



# Construction for health and care

Planning guide and product range

Focus brochure

Facade



Interiors



Acoustics



Floor coating



Cover photo reference:

**Maggie's Cancer Caring Centre, London, GB**

**Architect:** Rogers Stirk Harbour + Partners, London, GB

**Contractor:** Retrofit UK Ltd., Cambridge, GB

**Products:** StoTherm Mineral

**Photographer:** R. Bryant, Arcaid, London, GB

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 the suitability and completeness for the construction project in question. Neighbouring works are described only schematically. All specifications and information must be adjusted or agreed in the light of local conditions and do not constitute work, detail or installation plans. The technical specifications and product information in the Technical Data Sheets and in system descriptions/approvals must be observed.

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# Construction for well-being

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When a person has a complete feeling of well-being, their body will recover faster and more effectively. Creating a space in which people can live is vital in a care setting. So when designing hospitals and care homes, it is imperative to shift away from sterile surroundings and move towards a sense of well-being!



# Focal points: Functional, eco-friendly, cost-effective

Alongside human aspects, the everyday suitability of facades and rooms plays an important role when building health care facilities. Sto understands the vast range of requirements.

When it comes to designing health care facilities, guaranteeing low-emission amenities that promote well-being is therefore absolutely essential.

On the one hand, hospitals and care homes are workplaces with highly functional and specialised facilities. However, patient well-being is affected by the architecture as well as by treatment.

Sto products take account of the special demands relating to hygiene and compatibility. However, they are also able to turn a health care facility into a structure that gives patients a sense that it is not

just their health that matters, but themselves as people.

In addition, the solutions for walls, ceilings, and floors are particularly robust, making them highly suitable for use in everyday working environments.

This brochure provides an overview of the Sto product range while offering inspiration for planners with its images.

Image on right:  
**LKT Baden state clinic, AT**  
Architect: Moser Architects, Vienna, AT  
Products: StoVentec G, Sto interior paints  
Photographer: Christian Schellander, Schiefeling am See, AT





## What's behind an aesthetic glass facade?



### **Architects such as Josef and Marius Moser, who are rethinking the idea of glass in clinic construction.**

This is where a clinic becomes a village – with three structures differentiated by their colour, bright courtyards, lots of green space, and a clear, open, and rounded glass facade, the austere functionality of a hospital is nowhere to be seen. In this area of 60,000 square metres, patients are surrounded by an “intimate and positive environment” where, according to the architects, they are meant to associate the new building with a “village, marketplace, hotel, living space, and garden”. “An ultra-modern health care centre for outstanding medical treatment that also meets sustainability requirements.”

### **Why Sto, Mr Moser?**

The way in which the construction volume is handled, together with the aesthetic appeal and the interior sense of scale, bring the human dimension to the forefront. As a region known for its thermal springs, Baden is synonymous with nature and natural remedies. The new clinic reflects this idea, and not just through its extensive green spaces. The facade technology, invisible beneath the immaculate glass panel surface, also speaks the language of sustainability.

# Effect of colours in intensive care scientifically proven

After several years of research, the results of the “Helios” study are encouraging others to follow suit, with satisfied patients and nurses as well as a new coat of paint in a host of patient rooms.

“Experience teaches us that particular colours excite particular states of feeling.” The team led by Dr Axel Buether from the University of Wuppertal wanted to get to the bottom of this simple quote from Johann Wolfgang von Goethe in the context of their research methodology. Their scientific laboratory was the B2-2 unit, the largest intensive care unit at the Helios University Hospital Wuppertal. Dr Gabriele Wöbker, chief physician at the intensive care clinic, defined the scope of the research as 15 patient rooms, 21 beds, and 4 doctor’s rooms.

The first step was to determine colour preferences and proportions by applying a participative method. The long corridor was coloured at rhythmical intervals to make it appear shorter. This made sure that the central entrance area and the adjacent nurses’ room remain visible from any position in the corridors. In the process, colour was established as a permanent guide.

The next step was to determine the colours on the walls of the 15 patient rooms. A distinction was made between designs that were intended to be relaxing or exciting for patients. Ward areas for patient communication, waiting areas, and staff areas were designed in different colours. “The goal was not to develop a blueprint for effective colour designs in clinics,” writes Dr Buether in his study. “Each room is used to serve people. The room must ... be redeveloped over and over again from the location.”

The results of the study showed significant improvements in the quality of patient stays as well

as experience among patients and staff. Within a year, the rate of sick leave among staff on the ward fell by 35.37 % when compared with the two previous years. During the period under assessment, patients perceived the doctors and care staff to be much more relaxed. More than 50 % of patients surveyed used the descriptive terms “nicer”, “more exciting”, and “more inviting”.

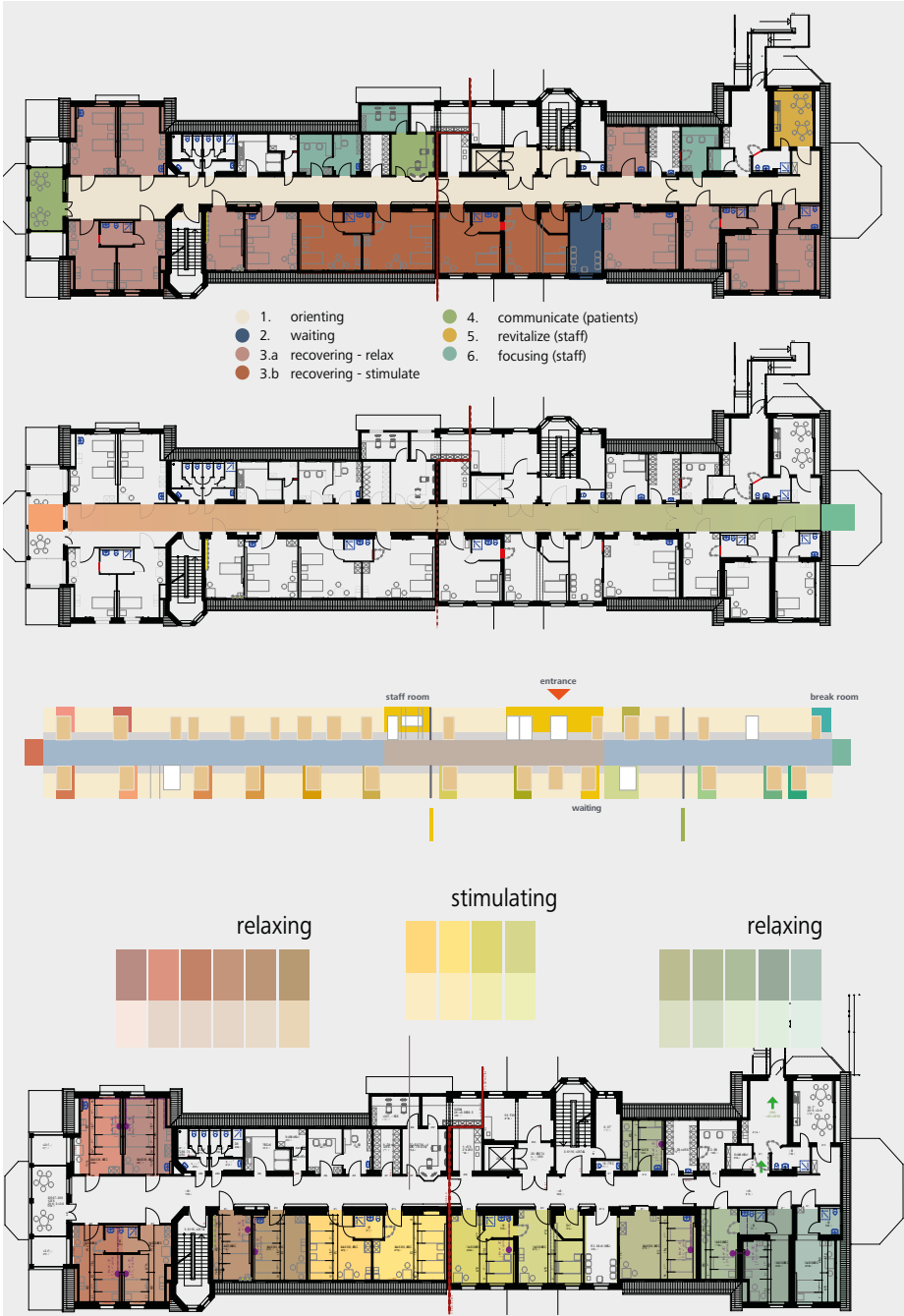
Dr Buether rounds off the study by offering the following insight: “A few resources, such as wall paints and illuminants, are all that is needed to effect a complete transformation in perception. Hospitals can be turned into places of recovery.”

Image on right:  
**Colour concept for the intensive care unit**  
Initial selection with function at the top, guide colours for the corridor in the centre, and fine shading in the patient rooms at the bottom.

**Before/after picture documentation**  
Corridors and patient rooms used to be sterile in appearance, but now their colours provide guidance and a feeling of relaxation or excitement. (Photos: Axel Buether)



# Three questions for Dr Axel Buether



## What significant improvements does colour bring to an intensive care unit?

As factors in a room, colour and light have an effect not only on the architectural space but also on medical care. The impression given by the common rooms and patient rooms was described by the patients as an “atmosphere of well-being” and leads to more effective care. Following the renovation, the rating given by patients for the care activities increased by 28%.

## Can colour really help someone recover?

A significant reduction in consumption of drugs was achieved. No significant changes were identified in relation to benzodiazepines. There were significant changes in relation to acute antipsychotics (haloperidol, risperidone, chlorprothixene, etc.). In the comparison period, consumption fell by 30.1% on average.

## Will colour be a consideration in the future when designing hospitals?

After speaking with managers in health care, and with journalists and specialists in the field, I am very optimistic that colour design in health care facilities will play a significant role in the future in renovations and conversions and in new buildings.



# Sterile with style: A colour concept for a clinic

The white coat creates distance. And so do sterile, white rooms in hospitals. The team at Janiesch-Farbenplanung explains why it makes sense to use colour systematically in a care setting.

“The biggest challenge was to mediate between traditional, long-established expectations and the conception of a pure white clinic,” explains Hermann Janiesch. As a qualified colour consultant of the IACC, Janiesch shares responsibility for the colouring at the state hospital in Klagenfurt with his wife, who is an architect.

A century has passed since Robert Koch and Ignaz Semmelweis proved that bacteria and viruses are not only spread through the air but also on hands and even clothing. It is clear that any hazardous soiling is more quickly identifiable on white surfaces. It is also clear that the white coat has become established as a status symbol. But does this make white the right colour for everything?

Hermann Janiesch has used his expertise to counter this assumption: “In addition to the emotional effect of colours, which we have been researching for years and discussing with research institutes, using colours as a guide is of central importance in the state hospital.” Any prejudices were soon broken down through careful preparation and a clear and thorough presentation of the colour concept that could be understood by all involved. There were frequent conflicts when it came to transferring the colour concept to the architecture. It was possible to prevent the overall concept from being watered down by finding an appropriate resolution.

But returning to the colour concept itself, the development of the concept was initiated by making the individual departments clearly

identifiable. This was achieved by varying the colour of the floor in each department. GREY for entrance areas, BLUE for patient care areas, YELLOW for out-patient areas, and GREEN for operating theatres. This axis of GREY, BLUE, YELLOW, and GREEN was used to develop various colour series that each contribute to a harmonious overall appearance, supported by bright wooden surfaces. For special areas, such as anaesthetic recovery rooms, a special concept was developed in collaboration with care personnel.

Developed in 2006, the concept was successfully implemented and the new clinic building in Klagenfurt was completed in 2010.

Image on right:  
**Klagenfurt state hospital, AT**  
General areas in grey, patient care areas with yellow floors. At the bottom is an intersection with information point.

**Colours in the right quantity**  
Although white may be the dominant colour on the clinic walls, some clear accents can be added through small details, e.g. furniture or accessories.





## Three questions for the colour designers at janieschcolor



### What are the challenges involved in developing a colour concept?

“Since colour has an effect at a stimulation level, where subjective opinions can be formed, there is a risk of a coherent colour concept being destroyed. This is why it is essential to maintain the overall concept,” is the requirement set out by Janiesch-Farbenplanung. For this reason, the team aims to achieve a resolution between administrators, care personnel, and the architect.



### How do you begin a colour concept?

“It starts with careful preparation: noting down the substrates, defining the surfaces and materials, and examining and transferring the colour concepts to the architecture.” The rest of the colour designer’s work involves handling any ongoing conflicts. “You can find solutions and explain the content of the colour concepts by speaking to administrators and care personnel at the hospital, as well as the architect.” Any isolated exceptions to the colour concept can also be agreed, such as in highly sensitive areas like the anaesthetic recovery room.



# Design freedom for the facade

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First impressions count! The facade is the face of a building, it is an ambassador between the interior and the exterior, and representative of the institution. Buildings in the field of health care are synonymous with expertise, an orientation towards the future, and scientific curiosity, but also humanity and confidence. With Sto facades, these aspects can be integrated into the look-and-feel of a building.



# Focus on the entrance area

The entrance area is the first thing people see when they walk into a hospital or care home. Its design needs to be functional and robust on the one hand, and aesthetically appealing on the other.

Visitors are welcomed into a building in the entrance area – and this is a particularly sensitive area when it comes to health and well-being. Designing the entrance, the functional zones, and the proper demarcation of the transition between public or semi-public areas requires expertise and intuition. Sto has decades of experience in environmental psychology and provides valuable planning support.

The design of the surfaces in entrance areas is not just a matter of aesthetic appeal. Experience shows that entrances are subject to particularly heavy use, including in health care: Consider the number of wheelchairs, crutches, and beds that impact the surfaces every day. Carefully positioned hard coverings make entrance areas particularly durable and easy to clean, without compromising on aesthetic appeal. Sto offers a host of systems for this purpose.

Image on right:  
**Psychiatric centre for children and young people, Hall in Tirol, AT**  
Architect: Peter Paul Pontiller, Oswald Schweiggel, Innsbruck, AT  
Products: StoTherm Vario, Stolit K



**Maggie's Cancer Caring Centre, London, GB**  
Architect: Rogers Stirk Harbour + Partners, London, GB  
Contractor: Retrofit UK Ltd., Cambridge, GB  
Products: StoTherm Mineral  
Photographer: R. Bryant, Arcaid, London, GB



## Entrance design: The architecture of security

### Spaciousness

Entrances should not simply be reduced to arrival areas for patients and visitors. For economic reasons, the built-up space usually surrounds the open space and should create a feeling of security as well as of spaciousness. In particular, patients with mental health conditions should benefit from this area in their everyday lives. A converted garden, as part of the entrance, offers open space in which any child patients can play. Rehabilitated patients value the open spaces as they provide contrast.

### Reinforcing spatial experience

Sterile workplaces for care and recovery are a thing of the past. The purpose of health care architecture is to prevent the patient from being traumatised by their stay. It is not the healing itself but the claim to aid recovery that counts.

### Planning objective for entrances

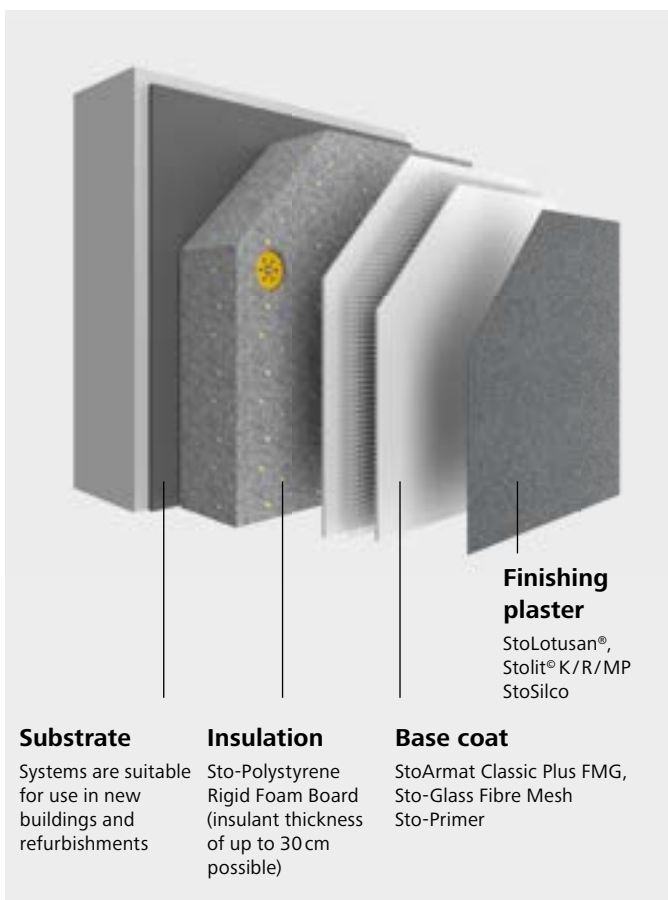
The entrance to a health care facility is an external and internal common space that should invite people to spend time there and should contribute to their recovery.

### Scope for design of surfaces

In busy entrance areas, the colour scheme and texture play an important role. Hard facade coverings such as natural stone, brick, and glass offer benefits due to their durability and material properties. Exciting contrasts can be created in combination with plaster, wood, and metal. The entrance area is developed as a creative production. It functions not just as an eye-catching design, but also as a welcoming ambassador, a calling card, and a magnet for visitors. Product recommendation: StoCleyer B & StoCleyer W

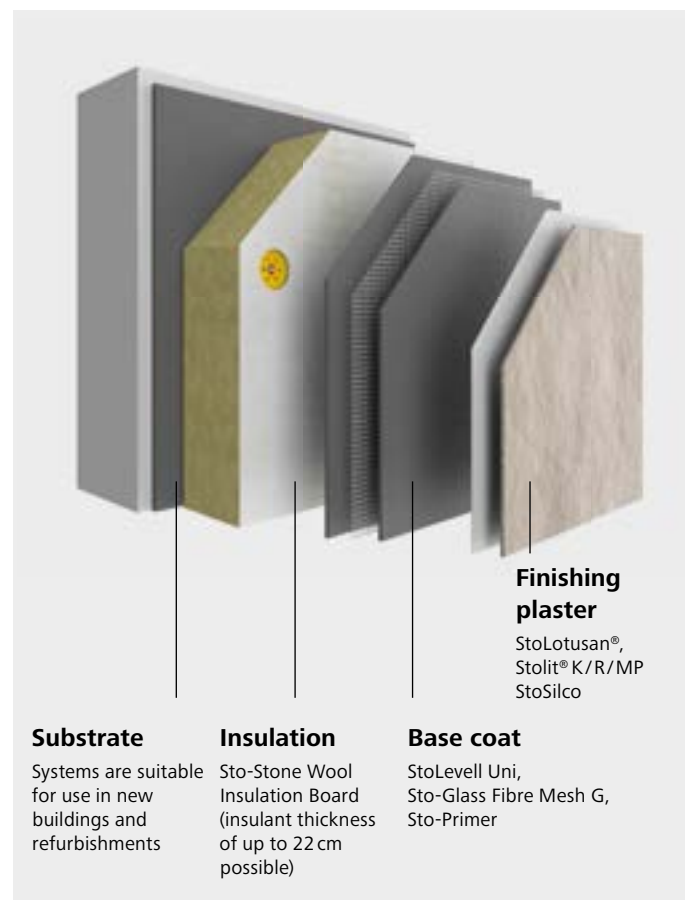


# StoTherm systems: Safe and efficient



## StoTherm Classic

Among the many strengths of StoTherm Classic are its maximum shock and impact resistance – ten times higher than mineral systems – its optimum insulation properties, and a huge range of design possibilities. Almost 100 million square metres of reference surface and by far the lowest complaint rate on the market prove its technical superiority. In addition, numerous finishes and textured renders that can be modelled fulfil every need in terms of facade design.



## StoTherm Mineral

StoTherm Mineral is the ideal choice for public buildings. The system fulfils all requirements for fire protection and consists of purely mineral components, from the insulation to the finishing coat. Alongside mineral finishing renders and facade paints with high resistance to algae and fungi, surface claddings made of ceramics, natural stone, or brick slips are also available for StoTherm Mineral.



## Individual, plastered surfaces for care homes

### Individuality is key to identification

In stark contrast to sterile hospitals, care homes are specialised residential buildings. They differ from conventional residential buildings only in terms of their space allocation and the higher average age of the residents. Many architects have incorporated this principle into their designs, thereby strengthening the bond between the user and the building through an inviting individuality.

### StoSignature exterior

From a plain and simple classic to a creative masterpiece with first-class craftsmanship, anything is possible with a rendered facade. StoSignature offers a carefully devised system of Textures and effects that has proven its worth over many years now.

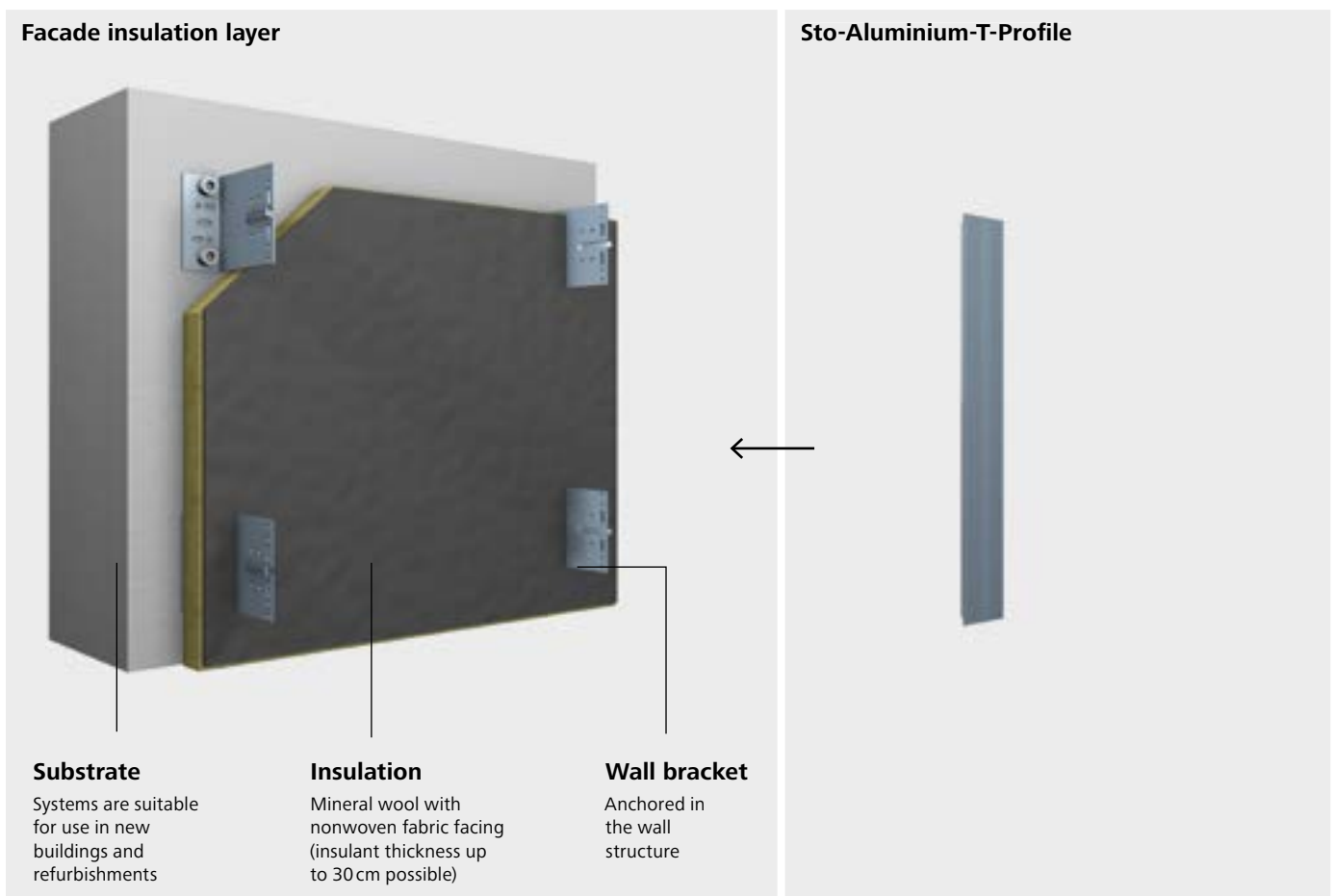
### Case study: Otto Wagner Hospital, Vienna Penzing, AT

StoSignature allows you to decorate facade surfaces with unique Textures: from fine to rough, linear or graphic. Choose from five texture families and additional effect aggregates or from ready-made combinations with a metal, timber, and concrete look.

For the facade at the Otto Wagner Hospital (eastern area) in Penzing, the 14th district of Vienna, the planning group made up of Pool architects and König Larch architects from Vienna chose an insulated facade from Sto for each of construction sites 1, 6, and 13. The chosen surface was StoSignature exterior Fine 10, an external render that is first filled with an individual signature and then ground. The colour scheme blends into the leafy landscape in rather unspectacular fashion, but it is still more striking than monotone facades, making it more inviting.



# StoVentec: Optimal solutions with a ventilated facade





## Design freedom thanks to a recycled product

### Sto-Render Carrier Board made of expanded glass granulate

Glass is made exclusively from natural and sustainable raw materials: sand, soda, and lime. The initial material for the StoCarrier Board is at least 88 per cent recycled glass by volume, which is manufactured into expanded glass granulate.

As well as being ecologically neutral and posing no risk to health, this material has outstanding technical properties. For example, the carrier board made from expanded glass granulate boasts low thermal and hygric elongation properties. It is also characterised by excellent elasticity and resistance to weathering. Mechanical stresses are no problem either. With a bulk density of approximately 500 kg/m<sup>3</sup>, the StoCarrier Board is up to 70 per cent lighter than comparable products on the market. This makes installation easier, minimises application errors, and saves time.

### Case study: St. Pölten university hospital, AT

St. Pölten university hospital is the largest hospital in Lower Austria. It is home to 18 departments and five institutes.

The seven-storey Block C houses the underground car park, various laboratories, the accident and emergency centre, and a number of clinical departments.

The building is divided into a functional wing and a ward wing. The facade design reflects the functional division of the building. The two-storey functional wing conveys a sense of well-being for patients through its natural colouring and the seamless finish of the rendered facade.



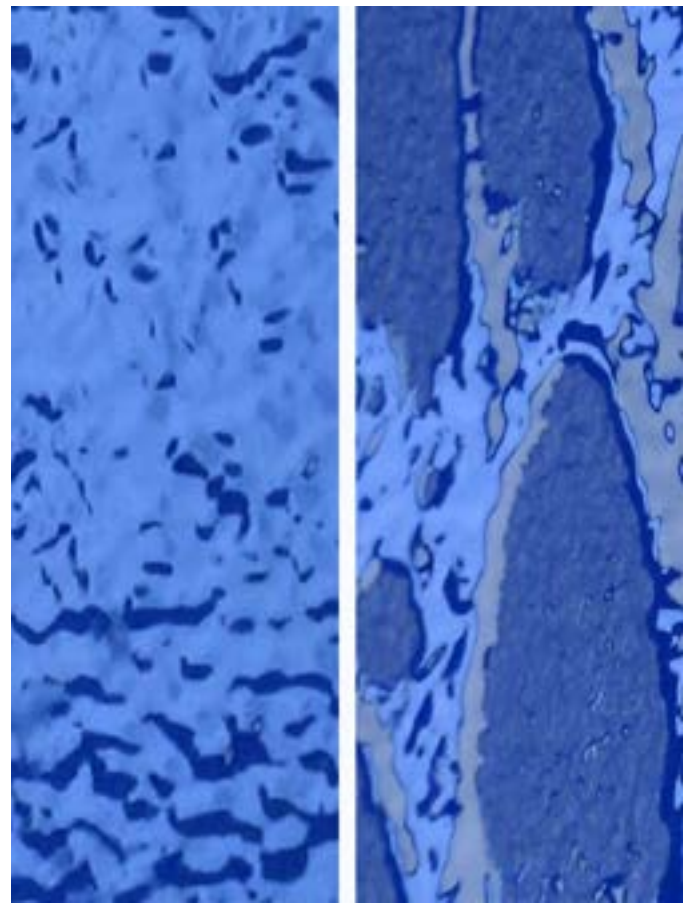
# Functional facade paints by Sto



## StoColor Lotusan

In addition to excellent building physical properties, Lotusan facade paints and external renders also incorporate the unique Lotus-Effect. This ensures that beautiful facades remain beautiful for longer. It enhances the self-cleaning effect: dirt runs off with the rain. The facade stays clean and dry for longer.

What sounds like state-of-the-art technology is in fact modelled on nature, as this effect was first discovered on the leaves of the lotus plant. Sto has simply transferred the natural self-cleaning effect of the lotus plant into modern facade coatings.



## StoColor Dryonic

We have a fog-basking beetle to thank for the fact that facades can dry at lightning speed in any weather. It extracts the water for life from early morning fog using its shell. Inspired by its texture, Sto has developed the new facade paint with Dryonic Technology.

Whether it's external render, concrete, brick, metal facades, plastic, or facade cladding: StoColor Dryonic can be used on all conventional substrates. The paint can be applied using a paint brush, roller, or airless spray. This even allows gutters, pipes, panels, or garage doors to be protected against microorganisms.





# Inspiration for interiors

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Care and treatment rooms in hospitals and care homes are subject to special requirements, and not just when it comes to cleaning. First and foremost, they need to aid people in their recovery. This can be guaranteed through an appealing and appropriate interior design, the right acoustics, and possible functional floor coatings.

**McDonaldshaus residential home, Tübingen, DE**  
Architect: BRT Architekten, Hamburg, DE  
Products: Sto interior paints, StoTherm Classic  
Photo: Isabell Muck, Stuttgart, DE





# Diagnosis and treatment

The primary criteria for wall and ceiling coatings are cleanability and a reflection-free design.

These highly functional groups of rooms primarily place stringent requirements on cleanability with regard to blood, iodine, and dyestuff. Mechanical and chemical resistance as well as compatibility with disinfectants are among the basic requirements. As a practical tip, a glare-free design should be included in the surface concept due to the complex artificial light concepts.

Silk matt interior paints with an acrylic base, such as StoColor Opticryl Matt/Satin Matt can show their strengths in this environment. The water-based wall coating StoColor Puran also offers ease of decontamination. In addition, floor coatings should have a dissipative design, since medical devices are used to a large extent during planned interventions.

## StoColor Puran Satin

### The durable gloss paint

The PU gloss paint is resistant to many surface disinfectants, weak acids and alkaline solutions, and mineral lubricants. This makes it a perfect choice for even the most sensitive areas and really tricky applications with maximum colour shade variety. It can even withstand the highest mechanical stresses with no problem – and all from a product with an environmentally-friendly formulation.

In addition, its emission behaviour has been tested under realistic conditions in a test chamber. Under normal application conditions, no impairments are to be expected for users.





# Care

There are two main goals when planning and implementing care rooms: to ensure patient comfort and to optimise the workplace design for care personnel.

Aesthetic criteria for the wall and ceiling coatings are particularly important in this context. Pleasant colour schemes can alleviate uncertainty, establish a sense of familiarity, and support recovery at no additional cost.

This has been recognised by established equipment providers for care rooms, who offer their components in a range of colours. An integrated gas management system with associated pipelines is often combined with indirect light systems, which use the ceiling as a reflector.

The amount of light is optimised in accordance with the treatment requirements. The wall colour concept is harmonised with the individual components.



**Room in parent building, university hospital, Tübingen, DE**

Bright colours with a natural choice of material to add highlights. Curtains and appropriate furniture fabrics give the room a feeling of home comfort.



## Healthy colours for a care setting

### **Sto silicate paints are natural**

Natural interior silicate products by Sto are made from over 95 per cent silicate, a natural raw material used in many organic products. The Sto interior silicate range combines potassium silicate with mineral extenders, which means the products are incredibly resistant and safe. None of Sto's natural interior silicate products contain any preservatives.

### **Highly diffusion-open thanks to special technology**

The wall can both absorb and release humidity due to the high diffusion capacity of the Sto interior silicate products. This is made possible by the high alkalinity and special binding agent technology of the Sto interior silicate paints. This evens out any peaks in the humidity and has a positive impact on the ambient interior climate.

### **StoColor Sil Premium for the most exacting requirements**

Free of solvents, preservatives, and plasticisers, this product poses absolutely no risk to health. From a technical point of view, the paint scores highly thanks to its good hiding power and ease of application. StoColor Sil Premium silicate paint combines the highest natureplus®-certified quality, which is monitored by the TÜV, with technical and aesthetic perfection.



# General services and hospital management

Surfaces and colours have a great deal of influence on work quality while also impacting employee motivation. There are many different requirements that must be met in a care setting, so the solutions are just as diverse.

In office areas, an appealing workplace design involves meeting the relevant acoustic requirements in addition to selecting a colour design. Any disruptive noises can have a negative impact on concentration levels. This is also true of meeting rooms and conference rooms, as in these cases patients can feel particularly looked after.

As a general rule, the more time people spend in a room, the more attention should be paid to the room acoustics. However, if people spend less time in a room, its colour design can be more striking. Intense colours tend to disturb concentration but

provide guidance. For this reason, canteens and changing rooms for staff can be painted in bolder colours.



**Dr. Jean Bausch GmbH & Co. KG, Cologne, DE**  
Architect: Thea Löhr Architektin, Cologne, DE  
Applicator: Grahovic Bau, Leverkusen, DE  
Products: StoSilent Modular 230, StoSilent Board 110  
Photo: Guido Erbring, Cologne, DE

## StoSilent Modular for better acoustics

StoSilent Modular is a programme of acoustic systems for quick and simple acoustic optimisation. It comprises variable modules specially suited to rooms in which suspended or directly mounted systems are not possible, or where the acoustics need to be optimised when the room is already in use. Thanks to the special properties of the materials used in the acoustic systems – namely PET fibres, expanded glass granulate, or polyester fibres – sound is absorbed, reverberation times are regulated, and extraneous noise is kept to a minimum.

The StoSilent Modular ceiling and wall elements can be installed quickly and easily without rendering rooms out of action for long periods of time. StoSilent Modular delivers design freedom with maximum aesthetic appeal: the various module designs – rectangular, curved, free shapes – can be used to set accents, by means of different forms and colour shades, that are both interesting and tasteful.

### **Good acoustics in general offices, at information points, and in clinic offices**

According to surveys and scientific studies, disruptive noise is one of the most frequently criticised factors in offices, whether they are open or enclosed. When planning offices and combined-use areas, several aspects must therefore be considered at the same time:

- StoPox 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



# Supply and disposal, building services

By their very nature, rooms housing technical equipment tend to be in the background. But that does not mean their design is any less important.

In fact, these rooms accommodate a building's vital functions, such as electricity, heating, cooling, etc. And that is exactly why the functionality of such rooms is in the foreground. The surface products used in these rooms must offer good performance and should retain their properties over the long term. Sto has exactly the right products for this area too, offering an optimum price-performance ratio and the ability to easily upgrade where necessary. And all in the tried-and-tested Sto quality.

## Choose the right path with StoFloor Comfort Elastic BB 100

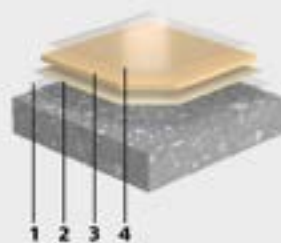
### The high-performance alternative to linoleum

Flooring has to put up with a lot in schools and universities: people walking around in heels, dropping materials, moving furniture, transporting loads, the list goes on. High-quality PVC, linoleum, or rubber floor coverings can withstand all this, but they are relatively difficult to lay. StoFloor Comfort Elastic BB 100 is an alternative that performs just as well and is just as cost-effective, but which has other particular benefits besides.

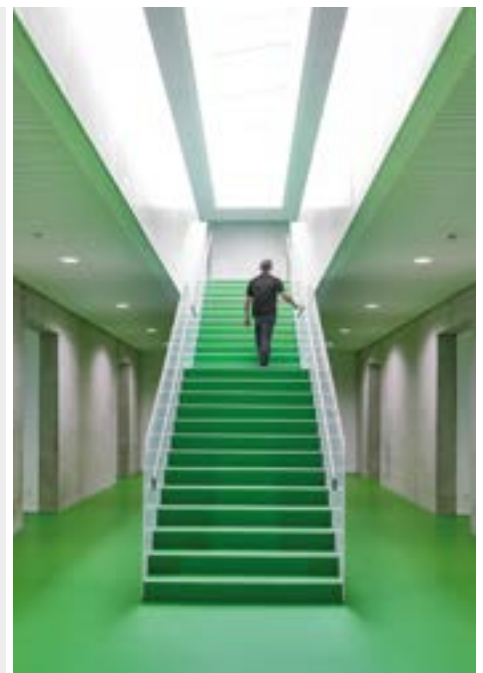
### Reduces footfall sounds

StoFloor Comfort Elastic BB 100 is a solvent-free, elastic polyurethane resin coating for floors subject to high mechanical stress, such as those found in hospitals. Its viscoplastic property ensures high resistance to shocks and impacts, good damping of footfall sounds, and is noticeably pleasant to walk on. The system build-up has been tested by the Committee for Health-related Evaluation of Building Products, which verified that noise was reduced by 12 dB.

### System build-up



- 1—Prime coating**
  - StoPox WG 100 on existing coatings
  - StoPox GH 205 or StoPox GH 305 on mineral substrates
- 2— Levelling coat (Optional)**
  - StoPox GH 205
- 3— Coating**
  - StoPur BB 100 possibly with chippings
- 4— Sealing coats**
  - StoPur WV 100 transparent (gloss)
  - StoPur WV 150 transparent (silk matt or StoPur WV 205 transparent (matt))





## StoColor Opticryl – all you need for the perfect wall

### The difference between matt and gloss

The following basic rule applies when using intense colour shades: the glossier the paint, the more hard-wearing and cleanable the surface.

Matt paints that are exposed to significant mechanical stress often develop spots that look greasy and transform into shiny, mirror-like areas. This is referred to as pigment breakdown. With matt paints, exposed pigments and extenders are pressed down on, resulting in changes to the colour shade and gloss level.

Silk gloss and gloss interior paints are better at binding pigments and extenders. They form a binding agent layer that protects against mechanical stress.

### Hard-wearing paint – perfect suitability

The acrylic emulsion paints from the StoColor Opticryl family with wet-scrub resistance class 1 are easy to clean and resistant to many surface disinfectants. Thanks to their high resistance and durability, they can withstand high levels of mechanical stress without any issues. Not only that, but they are also ideal for textured surfaces, nonwovens, and glass-fibre wall coverings.

Four gloss variations to suit all kinds of design requirements are available: StoColor Opticryl Gloss, StoColor Opticryl Satin, StoColor Opticryl Satinmatt, and StoColor Opticryl Matt.

The advantages are clear: the interior paint is very hard-wearing and durable, texture-retaining, very easy to clean and resistant to most surface disinfectants, has excellent flow properties and good hiding power.



# Research, teaching, and training

Technical progress is essential to workshops and laboratories. From durability to cost-effectiveness or environmental compatibility: it must be possible to implement work procedures with maximum safety.

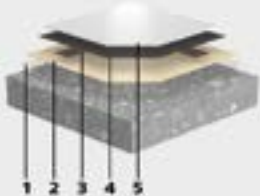
And yet they are not all that different from classrooms when it comes to standards of acoustics, room air, or mechanical and chemical resistance. There are differences when it comes to the use of electrical devices, as the floor design should be conductive.

## Conductive floor coatings: The ESD zone

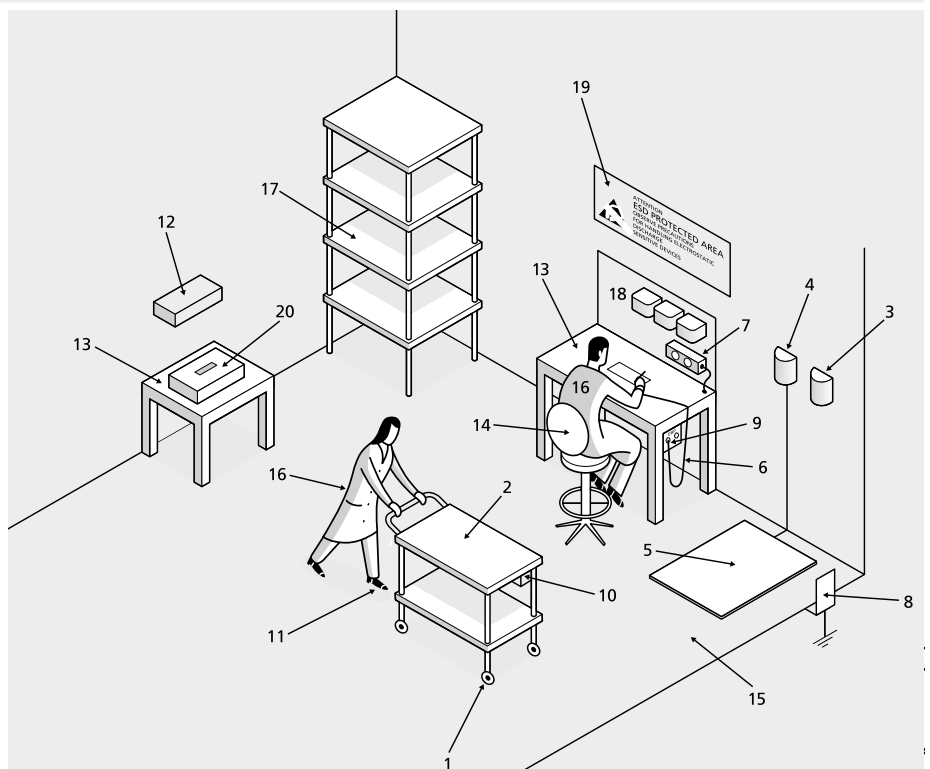
### ESD-protected area in workshops

Electrostatic charge not only presents a risk to sensitive electronic components but in extreme cases can also cause fires and explosions. On non-metallic surfaces that cannot conduct electricity themselves, appropriate coatings must therefore be used for conducting the static charge.

### System build-up



- 1 — Priming coat & 2 Levelling coat  
• StoPox GH 205
- 3 — Conductive layer (with conductive strip in image)  
• StoDivers LB 100, StoPox WL 110/118
- 4 — Coating  
• StoPox KU 614
- 5 — Quartz sand  
• StoQuarz



# Other facilities

Many rooms in a hospital have functions that go beyond patient care. They range from residential spaces to employee childcare facilities and outpatient departments.

All of these additional facilities in a hospital or care home usually have their origins in established structures. Nevertheless, they add to the overall impression of a group of buildings. The impression given by a room is used as a basis for gauging the satisfaction of employees, relatives, and patients alike.

colours to give them an identity or to provide guidance. Rooms in which people stay for a longer period, such as hospice facilities, should use soft colour schemes to create atmospheres that complement people coming together for meetings, consultations, and visits.

The ambience of busy rooms, like out-patient departments or childcare facilities, can primarily be improved by implementing acoustic measures to reduce reverberation time.

Rooms in which people stay for only a short period, such as waiting rooms, can be designed with bold

## Achieving optimum room acoustics – quickly and easily

### Room acoustics as a comfort factor

We do not perceive spaces with our eyes alone. A room's sound also has a significant impact on whether it is perceived as pleasant and inviting by its occupants. But what can be used to positively influence the sound in an existing room, all while maintaining a pleasing aesthetic?

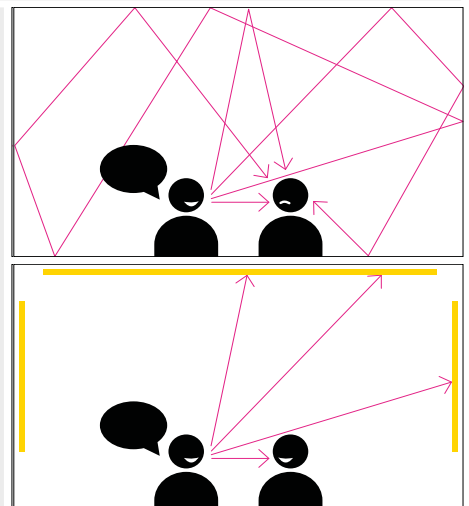
### What makes acoustics worse?

Sound reflections in a room occur as a result of sound-reflecting surfaces on ceilings and walls. The reflected sound causes unpleasant reverberation, which in turn has a negative impact on the room acoustics. This lowers productivity, satisfaction, and well-being – important motivating factors when it comes to learning. The noise level can sometimes be very high, especially in lecture halls containing a large number of people.

### What makes acoustics better

Ceiling and wall elements absorb a large proportion of the disruptive reflections. The reverberation time is reduced and the room acoustics are significantly improved. Which acoustic systems are used here will depend on the architecture of the room. We distinguish between suspended and directly mounted systems, with the latter having either a full-surface or a modular design. Sound-absorbing elements usually have rough surfaces, which are not always resistant to touch (recommended installation height of over 2.0 m).

Modular systems provide design freedom with a high degree of aesthetic appeal, while directly mounted or suspended systems keep the room clear and simple. Particularly in rooms designed for further education, the materials and systems used have to meet high requirements in terms of comfort, durability, aesthetic appeal, and sustainability.



**Sound and its impact.** Speech acoustics in particular must be optimised for a learning setting.



# Coatings for traffic areas

36 Building and preserving multi-storey and underground car parks

38 Solutions for different zones

40 StoCretec recommendations

For decades, StoCretec has been a leading supplier of floor coatings for multi-storey and underground car parks as well as of systems for protecting and repairing the reinforced concrete elements in these buildings. The requirements for car park coatings are highly diverse. An ideally tailored solution has to be developed in accordance with the location, condition, and stress on the surface.



# Building and preserving multi-storey and underground car parks

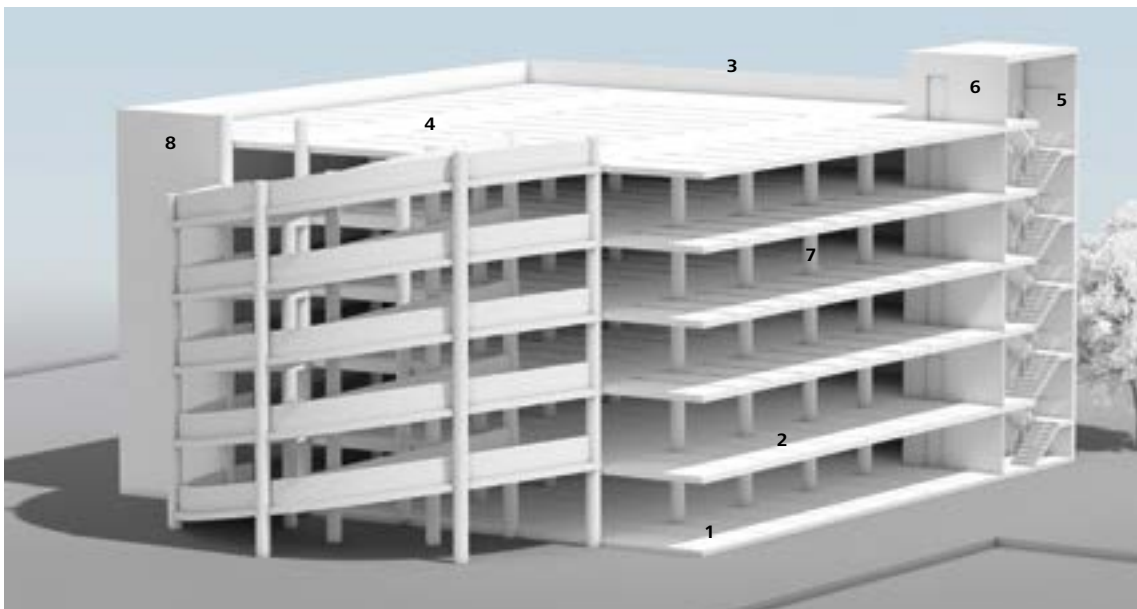
The process of zoning a car park comes with its own unique challenges. And they usually go hand in hand with extreme cost pressure during the building phase.

The requirements for car park coatings are highly diverse depending on the area of application. An ideally tailored solution has to be developed in accordance with the location, condition, and stress on the surface.

There is virtually no other kind of building that varies so greatly in terms of size, shape, and stress levels as multi-storey and underground car parks. The spectrum ranges from single-storey underground car parks below small school buildings to vast parking complexes at university hospitals. And virtually no other kind of building in the context of educational institutions is subject to such cost pressures. Particularly in the past, simple concrete structures were used.

Parking decks were largely open. Not even areas subject to significant vehicle traffic were protected. And yet the stress put on reinforced concrete inside multi-storey car parks is particularly severe. Vehicles carry water and, in winter, de-icing salts along with them. The CO<sub>2</sub> concentration is greatly increased as a result of exhaust emissions. Driving on the concrete surfaces generates vibrations, resulting in fine cracks. It is then easier for harmful substances to get inside, causing damage to the reinforcing steel and concrete at a much faster rate.

Nowadays, building protection is often part of the planning for new builds. And the colour design is a key factor in the battle to win the hearts and minds of users.



- Areas of application**
- 1 Floor slab
  - 2 Intermediate deck
  - 3 Exposed deck
  - 4 Ramps
  - 5 Pedestrian areas
  - 6 Staircase
  - 7 Supports/walls
  - 8 Facade



## How to design car parks properly

### Responsible planning

Many car drivers find older multi-storey and underground car parks creepy and oppressive, since they are frequently gloomy and confusing. Monotonous concrete grey only adds to the feeling of strangeness. The low ceiling heights of the parking decks feel smothering.

So key factors when it comes to the colour design of a multi-storey car park are orientation, safety, and a necessary degree of comfort. All the elements that make up the space (known as substrates) such as walls, ceilings, floors, girders, and columns are included in this.

The design must consist of more than just dominant colour shades, direction arrows, and parking deck/space numbers. The design of an underground car park should really leave a lasting impression of the space.

### Be brave with colour shades!

Colour shades are used first of all to create order. If people can find their way around easily, this creates a feeling of transparency, with users getting to know the inner workings of the garage, so to speak. Where are the lifts and stairs? Where is the ticket machine and the exit ramp? Where did I park?

Large floor and wall areas must be covered in a paint with high reflectance to achieve the cosy luminance that is desired. These areas, which are mostly light and colourless, are counteracted by the bold, saturated colour shades used to highlight columns, lifts, doors, and ramps.

Another significant aspect in car park design are typographical elements and floor markings. The clearer and richer in contrast the style, the easier it is to orient oneself.

### StoDesign: professional design of underground car parks and parking decks

StoDesign develops professional colour and material concepts for facades and interiors, from single buildings to entire streets. Parking decks form part of the deliberations in many such projects.

Planning considerations are based on a thorough analysis of the architecture, user behaviour, the building's function, and how it is accessed both from the interior and exterior. Technical and design variations are developed, presented to the decision-maker, and seen through to the end of the application procedure. Colour shades, materials, and surfaces are defined during this process, although the user is always at the centre of the design – whether they are still sitting in their vehicle or walking around as a pedestrian.

# Solutions for different zones



## Floor slabs with watertight concrete

Car parks with floor slabs made of watertight concrete pose great challenges for planners. In order to ensure durability, a coating system has to satisfy conflicting requirements: suitability for rising damp combined with the ability to bridge cracks.

The innovative product StoPox 590 EP – a formulation comprising special epoxy resin with cementitious extender – is the ideal solution. At the same time, the coating build-up boasts excellent bonding properties on concrete substrates with increased levels of moisture as well as high alkaline stability.



## Formation of a monolithic concrete impermeable to water

Not all driving surfaces and parking areas in multi-storey and underground car parks are situated on long-span or protruding intermediate floors with crack movements caused by loads or temperature. Floor slabs on the lowest level in particular do not experience stresses of this nature, but do have other problems to contend with. The primary task of floor coatings in multi-storey car parks is to protect the substrate. There must be no risk of the coating peeling off.

StoFloor Industry WL 100 or StoFloor Traffic BB OS offers perfectly coordinated solutions for such surfaces.



## Intermediate decks

Crack-bridging protective surface coatings that can be driven over are required wherever there is a risk of cracks forming. These are frequent occurrences particularly when it comes to intermediate decks. Surface protection measures with a rigid OS 8 system also offer several advantages when it comes to intermediate decks. This coating system is characterised by its capacity to bear the loads of high shear and transmitted forces exerted by vehicles, such as on bends or when travelling up and down ramps. Combined with an accompanying crack treatment, this solution ensures that maintenance is simple and economical.



## Entrance areas and ramps

These specific driving areas present particular challenges due to the high shear and abrasion loads exerted by vehicles. Tough, durable surfaces must therefore also provide slip resistance. The risk of rising damp needs to be counteracted as well.

The StoFloor Traffic DV 100 coating build-up has good slip resistance, as does the StoFloor Traffic 590 EP scatter coating. The latter boasts a high layer thickness, along with good adhesion to the substrate regulated by the same.



## Exposed decks

As with intermediate decks, exposed decks are also at risk of cracks forming and can exhibit significant changes in crack width as a result of temperature and alternating load stresses. Crack-bridging protective surface coatings that can be driven over are therefore also required for exposed decks.

The two coating build-ups StoFloor Traffic Elastic EZ 500 and TEP MultiTop meet these demands by bridging cracks by means of a double-layer covering. They are also durable in the face of significant temperature fluctuations – from direct sunlight right through to frosty and cold.



## Pedestrian areas and stairwells

Pedestrian areas also have to be able to withstand the stresses of high levels of footfall. Moisture and de-icing salts are also walked through these areas and the CO<sub>2</sub> content causes the concrete to degrade at an accelerated rate. What's more, pedestrian areas need to be indicated using colour in order to direct the users. StoCretec multi-storey car park systems offer a range of effective and cost-saving solutions that also provide a lot of scope for initiative.

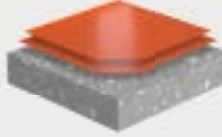
It goes without saying that all the systems presented here are resistant to all cleaning agents and chemicals commonly found in multi-storey car parks, such as de-icing salts, fuels, brake fluids, engine oils, and lubricants.

# StoCretec recommendations

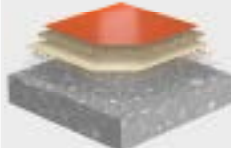
## Base plate

<b>Requirements</b>	<ul style="list-style-type: none"> <li>Resistance against alkali</li> <li>Water-vapour transmission rate</li> <li>No big temperature changes</li> <li>Risk of rising damp</li> </ul>
<b>System</b>	<b>StoFloor Traffic Elastic 590 EP</b>
<b>Properties</b>	<ul style="list-style-type: none"> <li>Crack-bridging, colour coating</li> <li>Tested for rising damp</li> <li>Solvent-free</li> <li>Certificate of compliance in accordance with DIN V 18026, surface protection system OS 8 &amp; 13</li> </ul>
<b>Primer</b>	StoPox GH 502, Sanding with StoQuarz 0.3–0.8mm
<b>Wearing course</b>	StoPox 590 EP Sanding with StoQuarz 0.3–0.8mm
<b>Sealant</b>	StoPox DV 100
<b>Layer thickness</b>	2.5 mm (certificate of compliance)
<b>System view</b>	

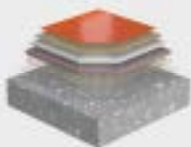
## Floor slab/Monolithic concrete impermeable to water

<b>Requirements</b>	<ul style="list-style-type: none"> <li>No requirement for bridging of cracks</li> <li>No big temperature changes</li> <li>Risk of rising damp</li> </ul>
<b>System</b>	<b>StoFloor Industry WL 100</b>
<b>Properties</b>	<ul style="list-style-type: none"> <li>Diffusion-open, rigid, and colour coating</li> <li>Solvent-free and water-dilutable</li> </ul>
<b>Primer</b>	StoPox WL 100 (for gloss surfaces) or StoPox WL 200 (for matt surfaces) + water max. 20%
<b>Self-levelling filler</b>	
<b>Sealant</b>	StoPox WL 100 (for gloss surfaces) or StoPox WL 200 (for matt surfaces) + water max. 10%
<b>Layer thickness</b>	< 1 mm
<b>System view</b>	

## Ramps

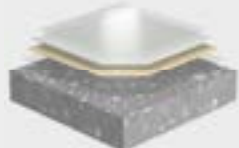
<b>Requirements</b>	<ul style="list-style-type: none"> <li>High shear and abrasion loads</li> <li>High slip resistance requirements</li> <li>Tough, durable surface</li> <li>Risk of rising damp</li> </ul>
<b>System</b>	<b>StoFloor Traffic DV 100</b>
<b>Properties</b>	<ul style="list-style-type: none"> <li>High slip resistance</li> <li>Good mechanical resistance</li> </ul>
<b>Primer</b>	StoPox GH 502, StoPox GH 530 Broadcasting with StoQuarz 0.3–0.8mm
<b>Coating</b>	StoPox GH 502, StoPox GH 530 Broadcasting with StoQuarz 0.6–1.2mm
<b>Sealant</b>	StoPox DV 100
<b>Layer thickness</b>	> 2.5 mm
<b>System view</b>	

## Exposed deck

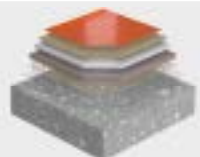
<b>Requirements</b>	
<b>System</b>	<b>StoFloor Traffic Elastic EZ 500</b>
<b>Properties</b>	<ul style="list-style-type: none"> <li>Elastic double-layer covering as per OS 11a, certificate in accordance with DIN V 18026</li> </ul>
<b>Primer</b>	StoPox GH 500/530 for areas in contact with the ground, broadcasting with StoQuarz 0.3–0.8mm
<b>Elastic floating layer</b>	StoPur EZ 500
<b>Wearing course</b>	StoPur EZ 502 (pre-filled) Broadcasting with StoQuarz 0.3–0.8mm
<b>Sealant</b>	StoPox DV 502 gloss, alternatively: StoPur DV 505, non-yellowing, matt sealer
<b>Layer thickness</b>	> 4.5 mm
<b>System view</b>	

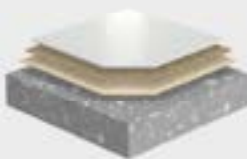
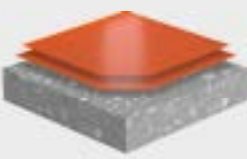
<b>StoFloor Industry WL 100</b>	<b>StoFloor Traffic BB OS</b>
<ul style="list-style-type: none"> <li>· Diffusion-open, rigid, and colour surface protection system</li> <li>· Solvent-free and water-dilutable</li> <li>· Certificate of compliance in accordance with DIN V 18026, surface protection system OS 8</li> </ul>	<ul style="list-style-type: none"> <li>· Rigid, colour coating, tested for rising damp</li> <li>· Solvent-free</li> <li>· Certificate of compliance in accordance with DIN V 18026, surface protection system OS 8</li> </ul>
StoPox WG 100	Preparatory filler or primer: StoPox GH 502, StoPox GH 530 Sanding with StoQuarz 0.3–0.8mm
StoPox WG 100 with StoQuarz 0.1–0.5 mm (1:0.8) Sanding with StoQuarz 0.3–0.8mm	
StoPox WL 100 (two coats) + water 10%	StoPox BB OS or StoPox DV 100
approx. 1.5 mm or 2.5 mm (certificate of compliance)	approx. 1.5 mm or 2.5 mm (certificate of compliance)
	

## Intermediate deck

<b>Requirements</b>	<ul style="list-style-type: none"> <li>· Garage open or closed to the side</li> <li>· Resistant to high shear and transmitted forces</li> <li>· Accompanying crack treatment</li> </ul>
<b>System</b>	<b>StoFloor Industry BB OS</b>
<b>Properties</b>	<ul style="list-style-type: none"> <li>· High level of resistance to mechanical stress</li> <li>· Easy to apply and design</li> <li>· Certificate of compliance in accordance with DIN V 18026, surface protection system OS 8</li> </ul>
<b>Primer</b>	Depending on the absorption capacity of the concrete substrate with StoPox GH 530
<b>Self-levelling filler</b>	StoPox GH 530 (1:0.7) with StoQuarz 0.1–0.5 mm, broadcasting with 0.3–0.8 mm
<b>Sealant</b>	StoPox BB OS (interior), StoPox DV 100 (exterior)
<b>Layer thickness</b>	approx. 1.5 mm or 2.5 mm (certificate of compliance)
<b>System view</b>	

## Pedestrian areas

<ul style="list-style-type: none"> <li>· Requirement for bridging of cracks</li> <li>· Big temperature changes/frost possible</li> <li>· High slip resistance requirements</li> </ul>
<b>StoFloor Traffic Elastic TEP MultiTop</b>
<ul style="list-style-type: none"> <li>· Increased bridging of cracks</li> <li>· Elastic double-layer covering as per OS 11a, certificate of compliance in accordance with DIN V 18026</li> </ul>
StoPox GH 530 Broadcasting with StoQuarz 0.3–0.8 mm
StoPox TEP MultiTop
StoPox TEP MultiTop (pre-filled) Broadcasting with StoQuarz 0.6–1.2 mm
StoPox DV 100 gloss, alternatively: StoPur DV 508, non-yellowing, gloss Sealant
> 4.5 mm


<b>Requirements</b>	<ul style="list-style-type: none"> <li>· No requirement for bridging of cracks</li> <li>· No big temperature changes</li> <li>· Low mechanical stress</li> </ul>	
<b>System</b>	<b>StoFloor Traffic BB OS</b>	<b>StoFloor Industry WL 100</b>
<b>Properties</b>	<ul style="list-style-type: none"> <li>· Rigid coating</li> </ul>	<ul style="list-style-type: none"> <li>· Diffusion-open, rigid, and colour coating</li> <li>· Solvent-free and water-dilutable</li> </ul>
<b>Primer</b>	StoPox GH 502, StoPox GH 530, sanding with StoQuarz 0.3–0.8 mm	StoPox WL 100 (for gloss surfaces) or StoPox WL 200 (for matt surfaces) + water max. 20%
<b>Sealant</b>	StoPox BB OS or StoPox DV 100	StoPox WL 100 (for gloss surfaces) or StoPox WL 200 (for matt surfaces) + water max. 10%
<b>Layer thickness</b>	approx. 1 mm	< 1 mm
<b>System view</b>		



# Recommended products for interiors and acoustics

## Interior paints for health and care facilities

Product name	Requirements of wall and ceiling						
	Wet-scrub resistance class (in accordance with EN 13300)	Hiding power (in accordance with EN 13300)	Gloss level (in accordance with EN 13300)	Colour range	Resistance to surface disinfectants	Suitable for foodstuff industry	Mildew-inhibiting
StoColor Puran Satin	1	2	Mid sheen	■ ■	■ ■	■ ■	
StoColor Pura Clean	1	2	Matt		■ ■		
StoColor Opticryl Matt	1	2	Dead-matt	■ ■	■ ■	■ ■	
StoColor Opticryl Satinmatt	1	2	Mid sheen	■ ■	■ ■	■ ■	
StoColor Opticryl Satin	1	2	Mid sheen	■ ■	■ ■	■ ■	
StoColor Opticryl Gloss	1	2	Gloss	■	■ ■	■ ■	■ ■
StoColor Sil In	2	1	Dead-matt				■ ■
StoColor Sil Comfort	2	2	Dead-matt	■			

- ■ excellent
- good
- to a limited extent

## StoSilent acoustic systems for health and care facilities

System	Carrier layer	Absorber layer	Material layer	
Category	System name	Sub-construction	Acoustically effective layer	Finishing coat
Suspended acoustic systems	StoSilent Distance C	sub-construction at the same level	StoSilent Board 205 C Absorber made from expanded glass granulate	StoSilent Decor StoSilent Top Basic StoSilent Top Finish
	StoSilent Distance S	height offset sub-construction	StoSilent Board 105 C StoSilent Board 100 S Absorber made from expanded glass granulate	StoSilent Top Basic StoSilent Top Finish StoSilent Top Decor
	StoSilent Distance F	arched height offset sub-construction	StoSilent Board 110 S StoSilent Board 310 F Absorber made from expanded glass granulate	StoSilent Decor
Bonded acoustic systems	StoSilent Direct	load-bearing ceiling construction with priming coat	StoSilent Board MW 100 Sandwich panel made of stone wool with a covering layer of expanded glass granulate	visible joints uncoated visible joints StoColor Climasan visible joints StoSilent Decor seamless StoMiral AP seamless StoSilent Decor seamless StoSilent Top Basic seamless StoSilent Top Finish
	StoSilent Frame	load-bearing ceiling construction with priming coat	StoSilent Board R 400 Absorber made from expanded glass granulate	Factory-made paint coat
Acoustic plaster systems	StoSilent Compact	load-bearing ceiling construction with priming		StoSilent Sil AP with StoSilent Decor StoSilent Miral AP optional StoColor Silent
Acoustic elements	StoSilent Modular	horizontal suspension	StoSilent Modular 100 Absorber element	uncoated nonwoven surface
			StoSilent Modular 230 Absorber element	Factory-made fine-textured paint coat

# Glossary of recommended products

## StoColor Opticryl

Matt, silk matt, or gloss acrylic emulsion paint, tested for harmful substances, wet-scrub resistance 1, and hiding power 2 in accordance with EN 13300. For application on texture-retaining and durable wall and ceiling areas. High whiteness, resistant to many surface disinfectants, solvent and plasticiser-free.

## StoColor Sil

Preservative-free, dead-matt, interior dispersion silicate paint, wet-scrub resistance 2, and hiding power 1 in accordance with EN 13300. For coatings with a mineral appearance on wall and ceiling areas. Suitable for refurbishments thanks to the mildew-inhibiting effect and as a preventive coating for food-processing areas. Resistant to many surface disinfectants, solvent, plasticiser, and preservative-free.

## StoColor Sil Comfort

Extremely matt interior dispersion silicate paint, preservative-free, wet-scrub resistance 2, and hiding power 2 in accordance with EN 13300. For coatings with a mineral appearance, directly on smooth wall and ceiling areas. Mildew-inhibiting, very good water-vapour transmission rate. Resistant to many surface disinfectants, solvent and plasticiser-free.

## StoColor PuraClean

Beautiful. Stable. Clean.  
In no time at all, you can get a perfect wall that's made to last with StoColor PuraClean, our new single-component interior paint. It's easy to apply, has a matt look, and can be wiped down again and again – making it the smart choice for interior walls that have to withstand a lot.

## StoColor Puran Satin

Highly resistant, water-based two-component PU gloss paint, wet-scrub resistance 1, and hiding power 2 in accordance with EN 13300. For highest mechanical stress (e.g. glass-fibre wall covering, concrete) on wall and ceiling areas, specifically for kitchens, bathrooms, laboratory areas, and food-processing areas. Resistant to many surface disinfectants, weak acid and alkaline solutions, and mineral lubricants, solvent and plasticiser-free.

## StoColor Dryonic®

Facade paint with Dryonic® Technology, biomimetic principle for dry facades against algae and fungal attack, without biocidal film protection. For outdoor application on mineral, organic, and inclined substrates that are not sensitive to humidity, up to an inclination of 45°. Carbon dioxide diffusion: class C1 in accordance with EN 1062-1. Optionally available with X-black Technology: heat shield to protect against solar heating.

## StoColor Lotusan®

Facade paint with Lotus-Effect® Technology, natural protection against algae and fungi, without biocidal film protection, dirt runs off with the rain. For paint coats with reduced adhesion of dirt particles on mineral and organic substrates. Optionally as StoLotusan® finishing render with Lotus-Effect® Technology

## StoSilent Distance

Suspended acoustic system made of expanded glass granulate boards. For suspended ceilings and wall structures. Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress. Not suitable for splash zones. Seamless installation possible across areas of up to 200m<sup>2</sup>. Metal sub-construction in accordance with EN 13964 with vernier hangers.

## StoSilent Distance Flex

Suspended acoustic system made of expanded glass granulate boards, bendable up to a radius of five metres.

## StoSilent Direct

Bonded acoustic system made of coated acoustic panels. Installed without sub-construction, adhesive applied to the entire surface of the substrate direct. For ceilings and upper wall areas of escape routes, corridors, staircases, or meeting places. Suitable for solid components, oriented strand boards, and exterior gypsum plasterboard, as well as curved surfaces. Not suitable for wall areas which can be reached by hand or which are exposed to other types of mechanical stress.

## StoSilent Compact Sil

Silicate acoustic plaster system with a finely textured plaster coating. For ceilings and upper wall areas, even surfaces, and barrel vaults.

## StoSilent Compact Miral

Mineral acoustic plaster system with a rough plaster coating. For ceilings and upper wall areas, even surfaces through to spherical domes and vaults.

## StoSilent Modular 100

Sound-absorbing ceiling element made of recycled PET fibres on an aluminium frame. Installation system pre-assembled at the factory with vernier hangers, threaded rods, or cable hangers. Certified to the Oeko-Tex® standard 100.

## StoSilent Modular 200

Sound-absorbing ceiling element made of expanded glass granulate with a finely textured colour coating. Installation system pre-assembled at the factory with vernier hangers, threaded rods, or cable hangers. With a 4 cm-thick layer of PET fibre.

## StoSilent Modular 300

Sound-absorbing ceiling element made from ultra-thin polyester fibre with an aluminium load-bearing construction. Corners either 90° or rounded (radius of 4 cm). Suspension from pre-fabricated ex works parts and modules in accordance with installation instructions.

## StoTherm Classic®

Cement-free external thermal insulation system, with maximum resistance to cracking and impacts. Resistant to hail, storms, and hurricanes according to the FIBAG® simultaneous test (highest hail resistance class 5 with the appropriate system build-up). Cement-free, organic system build-up suitable for a passivhaus. Reaction to fire class B, C in accordance with EN 13501-1. Ball-impact resistant in accordance with DIN 18032-3. Lotus-Effect® technology and anti-electromog optional.

## StoTherm Mineral

Non-combustible external thermal insulation system, in accordance with class A2 as per EN 13501-1, especially suitable for high-rise and public buildings. Free choice of finishing renders and decorative facade design with ceramics or natural stone. Impact resistance in the appropriate system build-up up to hail resistance class 3.

## StoVentec R

Rainscreen cladding facade with seamless rendered surface. Almost unlimited design possibilities using colour shades, textures, and materials; curved shapes possible too. Suitable for passivhaus standard due to certified sub-construction. Reaction to fire B-s1, d0 as per EN 13501-1 class A2-s1, d0 in accordance with EN 13501-1 with StoVentec Carrier Board A. Very light, flexible carrier board made of expanded glass granulate with a low thermal expansion coefficient A double coat of paint offers special protection against algae and fungi. Lotus-Effect® technology or Dryonic Technology for protection against microorganisms and for fastest drying. Resistant to earthquakes.

## StoDeco

Verolith® – the lightweight mineral construction material used to make our StoDeco facade elements – opens up new possibilities in three-dimensional facade design. Using modern CNC methods, we can precisely replicate your designs in three dimensions.

## StoCleyer W

StoCleyer W facade panels can be used to create an authentic timber appearance on external thermal insulation systems. The panels are quick and easy to apply. They are more cost-effective and durable than real wood and can be painted in many colour shades.

## StoCleyer B

StoCleyer B is a quick and easy solution for creating insulated facades with an authentic brick look. With more than 150 surfaces across various groups, StoCleyer B opens up a wide range of design possibilities.

## Headquarters

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## Your Contact

