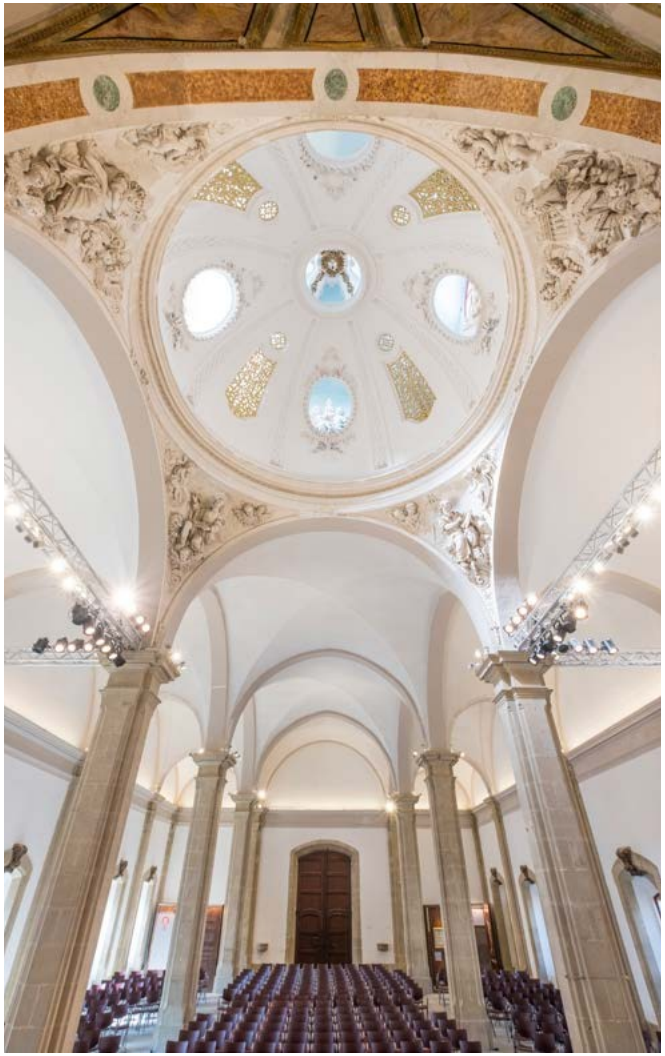
Building owner: IHK für München und Oberbayern, Munich, DE
Planning: Anderhalten Architekten GmbH, Berlin, DE
Execution: BS Verputz GmbH, Munich, DE
Sto expertise: StoSilent Direct, StoSilent Direct Board MW 100, StoSilent Top Basic
Photo: Gerhard Hagen Fotografie, Bamberg, DE



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

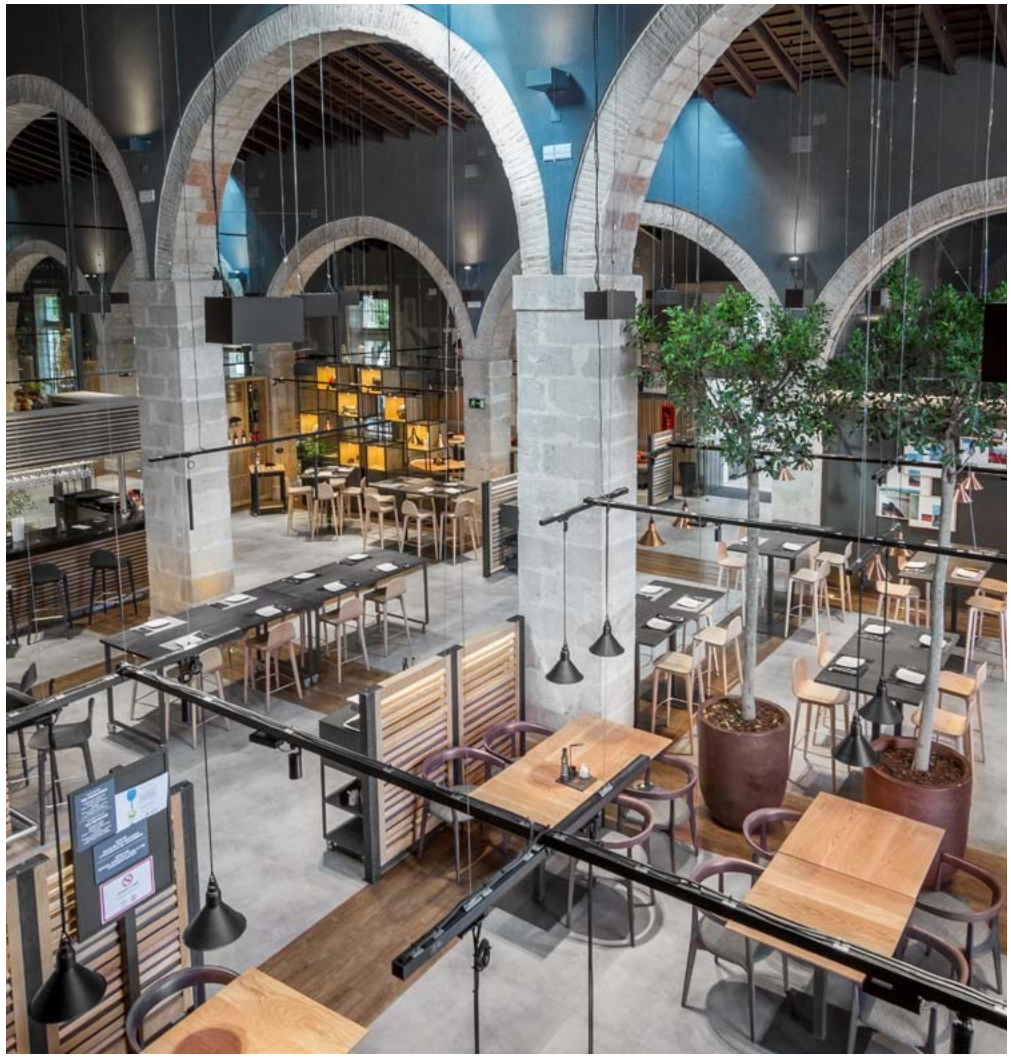
Auditorium of the University of Cervera, ES

Planning: Acústics Ambient S.L., Lleida, ES
Execution: Dolomada Grupo S.L., Lleida, ES
Sto expertise: StoSilent Compact, StoSilent Sil AP, StoSilent Decor M



Restaurant Toro Tapas – Osborne Group
Cádiz, ES

Planning: Estudio Ollero, S.A., El Puerto de Santa María, Cádiz, ES
Execution: Albam Técnicas de la Construcción S.L, Granada, ES
Sto expertise: StoSilent Compact, StoSilent Sil AP, StoSilent Decor MF



New building: Post Sportverein e.V.
Augsburg, DE

New building: Post Sportverein Augsburg e.V., Augsburg, DE
Planning: Kögl Architekten, Neusäß-Steppach, DE
Execution: TM Ausbau, Puchheim, DE
Sto expertise: StoSilent Modular 100
Photo: Martin Baitinger, Böblingen, DE

Primary and secondary school FFB Nord
Fürstenfeldbruck, DE

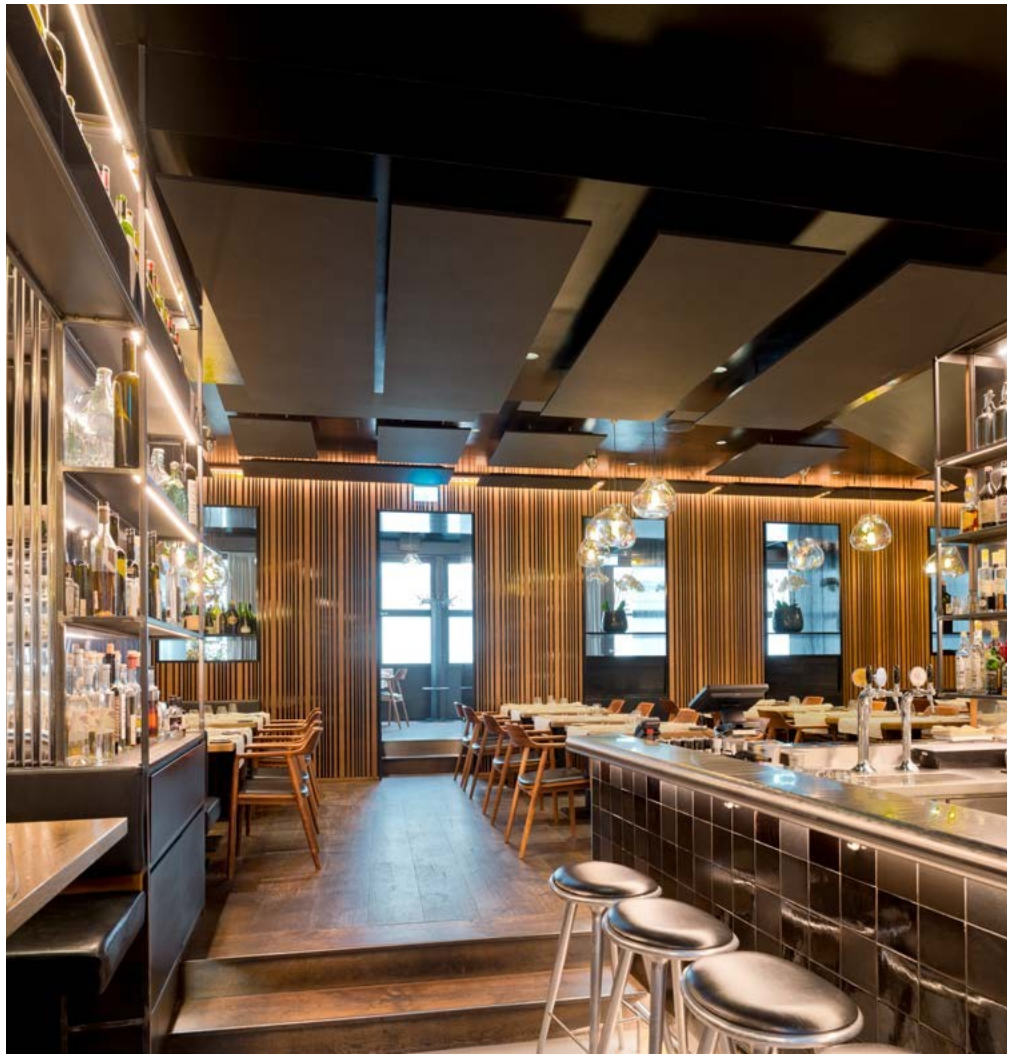
Building owner: Große Kreisstadt Fürstenfeldbruck, DE
Planning: Claus Reitberger, Fürstenfeldbruck, DE
Execution: Leierer Malerbetrieb GmbH, Landsberied, DE
Sto expertise: StoSilent Modular 100
Photo: Martin Baitinger, Böblingen, DE

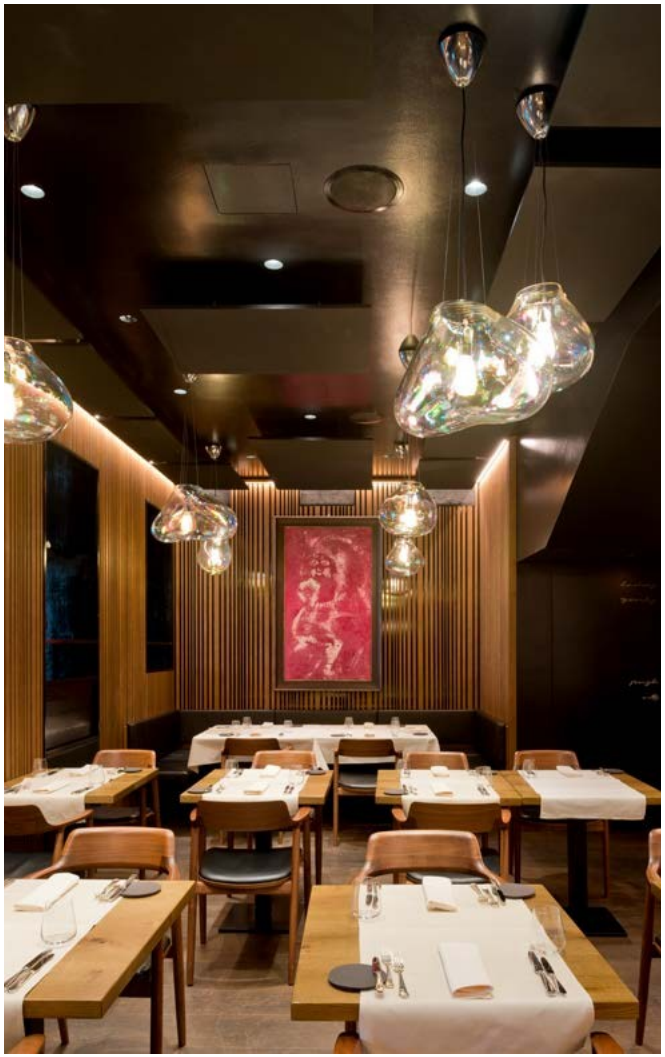
Casino Milupa
Fulda, DE

Building owner: Casino Milupa, Fulda, DE
Execution: Klüber Putz GmbH, Künzell, DE
Sto expertise: StoSilent Modular 230
Photo: Gerhard Hagen

Das Spittelberg
Vienna, AT

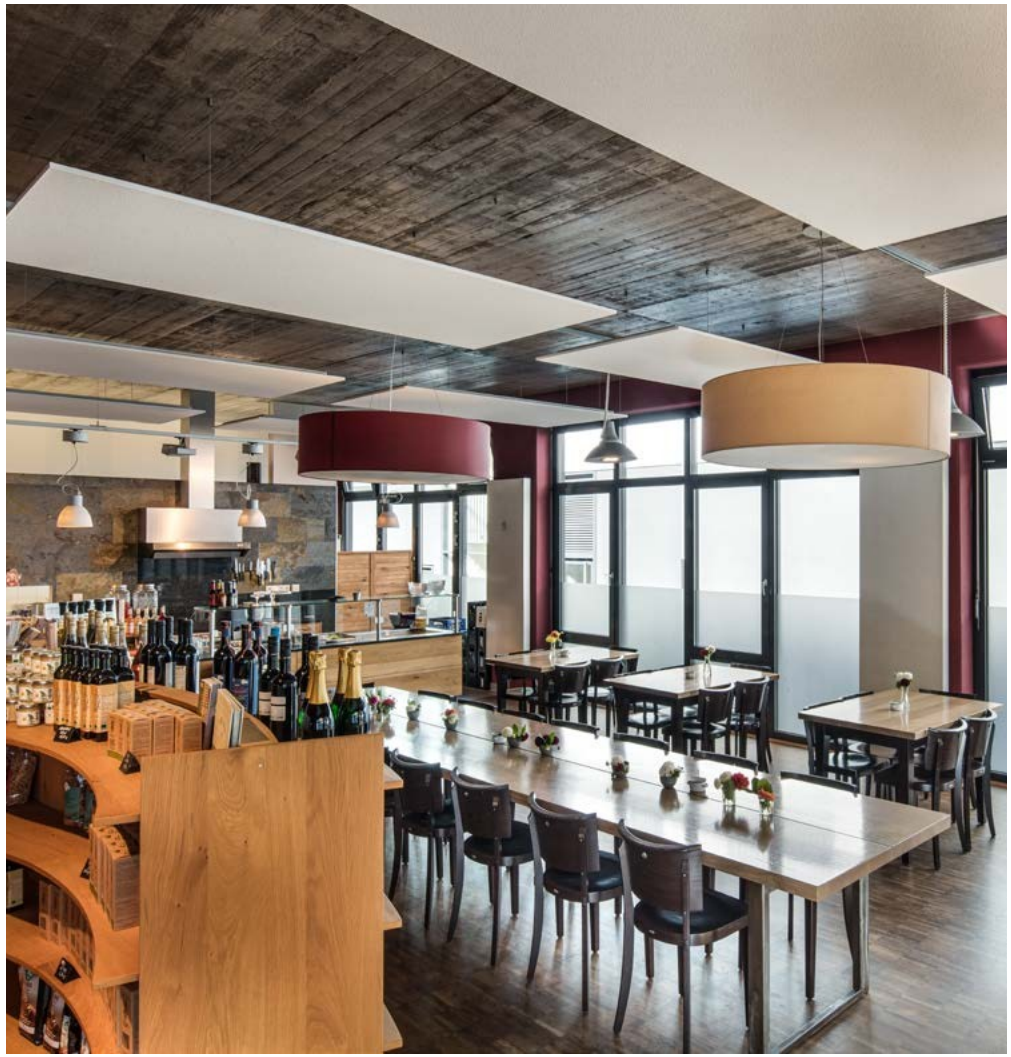
Execution: Fenz GmbH, Laa an der Thaya, AT
Sto expertise: StoSilent Modular 230
Photo: Christian Schellander, Villach, AT





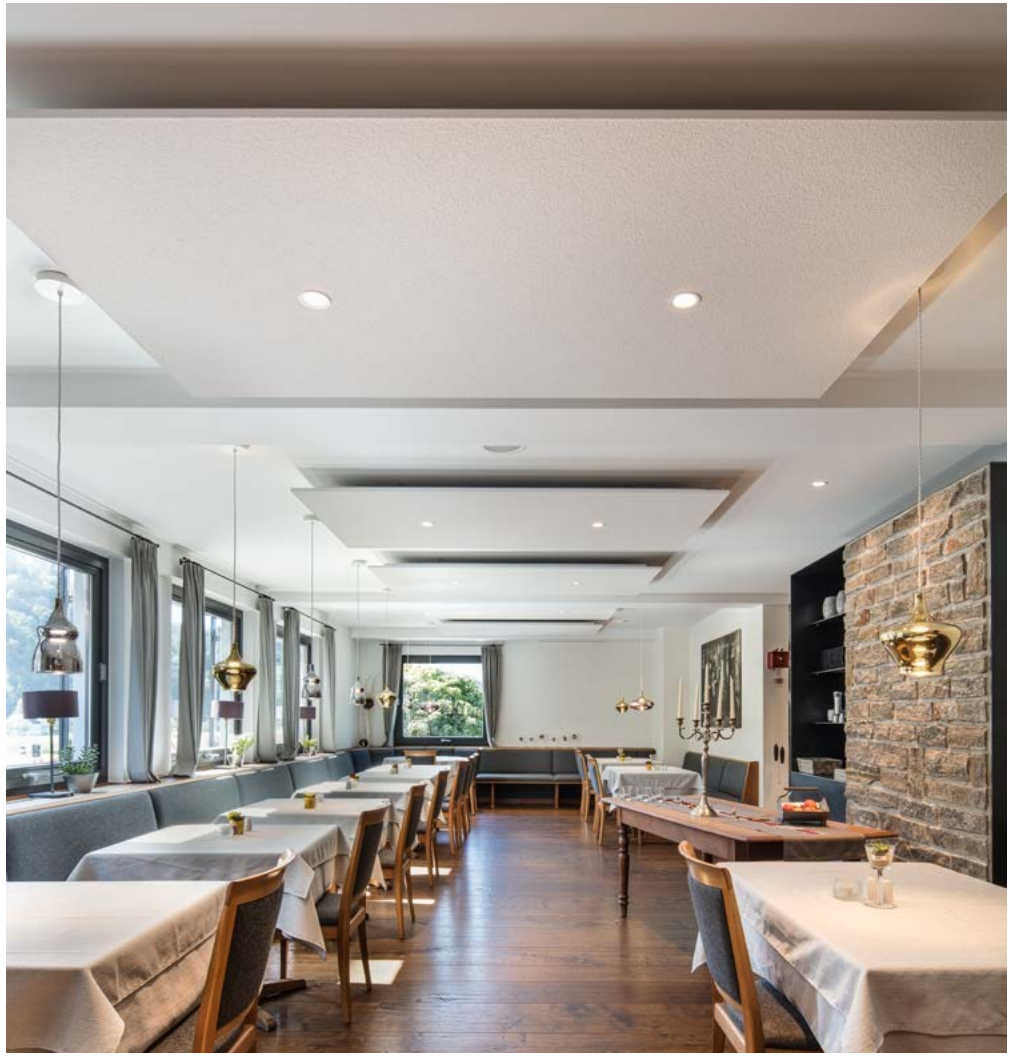
Safran organic catering
Radolfzell, DE

Building owner: Safran organic catering, Radolfzell, DE
Execution: Niederberger Putz & Stuck, Singen, DE
Sto expertise: StoSilent Modular 230
Photo: Martin Baitinger, Böblingen, DE



Kirnbacher Hof
Wolfach-Kirnbach, DE

Building owner: Kirnbacher Hof, Wolfach-Kirnbach, DE
Execution: Gipser Hilberer GmbH, Lahr, DE
Sto expertise: StoSilent Modular 230
Photo: Martin Baitinger, Böblingen, DE



The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

St. Gallus day-care centre
Merzhausen, DE

Building owner: Catholic church, DE
Planning: Werkgruppe Freiburg, Freiburg, DE
Execution: Hermann Emter GmbH, Freiburg, DE
Sto expertise: StoSilent Modular 230, StoSilent Decor M
Photo: Oliver Kern, Freiburg, DE

StoSilent Decor

General information
The StoSilent Decor coating system comprising the StoSilent Decor M and StoSilent Decor MF finishes 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 surface at a later date with commercially available paint using a paint brush or a roller is not permitted. Overcoating blocks the open pores required for sound absorption. 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 texture of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If work is still required on the system despite having taken all precautionary measures, 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.

Local soiling
Local soiling directly on the surface of StoSilent Decor can often 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 must be performed as described in the paragraph "Renovation for full-surface soiling".

Renovation
Before carrying out any renovation work, the cause of the soiling and/or damage must always be identified – particularly when the filled spots are affected by marking/stains as a result of airflow through ceiling boards due to acoustic panels having been left open on the rear side or having been installed incorrectly. 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
The existing finishing coat must be carefully removed by sanding or wetting, and then knocking off the material from a small area encompassing the damage.

In the event of damage to the board surface (fleece or mesh surface on StoSilent Board), 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 finishing coat surrounding the damaged areas must then be covered.

Apply StoSilent Decor 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.

Once the touched-up areas have dried, StoSilent Decor must be sprayed over a slightly wider area. After drying, carefully break the tips of the finishing coat in the touched-up area using a large tool (finishing spatula). 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 of StoSilent Decor to the entire surface.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Decor

Renovation for full-surface soiling
Soiling covering the entire surface must be removed carefully with the aid of an industrial vacuum cleaner with a brush attachment. The entire surface should then be overcoated with StoSilent Decor. In accordance with the up-to-date technical documentation from Sto SE & Co. KGaA, StoSilent Decor 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 by the StoSilent Decor Technical Data Sheet must be strictly observed.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Top Basic

General information
StoSilent Top Basic is only approved for use as a finishing coat if the colour version is selected.

The StoSilent Top Basic finishing coat 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 blocks the open pores required for sound absorption. 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 texture of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If work is still required on the system despite having taken all precautionary measures, 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.

Local soiling
Local soiling directly on the surface of StoSilent Top Basic can often 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 must be performed as described in the paragraph "Renovation for full-surface soiling".

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

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

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

Renovation
Before carrying out any renovation work, the cause of the soiling and/or damage must always be identified – particularly when the filled spots are affected by marking/stains as a result of airflow through ceiling boards due to acoustic panels having been left open on the rear side or having been installed incorrectly. 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 carrying out a local repair. 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.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Top Basic

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 having to knock off the covering layer locally beforehand.
- Fill the damage with excess StoSilent Top Basic using a bucket 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 for full-surface soiling

- Moisten the entire surface with clean water using a pressure sprayer or backpack sprayer and allow the moisture to soak in for approx. 10 minutes.
- Completely scrape off the StoSilent Top Basic finishing coat using a plastering 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.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Top Finish

Maintenance and use instructions for StoSilent Top Finish

General information
The StoSilent Top Finish finishing coat 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 blocks the open pores required for sound absorption. 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 texture of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If work is still required on the system despite having taken all precautionary measures, 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 directly on the surface of StoSilent Top Finish can often 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 must be performed as described in the paragraph "Renovation for full-surface soiling".

Overcoating with StoSilent Decor
If the StoSilent Top Finish surface is undamaged, light soiling can be concealed by applying a StoSilent Decor full-surface overcoat. As StoSilent Decor has a significantly different surface texture from StoSilent Top Finish, this type of overcoat must be approved by the client after applying a test surface of at least 5 m². StoSilent Decor is to be applied in accordance with the valid Sto SE & Co. KGaA application guidelines.

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

Renovation
Before carrying out any renovation work, the cause of the soiling and/or damage must always be identified – particularly when the filled spots are affected by marking/stains as a result of airflow through ceiling boards due to acoustic panels having been left open on the rear side or having been installed incorrectly. 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 carrying out a local repair. 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

StoSilent Top Finish

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 having to knock off the covering layer locally beforehand. Fill the damage with excess StoSilent Top Finish using a bucket 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 edge zone; this generally results in the area that has been touched up remaining slightly visible (similar to the appearance of a water stain).

Renovation for full-surface soiling

- Moisten the entire surface with clean water using a pressure sprayer or backpack sprayer and allow the moisture to soak in for approx. 10 minutes.
- Scrape off StoSilent Top Finish with the plastering 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.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoColor Climasan / StoColor Silent

Maintenance and use instructions for StoColor Climasan / StoColor Silent

General information
The StoColor Climasan and StoColor Silent finishing coats 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.

A coat of commercially available paint must never be applied to the ready-coated surface at a later date with a paint brush or a roller. Overcoating blocks the open pores required for sound absorption. 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 ready-coated surface, clean protective cotton gloves must be worn while working on the system.

Avoid any damage to the surface, 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 soiling and blocks the open-pored structure of the acoustically effective surface. This is therefore to be avoided.

If work is still required on the system despite having taken all precautionary measures, this work must only be performed by applicators who have been professionally trained in the installation of StoSilent acoustic ceilings. The work carried out by the tradesperson has a particularly significant effect on the acoustic performance and appearance of the system. Therefore, it must be performed with the utmost precision.

Removing soiling

Local soiling
Light soiling can be removed by using appropriate aids to target the affected areas, e.g. a sponge that has been moistened with water. Do not allow the moisture to penetrate the surface, as this can cause the finishing coat to peel off.

Full-surface soiling
If a full-surface overcoat is required, one or two spray coatings of StoColor Climasan or StoColor Silent should be professionally applied (applied quantity of approx. 150 – 300 g / m²) until a visually even surface appearance is achieved. More than two application cycles may be necessary in order to cover soiling.

Overcoating with StoSilent Decor
If the StoColor Climasan or StoColor Silent surface is undamaged, an alternative way of concealing light soiling is to apply a full-surface overcoat of StoSilent Decor Decor. As StoSilent Decor has a significantly different surface texture from StoColor Climasan or StoColor Silent, this type of overcoat must be approved by the client after applying a test surface of at least 5 m². StoSilent Decor is to be applied in accordance with the valid Sto SE & Co. KGaA application guidelines.

Renovation
Before carrying out any renovation work, the cause of the soiling or damage must always be identified – particularly when the filled spots are affected by marking / stains as a result of airflow through ceiling boards due to acoustic panels having been left open on the rear side or installed incorrectly, or as a result of water stains. 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 surface can be touched up by carrying out a local repair. 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

StoColor Climasan / StoColor Silent

nature have been completed. Damage to the surface must be compensated by applying the relevant finishing coat to make the surface level. Once the local damage has been touched up, the surrounding finishing coat must be flush with the area that has had the overcoat applied to it. Visible transitions in height and surface texture must be avoided. For information on how to repair local damage with an overcoat, please see the section on "Renovation in cases of local soiling and/or damage" for the relevant type of finishing coat.

At the end of the finishing coat through-drying time, an overcoat of StoColor Climasan/StoColor Silent can be applied using one to two application cycles.

Renovation for full-surface soiling
Soiling covering the entire surface must be removed carefully with the aid of an industrial vacuum cleaner with a brush attachment. A thin and even overcoat of StoColor Climasan or StoColor Silent should then be applied to the entire surface. One or two spray coatings of StoColor Climasan or StoColor Silent should be professionally applied (applied quantity of approx. 150–300 g/m²) until a visually even surface appearance is achieved. More than two application cycles may be necessary in order to cover soiling.
Particularly in the context of spraying on the colour coating, the work carried out by the tradesperson greatly affects the acoustic performance and the appearance of the ceiling element. Therefore, it must be performed with the utmost precision.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Modular

StoSilent Modular 100

Parameters
- 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 clean white cotton gloves.

StoSilent Modular 230

General information
The fine-textured colour coating of the StoSilent Modular 230 system 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. A coat of commercially available paint must never be applied to the colour coating at a later date with a paint brush or a roller. Overcoating blocks the open pores required for sound absorption. In turn, this significantly reduces the acoustic effectiveness of the ceiling element. Renovations are to be performed solely in accordance with the specifications of Sto SE & Co. KGaA. In order to avoid soiling the ceiling surface, clean protective cotton gloves must be worn during installation and when working on the ceiling element. Avoid causing any damage to the StoSilent Modular 230 system during installation, for example do not stand the elements on edge and avoid knocking the edges. If work is still required on the ceiling element despite having taken all precautionary measures, this work must only be performed by applicators who have been professionally trained in the installation of StoSilent acoustic ceilings. The work carried out by the tradesperson has a particularly significant effect on the acoustic performance and appearance of the StoSilent Modular system. Therefore, it must be performed with the utmost precision.

Removing local soiling
Light local soiling can be removed with white melamine resin foam. Carefully rub the dry melamine resin foam over the soiling until the dirt disappears from the surface. If the dirt cannot be removed, moisten the melamine resin foam and carefully repeat the process. Once the treated area has dried, carefully blow the surface with compressed air. 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 preserved. Rubbing the surface with melamine resin foam is an abrasive process. Depending on the incidence of light and viewing angle, differences in the surface texture may become visible as a result of the abrasion.

Renovation for full-surface soiling
Soiling covering the entire ceiling element surface must be removed carefully with the aid of an industrial vacuum cleaner with a brush attachment. A thin and even overcoat of StoColor Opticryl Matt should then be applied to the entire ceiling area. One or two spray coatings of StoColor Opticryl Matt should be applied (applied quantity of approx. 150–300 g/m²) until a visually even surface appearance is achieved. More than two application cycles may be necessary in order to cover soiling. Particularly in the context of spraying on colour coatings, the work carried out by the tradesperson greatly affects the acoustic performance and the appearance of the ceiling element. Therefore, it must be performed with the utmost precision.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Coated Reapor acoustic panel

StoSilent Board R 400/StoSilent Baffle R 100

General information
Light soiling must be removed carefully with the aid of an industrial vacuum cleaner with a brush attachment.

Ingrained soiling on the surface can be removed with soapy water and aids such as a clean, damp sponge or a clean, damp soft brush.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

StoSilent Compact

General information
The StoSilent Compact coating system comprising the StoSilent Compact Miral and StoSilent Compact Sil finishing coats 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 blocks the open pores required for sound absorption. 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 texture of the acoustically effective ceiling surface to become clogged. This is therefore to be avoided.

If work is still required on the system despite having taken all precautionary measures, 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 Miral AP
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 touch-up with StoSilent Miral AP. This involves filling the material in the relevant places using a bucket 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

Application cycle 5
Spray the coating over the surface. One to two additional layers of StoSilent Miral AP are sprayed onto the entire surface using suitable machine technology (e.g. Sto-Hopper Gun).

StoSilent Sil AP
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 touch-up with StoSilent Sil AP (Comp. A and Comp. B). This involves filling the material in the relevant places using a bucket trowel.

Application cycle 3
Overcoating with StoSilent Decor. Overcoat the entire surface with one to two spray layers, as required, using suitable machine technology (e.g. Sto-Hopper Gun).

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Glossary

Even in the ancient world, construction works were designed to take account of acoustic factors. World-famous semi-amphitheatres and amphitheatres that are thousands of years old can be found far and wide, from the Mediterranean area right through to Great Britain. With their simple yet ingenious construction methods, these treasures of antiquity still have the power to amaze onlookers and "onhearers" alike. Distinguished theatres, opera houses, and concert halls exist all over the world. What's more, acoustics have become ubiquitous in everyday life, whether in the form of the speech or music that we choose to listen to or the invasive noise over which we have no control.
Acoustics is the branch of physics that focuses on describing and calculating sound in the broadest possible sense. Sound is absolutely everywhere – an essential factor for health and well-being, communication, and relaxation; and also very important from an economic perspective.
StoSilent is primarily concerned with room acoustics. The applications are as diverse as the requirements associated with each one.
However, StoSilent also offers solutions for the tasks of building acoustics and sound immission protection, which are encountered in various guises within the context of further applications.
Rooms and buildings of every conceivable type are targeted, encompassing not only the applications and uses covered by directives and standards but also voluntary use in private homes.
StoSilent offers solutions that make a direct impression on the ear and immediately attract the eye.
StoSilent – sets the tone in acoustics.

Absorption
In this document, sound absorption means the energy loss that is achieved by damping the impacting airborne sound within suitable textures, constructions, and materials. Sound-absorbing materials such as foam structures, fibre insulating materials, or fabrics are porous absorbers. Oscillating boards act as membrane absorbers in accordance with the mass-spring principle. Resonance absorbers trap sound by relying on holes that are located in front of an enclosed cavity. The level of absorption generally depends on the frequency and operating principle of the absorber concerned.

Degree of absorption
In this document, the term sound absorption coefficient refers to the degree of absorption. It describes the ratio between the sound energy that is absorbed by a material (i.e. not reflected) and the impacting sound energy that hits the surface of the material. The possible values range from 0 (corresponding to full sound reflection) to 1 (corresponding to full absorption). The sound absorption coefficient is dependent on the frequency.

Acoustics
The study of sound and its propagation. The field of construction is primarily concerned with room and building acoustics, protection against structure-borne noise, and sound immission protection.

Room-acoustic requirements
Room-acoustic requirements for the parameters in question are set based on standards, directives, legal specifications, and general technology rules, but also based on relevant literature and expertise. These parameters include reverberation time, background noise, sound distribution, acoustic quality, and masking.

Equivalent sound absorption area A_{eq}
Defined as the product of surface S of an absorber in m² and the degree of absorption α of the absorber. The equivalent sound absorption area A_{eq} is specified in m² and, just like the sound absorption coefficient itself, is dependent on the frequency. It refers to an abstract model area for a surface S material with a sound absorption coefficient of 1, and is used to represent the real material under consideration. In a reverberant room with a diffuse sound field, the model area would absorb the same amount of sound energy as the surface of the real absorber material under consideration. For instance, a smooth 100 m² concrete area with a sound absorption coefficient of 0.01 has an equivalent sound absorption area of 1 m², which is exactly the same as for a 1 m² fibre insulating material with a sound absorption coefficient of 1.00. In areas following the US system, the sabin is used as the unit for the sound absorption area. A sound absorption area A of 1 m² is defined as 1 metric sabin.

Equivalent sound absorption area per A_{Object}
For individual objects such as ceiling elements and wall panels, but also including furniture and people, the equivalent sound absorption area A_{eq} is specified in m² and defined as equivalent sound absorption area per object A_{obj}.

A/V ratio
Refers to the ratio between the total sound absorption area A in m² within a room and the volume of the room V in m³. It is a significant planning variable for flat rooms such as industrial buildings and open-plan offices.

Diffraction
Refers to the manner in which sound waves are physically diverted when they strike edges, obstacles, and boundary surfaces. As part of this process, sound waves also bend around edges and three-dimensional bodies. The diffraction is dependent on frequency and is also determined by the ratio between the sound wavelength and the spatial dimension of the obstacle.

Weighted sound absorption coefficient
Single-number frequency-independent value obtained using the standardised weighting method and which equals the value of the reference curve at 500 Hz after it was shifted as specified in the international standard EN ISO 11654. This method is based on the practical sound absorption coefficients α_p.

Diffuse sound field
Describes a sound field in rooms, whereby the sound incidence remains consistent at virtually every point (almost) regardless of the direction of sound incidence. A diffuse sound field is achieved when the boundary surfaces of the room do not merely reflect sound geometrically but also scatter it diffusely (by acting as diffusers). Furnishings also scatter sound and can increase the level of diffusion. Having a diffuse sound field that distributes sound evenly within the room is a prerequisite for planning the room acoustics of auditoria.

Diffuser
A building element or sculptural shape that disperses impacting sound waves so that the sound is distributed evenly within the room. In this way, multiple reflections between parallel surfaces – also known as flutter echoes – can be avoided. The effect is dependent on the ratio between the dimensions and the sound wavelength.

Direct sound
Proportion of the sound emanating from a sound source that reaches the listener directly without first being reflected.

Echo
Refers to the reflection of a sound signal that arrives at the reception point so much later than the direct sound that it is perceived as a separate auditory event. The time lag between the arrival of the direct sound and the arrival of the subsequent reflection must be at least 30 ms, or closer to 50 ms, in order for the reflection to be perceived as an echo. Within the context of room acoustics, echoes are a nuisance because they generally reduce speech intelligibility and make music less enjoyable.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

Glossary

Flutter echo
Multiple reflections which occur at periodic time intervals and may be caused by sound-reflecting surfaces arranged in parallel within rooms. Flutter echoes interfere with room acoustics and must be prevented by implementing suitable geometric measures or installing some kind of sound-absorbing material.

Shape indicators L, M, H
Indication showing practical sound absorption coefficients α_p, exceeding those of the shifted reference curve in accordance with EN ISO 11654 by at least 0.25 in different 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.

Extraneous noise
Also: background noise, noise level, in open-plan offices in accordance with EN ISO 3382-3; the unweighted sound pressure level SPL of the extraneous noise LpB in decibels at the workplaces along the measurement path during working hours when people are absent. It is used as a planning parameter for room acoustics. It is determined by noise from mains utilities, neighbouring rooms, and noise from outside.

Frequency
Within the context of acoustics, the frequency f of sound waves means the number of oscillations per second. The unit is hertz with the symbol Hz. The frequency determines the pitch heard by the listener.

Critical distance
In enclosed rooms, this describes the distance r_H in metres from a sound source at which the direct and reverberant sound levels are equal, assuming a static sound field. The critical distance is determined by the sound absorption area within the room, the volume of the room, and – in turn – the reverberation time. Consequently, it is dependent on frequency. In reverberant rooms, the critical distance is small but in dampened rooms it tends to be quite large.

Reverberation chamber
A special acoustic laboratory with a set geometry and volume and whose reflective surfaces result in long reverberation. Reverberation chambers meeting the requirements of EN ISO 354 or ASTM C423 are used, among other things, to determine the sound absorption coefficient α_s of materials, building materials, systems, and individual elements. This is determined indirectly by measuring the reverberation time with and without test bodies that must be produced in accordance with the applicable standards.

Auditory range
The human auditory range (also known as the auditory field) lies roughly within the frequency range of 20 Hz to 20,000 Hz, and encompasses a noise level range that starts at the 0 dB hearing threshold and ends at the 140 dB threshold of discomfort. The upper and lower values of the frequency and noise level ranges are also known as the limits of audibility. The limits of audibility vary significantly from one person to another. As people get older, their ability to hear high frequencies diminishes and their hearing threshold increases, thereby reducing their auditory range. The same effect occurs in the event of hearing damage.

Acoustic quality
Generic term describing the impact of acoustic properties in a room designed to provide auditory experiences, e.g. music or speech, as perceived at the location of the listener.

Hearing threshold
The highest level that can be heard by the human ear is approx. 140 dB, which is identified as the pain threshold.

Noise
Refers to sound and noises that are unwanted, disturbing, stressful, or even harmful to health. The manner in which the sound is perceived and evaluated by the individual hearer is what determines whether or not it is regarded as noise.

Loudness
A psychoacoustic quantity that describes how sound is individually evaluated by a particular person in terms of its perceived volume. Loudness is given in the unit *phon* and is not to be confused with volume.

Volume
A technical quantity that describes the physically measurable amplitude of the sound, or in common parlance, its intensity. It generally involves measuring the sound pressure level, which is specified in decibels (dB). Volume is not to be confused with loudness, which refers to how the sound is perceived by particular people.

Masking
Acoustic masking describes the masking of sounds by other sound events. It involves adjusting and tuning the background noise in the room in such a way that background noise is masked or "overlaid", including by active sound sources. It is the preferred tool for adjusting the acoustics in open-plan offices. The ventilation noise overlays and masks the sound transmission of speech throughout the office. This results is increased confidentiality by masking interfering speech over longer distances.

Reverberation
Describes the continuous reflection of sound in enclosed rooms/spaces.

Reverberation time
Amount of time in seconds it takes for the sound pressure level to drop by 60 dB within a room following the end of sound field excitation. The reverberation time is specified in seconds. The reverberation time is a frequency-dependent quantity.

Noise reduction coefficient 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-acoustic planning
Designing rooms according to their purpose, depending on their use as offices, classrooms, foyers, operating sites, theatres, opera halls, and auditoriums. The results of this – mostly tailored – planning include suitable reverberation time, adapted background noise, ideal sound distribution with the aim of acoustic quality, speech intelligibility, and quietness.

Porous absorber
Refers to a foam or fibre material whose texture swallows sound energy through the processes of energy conversion and friction, thereby resulting in sound absorption. The characteristic properties are the porosity, airflow resistance, and structure factor. The thickness of the absorber has a significant impact on the level of sound absorption and the frequency response. Thick absorbers will routinely absorb more sound than thin ones made from the same material.

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 α_s are averaged for the octaves from 125 Hz to 4000 Hz and rounded to 0.05. These values provide the basis for determining the weighted sound absorption coefficient α_w.

Room acoustics
The specialist field of acoustics that deals with the impact of the structural properties of a room on the sound events occurring inside it.

Glossary

Reflection
When a sound wave bounces off a sound-reflecting obstacle of sufficient size (large in relation to wavelength).

Sabin
Designates 1 m² sound absorption area; see also Equivalent sound absorption area $A_{eq.}$

Sabine's formula
A simple equation that quantitatively describes the acoustics of a room. It can be used to calculate the reverberation time if the room volume and sound absorption area are both known. Conversely, if the reverberation time and volume are known, it is possible to calculate the available sound absorption area. Sabine's formula is $T = 0.163\,V/A$ in seconds. ***T*** is the reverberation time in seconds, ***V*** is the volume of the room being filled with sound in m³, and ***A*** is the sound absorption area of the room in m². The constant factor 0.163 includes the 60 dB reduction in the sound pressure level in accordance with the definition of reverberation time. If room volume V is known and the reverberation time T is calculated or measured, the absorption area A in the room can be calculated: $A = 0.163\,V/T$.

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 class
Used to classify the sound absorber in accordance with EN ISO 11654. The classification system provided in Annex B – which is informative rather than normative – is primarily intended for use in connection with broadband noise. The single-number value α_w is used to specify the sound absorption class in accordance with Table 8.1 of the standard. On this basis, the weighted sound absorption coefficients α_w are classified as follows: values 1.00, 0.95, and 0.90 belong to class A, values 0.85 and 0.80 belong to class B, values falling in the range from 0.75 to 0.60 belong to class C, values falling in the range from 0.55 to 0.30 belong to class D, the range 0.2 to 0.15 belongs to class E.
The weighted sound absorption coefficient values α_w falling in the range from 0.10 to 0.00 are not classified at all. The sound absorption classes do not provide an appropriate basis for room acoustics calculations and for verifying the project-specific suitability of an absorber. The absorber categories are not a quality classification for absorbers. Even "non-classified" absorbers can be suitable, e.g. in concert halls, where class A absorbers are completely unsuitable. The best absorbers fit the room in terms of quality and dimensions, regardless of their absorption values.

Sound absorption
Describes the sound energy that gets converted into thermal energy when a sound wave strikes a building element, a surface, or a material. The sound absorption is specified in the form of the sound absorption coefficient α.

Sound absorption coefficient α_s
The sound absorption coefficient α_s describes the capacity of a material to absorb sound. It specifies the ratio between the sound energy absorbed by the material and the impacting sound energy. α is dependent on frequency. The sound absorption coefficient α_s indicates how well a material is able to absorb sound as a function of frequency. It is determined in a reverberation chamber that meets the requirements of EN ISO 354 or ASTM C423.

Sound pressure
Describes the pressure fluctuations that occur in a compressible sound transmission medium (such as air) when sound is propagated. Pressure fluctuations are converted into an auditory sensation by the ear.

Sound pressure level
A logarithmic sound field quantity that is specified as a level in decibels (dB). It is used to describe the intensity of a sound event. The reference value for determining the level is the hearing threshold sound pressure at 1000 Hz, which corresponds to a sound pressure level of 0 dB.

Sound power, sound power level
Acoustic sound energy quantity in watts that describes the sound energy emitted by a sound source over a period of time. It is used to evaluate sound sources and is also expressed as sound power level LW in decibels (dB). It describes the source strength of a sound generator. It can be used in rooms to calculate the sound pressure level Lp if the room volume V and reverberation time T or the sound absorption area A are known. The relationship is $Lp = Lw - 10\log(A/4)$ in dB and applies to diffuse sound fields.

Speech intelligibility
A criterion for room acoustics that describes the quality with which speech is transferred from the speaker to the hearer. When planning the room acoustics of auditoria, the aim is to achieve a level of speech intelligibility that falls somewhere within the range of sufficiently good to excellent.

Speech transmission index (STI)
A measure of speech intelligibility when speech is transmitted from speaker to hearer in a room or via a loudspeaker system. The possible values range from 0 (incomprehensible) to 1 (excellent). When planning the room acoustics of auditoria, the aim is to achieve a level of speech intelligibility that falls somewhere within the range of sufficiently good to excellent along with correspondingly high STI values.

Wavelength
Describes the smallest distance between two points with the same phase on a periodic wave. It is the speed of sound divided by the frequency and is specified in metres. In the case of low pitches with a low frequency, the wavelength is long; in the case of high frequencies, the wavelength is short.

The specific technical specifications and information on the products contained in the Technical Data Sheets and system descriptions/approvals must be observed.

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