

Emotional by nature Product range Natural stone panels



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Product range Natural stone panels

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Rough. Smooth. Inviting. 4 | Natural stone

Natural stone Materials an ook and feel do not just de and passion. Architects, arti of a material and use its em	fine textures, they als sts, and designers kn	so touch the soul, ard ow all about the exp	ouse feelings ressive quality

A true natural phenomenon – ancient and ultra-modern



Caves of stone protected our forefathers hundreds of thousands of years before we began to construct enormous testimonials to our cultural development – using stone. The Pyramids of Giza, the Acropolis, the palace of Palenque, or the temple of Angkor Wat - to this day, all of these structures bear witness of the unique qualities of their building material: robust and weather-resistant, fire and impact-resistant, environmentally sound to extract and process, recyclable... And what still makes them fascinating to this day – their authenticity. Every natural stone is unique in terms of its texture and colour.

Even in times of advancing technologisation, the desire for natural materials is on the increase. However, combining it with unconditional functionality is indispensable.

A requirement that thanks to the existing systems at Sto can always be fully satisfied. First of all, our insulation systems unite a high-quality appearance with modern energy efficiency and economic application.

Benefits of natural stone

- Versatile interior and exterior application is possible
- Unique in terms of texture and colour
- One and the same stone can appear differently thanks to surface finishing
- Ecologically compatible building material
- Durable and sustainable
- Robust and weather-resistant
- Fire- and impact-resistant
- Recyclable



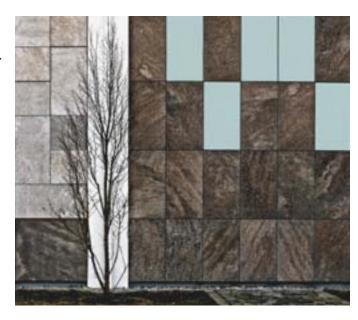


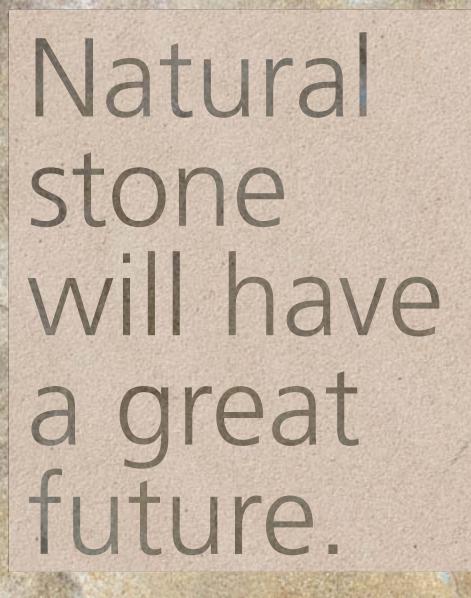
Sustainable by nature

Everyone is talking about sustainability – natural stone has always been sustainable: as a natural material, it does not need any chemical additives and protective coatings, and is inherently non-combustible. Natural stone is fully recyclable: Waste material arising during the extraction, processing, and restoration of natural stone can be put to use in other areas, such as horticulture or landscaping, meaning even the waste is recycled.

In addition, product properties such as abrasion resistance and compressive strength offer tangible benefits in the planning and design of facades and provide buildings with sustained protection from environmental influences. By being extremely hard-wearing and weather-resistant, natural stone facades can withstand all kinds of wind and weather, any temperature and immissions, whilst also offering a particularly long service life. This results in true sustainability, which is becoming more and more important in this day and age.

Sustainability included: natural stone is extremely robust and durable, and is fully recyclable.





Expert interview Almost no othe debate over its suitability as natura slabs can be justified in terms of de facades provokes great debate. Tit projects. He explains his position in	al stone. For instance esign as cladding in v cus Bernhard uses sto	, the issue of wheth ventilated rainscree the in innovative wa	her stone n cladding ays for his

Expert interview



Titus Bernhard

Sto: Nowadays, the stone cladding of a building is generally limited to a facade that is just a few centimetres thick; however, complex facade systems are concealed behind this visible layer. Is it not in keeping with the current zeitgeist to make use of the technical possibilities that are available and to construct building envelopes that optimise their use of energy whilst also taking up as little space as possible, but without having to abandon the stone's design features?

Titus Bernhard: For thousands of years natural stone has, in all cultures, primarily signified a heavy, solid material that has been put to use according to the principle of supporting and loading. It is essentially only resistant to pressure. Rainscreen cladding systems with external wall insulation systems or ventilated constructions primarily run counter to this principle and are therefore, in my opinion, unsatisfactory, as they are not in keeping with the character of the material. I expect the industry research to make further efforts to come up with systems that can gain an advantage over other materials.

With House M, we have implemented a self-supporting natural stone facade using stone strips that are approx. 12 cm thick on a press joint with a rough surface, and have fixed it to the building shell using anchors, simply to ensure its stability. This type of construction unites what we believe to be appropriate handling of the material "natural stone" with the demands to optimise energy by using rear ventilation or integrated insulation. In this respect, natural stone is not a "contemporary" material, but rather a durable and ecologically sustainable one.

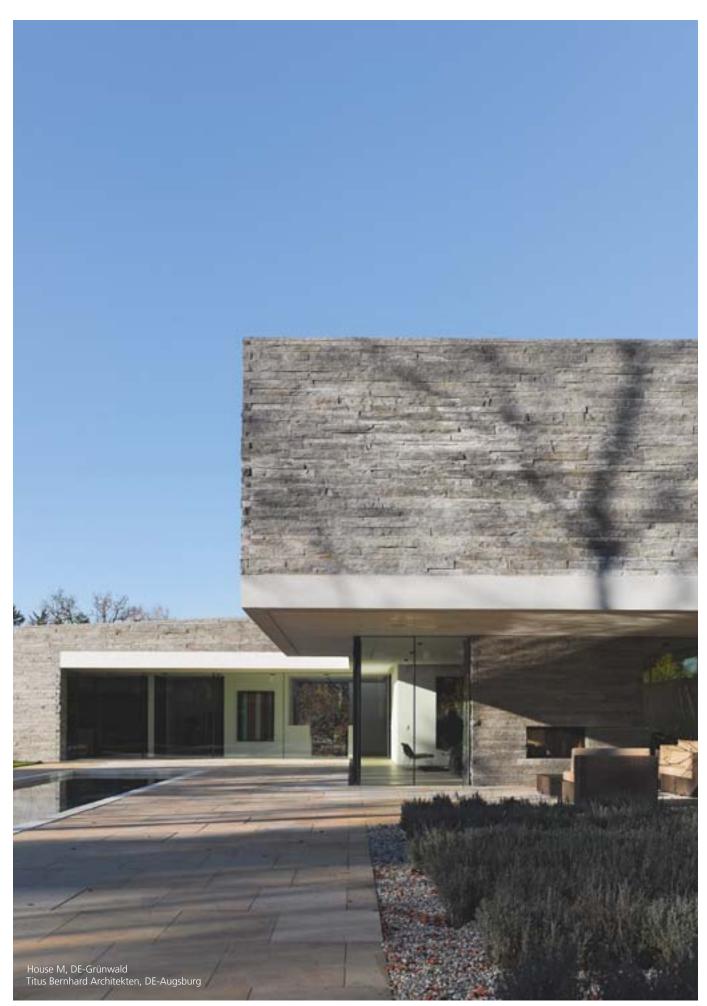
Sto: There are many places where we marvel at the elaborate creations produced by stonemasons of bygone days. Yet, since the classical modern period, such decorative architecture has been abandoned. In the recent past, however, the ornament has experienced a renaissance. Could this have an effect on the processing of stone facades? Or can you see other, new ways of using stone in the context of ventilated rainscreen cladding facades?

Titus Bernhard: The debate surrounding "pure functionalism" or "renaissance of the ornament" is not helpful, as, generally speaking or in terms of individual work, there are neither dogmas nor stylistic features that are better or worse.

People's need to incorporate sensuality, atmosphere, individuality, and subsequently also the ornament, above and beyond the concept of purely rational architecture, is evident. New kinds of processing methods also open up new possibilities to use natural stone ornamentally in the design process. However, I find that the variety that natural stone per se demonstrates in terms of texture, colour, pattern, surface treatment, etc., whilst remaining natural or true to its material basis, is already so extensive that it is not absolutely necessary to add additional ornamentation to it. What is interesting is surely the concept of perforation, the three-dimensional processing of stone slabs, which opens up an almost infinite range of patterns, reliefs and ornamental effects.

Sto: Unless we draw on locally-sourced materials, the transportation of stone results in high costs. In times when environmental impact is high on the agenda, the local availability of natural stone will play a prominent role. However, glass, steel, and concrete can be produced and are available on a global level. Could the exclusivity of stone be an advantage on the market?

Titus Bernhard: Regional and "traditional" construction can be a sign of quality, as long as it is not seen as backward-thinking or overly sentimental. This notion also includes the use of natural stone that can be found regionally. As well as saving transport costs, this availability is practical and establishes relationships with the local areas. The exclusivity of a construction project is demonstrated least of all by the price or the value of a building material, but rather by the quality concerning the essential themes of good architecture, e.g. the interplay of light and space. In terms of the atmosphere or the logic of a building, a material can either help it along or be wholly unsuitable. The concepts of "global" or "international" style are increasingly losing the exclusive or avant-garde character they used to have .



Expert interview

Quite the contrary, their popularity can even have a negative impact. There is therefore great potential in using locally-sourced materials with regard to the economy, environment, and promoting positive regionalism. In that sense, this approach can also be exclusive and advantageous.

Sto: Due to climatic changes, new demands are also being placed on facades. Is it conceivable that the old-style, solid natural stone facades from Central Europe may once again be used, or will the technically more ambitious and above all slimmer ventilated rainscreen cladding facades continue to be the benchmark? What role will stone play in the future, in your opinion?

Titus Bernhard: To my mind, climatic changes will not bring about any significant changes for the time being with regard to the use of natural stone. This is down to how long it takes to instigate processes for awareness and change. Stone is by nature a heavy material with a high specific density and high thermal conductivity, and hence has to be additionally insulated effectively. Nevertheless, studies show that natural stone facades demonstrate considerable advantages over the life cycle of a building compared, for example, with glass constructions. No energy is required to manufacture natural stone, apart from the energy used to process and transport it. Sustainability studies by PE INTERNATIONAL AG show that both in terms of manufacturing and restoration, and with regard to primary energy consumption and CO₂ equivalents, natural stone comes out much more favourably. A study of Frankfurt's OpernTurm opera tower, for example, has shown that the overall costs over the life cycle of the building are approx. 76 % higher for glass facades. It is very likely that natural stone rainscreen cladding systems in particular will be implemented in the future, as solid constructions are not economically viable.

Overall, I believe that natural stone will have a great future, as the trend for "naturalness" both in terms of people's lifestyle, individualisation, and ecological arguments, are a clear indication of this development.



House M, constructed using a self-supporting natural stone facade



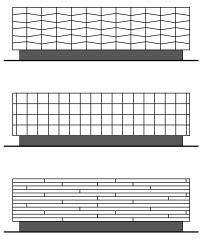
material demonstrating infinite use.

Inspiration Natural stone shows its versatility in many ways. For instance, it combined to excellent effect with other materials such as glass or render. The pattern opens up numerous architectural design possibilities. And natural stands highly suited for use as window sills or flooring.	ne joint
Surface: Sto-Gabbro Super Dark, polished	Inspiration 1

Daring the gap

Even when the largest possible natural stone formats that Sto offers are used, joints between the individual elements still exist. However, this doesn't mean the design is interrupted: separating, arranging, structuring or patterning – it is often the joints that lend a building its particular character. The way a designer deals with the joint pattern is a key aspect of architectural design. The scope is considerable: whether horizontal or vertical, varying in width, symmetrically or asymmetrically positioned, joints help visually break up large wall surface areas and structure building facades.

When using solid stone panels, our StoVentec Stone Massive system provides you with extra room to play with. In contrast to pin-anchored systems, where larger panels are also connected using wider joints, StoVentec Stone Massive can also cope with particularly small joints.



Huge range of variants: just three examples of how joints can be used to create appealing facades.





The freedom to choose

Freedom of design is the underlying aim of every good sub-construction. The StoVentec facade system also allows you to use a range of different surface materials and to combine them. Facades of this kind are suitable for breaking up uniform surfaces and emphasising material transitions, for example on staircases or entrance areas.

In particular, combining natural stone with glass or render surfaces is pretty much a classic example. However, it is not just the surfaces that can be altered, the constructions on which they are based can also be varied. Such combination facades, for example, linking an RSC with a classic EWIS, are enhanced with numerous connection details from Sto facade technology.



Q'Artis multi-unit residential complex, DE-Hanover I.A Lassen Architekten, DE-Hanover External wall insulation system with natural stone tiles in the entrance area



Strength you can bank on

Strong on the outside, attractive on the inside. Even window sills make an important contribution to the visual appearance of a building. Here too, natural stone shows its strengths: it can permanently withstand the effects of weather and is easy to maintain.

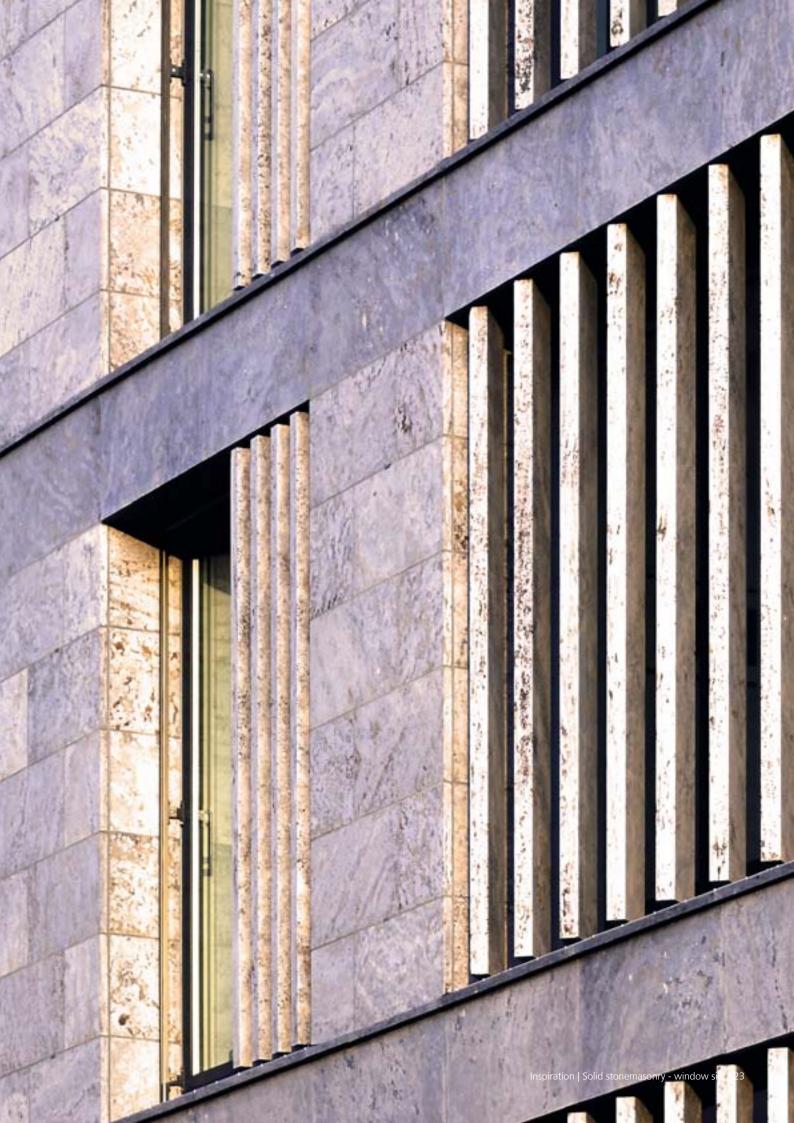
Natural stone window sills are also ideal for installation in external wall insulation systems. As a leading manufacturer of these systems, Sto has developed a fully integrated system which ensures that window sills are connected so that they are resistant to driving rain and guarantee optimum water drainage. To do this, the window sill is placed in a prepared sealing bed. The upstand profiles and the drip edge profile (fitted with adequate spacing from the facade) ensure that rain water does not leave behind any undesired traces on the facade. Stone window sills can be used both indoors and outdoors.

Developed for optimal installation in external wall insulation systems: Sto-Window Sill Stone





A good outlook: at the Sparkasse Mainfranken bank, individually manufactured natural stone window sills have been combined with vertical fins. All produced using Sto-Fossil MKL.



Quality at every turn

A cut above for any public area. Concert halls, shopping centres, foyers, airport terminals... anywhere where there are lots of people means that high requirements are placed on the floorings that are used: they have to look good and be robust – and maintain their value even many years later. It is in such cases that stone flooring proves the right choice: first-class in terms of quality and processing, the stone lives up to the demands placed on public areas. The extensive Sto natural stone range, some of which is procured from its own quarries, has a large selection of stones in stock for interior and exterior application.

Benefits of natural store flooring

- High-quality appearance
- Good thermal conductivity and heat storage capacity
- Well suited for floor heating systems
- Linking of interior and exterior areas
- High compressive strength and abrasion resistance
- Durable material



Fritz Thyssen Foundation, DE-Cologne cheret bozic architekten dba dwb, DE-Stuttgart







Material variants When it comes to natural stone, Sto is right at the Sto subsidiary HemmStone is in charge of the quarrying in Germany responsible for the skilful processing of the stone. The result of good a wide range of textures, colours, and shapes.	and is also
Surface: Sta Fassil SKI - coarsoly boned C60	Material variants I 2

Material variants | 27 Surface: Sto-Fossil SKL, coarsely honed C60

Everything from a single wall

What once served the royal court, nowadays provides the material for Sto facades: for over 200 years, the stone deposits in Kirchheim, Lower Franconia, have largely belonged to the company Carl Schilling, who was a master stonemason for the royal court. As beautiful as it is durable, Schilling quickly recognised the importance of the Kirchheim shell limestone and it is not for nothing that he is now regarded as the founder of Kirchheim's shell limestone industry.

In geological terms, the shell limestone from Lower Franconia constitutes the top layer of the main shell limestone, a massive geological succession, which formed around 250 million years ago as a result of marine deposits.

Even though new quarries and technologies have been established since Carl Schilling's era, these genuine royal roots are an obligation for HemmStone, the Sto subsidiary that now runs the quarry, – an obligation to tradition, craftsmanship, and utmost quality. As well as being responsible for extracting the natural stone, HemmStone is also in charge of processing it. To do this, they rely on good old craftsmanship, know-how, and a team of experienced specialists.

On its journey to becoming a facade, the natural stone extracted from the quarry has to undergo various processing stages.





At HemmStone, the quality of the materials and processing is subject to constant and strict testing.



Character is key

Smooth. Rough. Gloss. Matt. By its very nature, stone features a wide range of colour schemes and textures. The already rich design possibilities are enhanced even further by various surface finishes. A process through which the appearance of the individual stone is laid bare and topped up with additional sensuality.

rom smoothly honed and sand-blasted to coarsely bushhammered, any design dream can be turned into reality. For example, a gloss surface can highlight the elegance of a foyer, a rough finish lends a building a more natural, authentic character. At Sto, all of this kind of work is carried out by our subsidiary HemmStone, which is a specialist in processing and trading an extensive range of natural stones as well in extracting shell limestone. In order to be able to offer the widest possible range of products, HemmStone sources high-quality stones from around the world, as and when required. However, for reasons concerning protection of the environment and its natural resources, stone that can be obtained locally is primarily used.







The stone sample cube can be delivered with various surface finishes.



The Sto natural stone range

Stones are all the same, aren't they? No! In addition to its functional strengths, natural stone is also extremely diverse. As a natural stone specialist among the facade experts, Sto is able to offer a wide range of stone types and the associated wealth of variants when it comes to consistency, colour schemes, patterns and textures.

This diversity can be used on an extremely wide range of projects: whether it be a bank or an opera house, a church or a hotel, an office or an apartment building – a facade made of natural stone lends the building a completely unique and distinctive character.

Sandstone



Sto-Sandstone Sto-Sandstone Neubrunn Royal Yellow



Sto-Sandstone

Desert Yellow



Sto-Sandstone Volga Red

Limestone



Sto-Fossil Classic White



Sto-Fossil



Sto-Dolomit Sto-Fossil Frankonia Grey Bavaria Yellow



Sto-Fossil



Bavaria Grey-Blue

Sto-Fossil KRL

Sto-Marble Crystal White



Sto-Fossil Std SKL Mi



Sto-Fossil MKI



Sto-Fossil SKD



Sto-Fossil SBL

Other



Sto-Granite Bianco Ozieri



Sto-Granite Final Red



Sto-Chlorite Slate Green Carat



Sto-Gneiss



Sto-Gabbro



Sto-Gabbro Super Dark

Polished

Gloss stone surfaces highlight the grain and characteristic features of each individual stone.

Finely honed C320

Silk-matt gloss lends the stone depth and highlights the natural texture.

Coarsely honed C60

A matt finish suits stones with a particularly dynamic texture.

Sand-blasted

This finish highlights the harder components on the surface of the stone, which are generally lighter in colour.

Blasted and combed

The soft, leathery surface lends the stone a Mediterranean, antique appearance.

Sto-Sandstone Neubrunn



Coarsely honed C60 Blasted



The Sandstone Neubrunn is a classic sandstone from the Upper Main region, whose colour changes from white-grey to oatmeal. Its light graining is mainly noticeable when it is wet. Thanks to the constant colour stability of the deposits, this sandstone can be applied over large areas (5000 m² and above) with a homogeneous appearance. The stone was used in the recent renovation at Neuschwanstein Castle.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill
Suitability	•	•			•	•	•
Surface finishing							
Polished							
Coarsely honed C60	✓	✓			✓	✓	✓
Finely honed C320							
Blasted	✓	✓			✓		
Blasted and combed							

Sto-Sandstone Royal Yellow



Blasted Coarsely honed C60



The Royal Yellow originates from Poland, is fine- to medium-grained and has a colour spectrum that ranges from light-yellow to intense ochre-yellow. It has a great tradition as a building, cut and decorative stone and was in popular usage in Berlin around the turn of the last century. Both the Brandenburg Gate and the Reichstag were constructed using this material. Just like the Sandstone Desert Yellow, it is ideally suited for ventilated rainscreen cladding facades.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill
Suitability	•	•			•	•	•
Surface finishing							
Polished							
Coarsely honed C60	✓	✓			✓	✓	✓
Finely honed C320							
Blasted	✓	✓			✓		
Blasted and combed							

Sto-Sandstone Desert Yellow



Coarsely honed C60 Blasted



This sandstone, which has been used extensively in Leipzig and Dresden (Church of Our Dear Lady), has a medium-grained texture and its colour ranges from light-yellow to yellow-brown. With its generally coarsely-honed (C60) or occasionally bush-hammered or blasted surface, it has the appearance of smoothed sand, like that found on a beach. Incident light is reflected with a bright, yet warm tone. The stone is well suited for use on ventilated rainscreen cladding sandstone facades and is increasingly in demand as a solid material.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill
Suitability	•	•			•	•	•
Surface finishing							
Polished							
Coarsely honed C60	✓	✓			✓	✓	✓
Finely honed C320							
Blasted	✓	✓			✓		
Blasted and combed							

Sto-Sandstone Volga Red



Blasted Coarsely honed C60



Volga Red is the sales name of a fine-grained Lower Main sandstone, which is probably one of Germany's most-photographed stones, as the entire city of Heidelberg was built with it. The fine-grained stone, whose subtle graining is barely noticeable, is characterised by good technical values – particularly a high abrasion resistance value –, which qualifies it as an all-purpose building, cut and decorative stone. Thanks to its low colour variation it can be applied over large areas.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S*	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill
Suitability	•	•	•	•	•	•	•
Surface finishing							
Polished							
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓
Finely honed C320							
Blasted	✓	✓	✓	✓	✓		
Blasted and combed							

Sto-Fossil Classic White



Coarsely honed C60 Finely honed C320



The Classic White limestone is mined in the Bavarian area of the Danube river. Cut against the grain, in other words across the layers, it resembles the Travertin stone. Its very light colour lends it a certain noble impression, which is also reflected in the projects it's been used in. Both the floors of the foyer in the Staatsoper Berlin and the Gerling Ring-Karree business complex in Cologne, which was designed by Sir Norman Foster, were built with this stone.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing	Surface finishing									
Polished										
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted										
Blasted and combed										

Sto-Fossil Bavaria Travertin



Coarsely honed C60 Finely honed C320



Stones exhibit different patterns due to their geological formation. Subsequently, the stone is cut either "with the grain" (parallel to the layers) or "against the grain" (through the layers). Bavaria Travertin is cut "against the grain" and thus acquires a surface that is very similar to the Roman Travertin. The very light to yellow-brown stone that originates from specific layers in Jura quarries in Bavaria is primarily used in finely honed form as a building block.

Areas of application									
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill		
Suitability	•	•	•	•	•	•	•		
Surface finishing									
Polished									
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓		
Finely honed C320	✓	✓	✓	✓		✓	✓		
Blasted									
Blasted and combed									

Sto-Dolomit Frankonia Grey



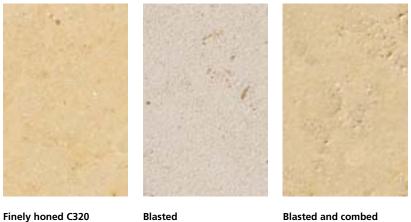
Coarsely honed C60 Finely honed C320



This open-pored dolomite stone from Franconian Switzerland is considered to be technically difficult to work with. The hard-wearing Frankonia Grey is as resistant as a hard stone and is therefore suitable for use on flooring as well as facades. As it is extremely resistant to acids, it has gained a certain significance in terms of fountain and hydraulic construction. In powder form, it is used as an additive in special cements; as a block, it is also employed as a window sill in facade insulation systems, for instance.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing	Surface finishing									
Polished										
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted										
Blasted and combed										

Sto-Fossil Bavaria Yellow



Coarsely honed C60



To give it its correct petrographic name, this stone is a Jura limestone; however, it is known internationally as Jura marble. Due to its very high technical values for a limestone (compressive strength of up to 149 N/mm²), the material comes highly recommended for use as a durable flooring in public buildings; numerous airports and shopping centres provide this stone as a footing for their visitors. Its light-yellow colour provides considerable horizontal illuminance, creating energy-efficient light rooms and a friendly atmosphere.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing	Surface finishing									
Polished										
Coarsely honed C60	\checkmark	✓	✓	✓	✓	✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted	✓	✓	✓	✓	✓					
Blasted and combed	✓	✓	✓	✓						

Sto-Fossil Bavaria Grey-Blue



Finely honed C320 Coarsely honed C60



Bavaria Grey-blue is technically very similar to Bavaria Yellow but its colouring is less yellow and more blue and it contains small to large glittering gold pyrite inclusions. Its compressive strength of up to 158 N/mm² is even higher than that of its yellow relative. The stone is not considered absolutely frost-resistant, meaning that flooring made of Grey-blue should only be used for interiors. It is particularly suited for installation on floor heating systems. It can be used on both interior and exterior facades without any problems.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing	Surface finishing									
Polished										
Coarsely honed C60	\checkmark	✓	✓	✓	✓	✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted										
Blasted and combed										

Sto-Fossil KRL



Coarsely honed C60 Blasted Blasted and combed Finely honed C320



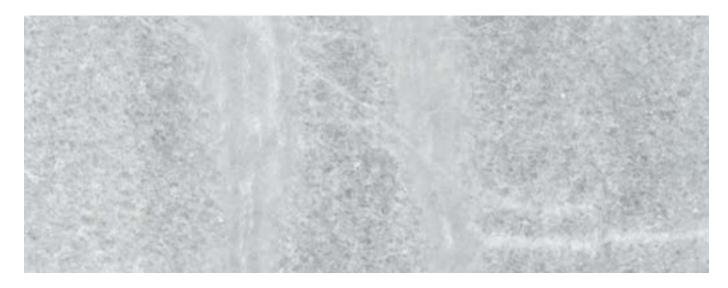
The Fossil KRL deposits are can be found not far from Würzburg. This fine-grained limestone is also frost-resistant. The grey to beige-brown stone is characterised by a fine seashell pattern. But that is not the only reason why the material is so popular and expensive: as the stone can only be extracted in relatively small blocks, a lot of waste is generated during subsequent processing. KRL is predominantly used as a building and decorative stone, but is also popular among sculptors.

Areas of application									
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill		
Suitability	•	•			•	•	•		
Surface finishing									
Polished									
Coarsely honed C60	✓	✓			✓	✓	✓		
Finely honed C320	✓	✓				✓	✓		
Blasted	✓	✓			✓				
Blasted and combed	✓	✓							

Sto-Marble Crystal White



Polished Coarsely honed C60



This sharply contrasting grey and blue marble is infused with sections of white streaks and clouds. With just 0.08 weight-% the approximately 250-million-year-old stone absorbs the lowest amount of water of all stone types presented here, making it resistant to both frost and de-icing salt. In line with this, the material, whose surface is mainly polished, but occasionally also honed or blasted, is used both in interior design as well as for facades and terraces.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing										
Polished	✓	✓	✓	✓		✓	✓			
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓			
Finely honed C320						✓	✓			
Blasted					✓	✓				
Blasted and combed						✓				

Sto-Fossil SKL



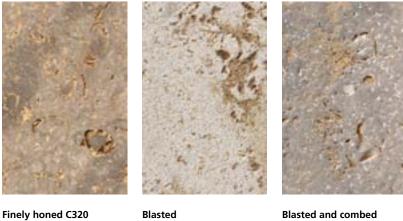
Coarsely honed C60



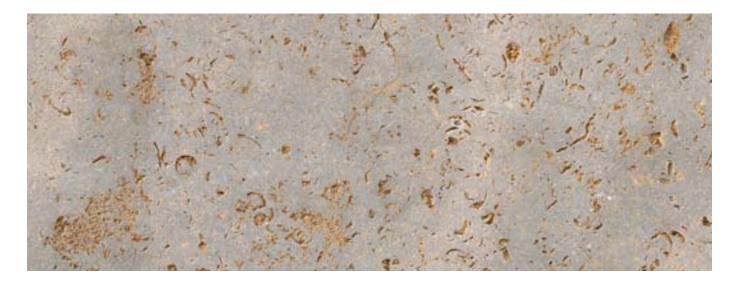
Fossil SKL features a grey base colour interspersed with brown pearls. Despite its lower compressive strength typical of any shell limestone, it occupies first place among the shell limestone collection presented here when it comes to abrasion resistance. Its low porosity makes it resistant to frost and therefore suitable for use on outside staircases as well as fountains, and even for railway and motorway bridges. The stone is used throughout Germany; it is traditionally very popular in the Ruhr area.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing	Surface finishing									
Polished										
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted	✓	✓	✓	✓	✓					
Blasted and combed	✓	✓	✓	✓						

Sto-Fossil MKL



Coarsely honed C60 Blasted



Fossil MKL developed approximately 230 million years ago. This highly patterned, grey-brown stone is offered cut "with the grain" and "against the grain" (parallel to the layers or through them). The material is open-pored, making it fully frost-resistant. It can be used for wall panels and floor slabs, both in interiors and exteriors. The stone should be used with a coarse surface or finely honed at the most.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing										
Polished										
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted	✓	✓	✓	✓	✓	✓				
Blasted and combed	✓	✓				✓				

Sto-Fossil SKD



Coarsely honed C60 Finely honed C320



This grey-brown limestone contains a huge slice of the Earth's history, as around 75 % of it is made up of seashells and other small fossils. It is similar to Fossil SKL but is cut against the grain (i.e. against the layers of stone). Whereas its counterpart, the SKL, is generally used in coarsely honed form (C60), the SKD is predominantly delivered to the construction site finely honed (C320).

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill			
Suitability	•	•			•	•	•			
Surface finishing	Surface finishing									
Polished										
Coarsely honed C60	✓	✓			✓	✓	✓			
Finely honed C320	\checkmark	✓				✓	✓			
Blasted										
Blasted and combed										

Sto-Fossil SBL

Finely honed C320





Fossil SBL is a dark-grey to dark-blue stone made of shell limestone, which exhibits high colour stability. This feature becomes important when designing large surfaces that require as homogeneous an appearance as possible. Due to how it has formed, the material is unstratified (ashlar limestone) and is between 2 and 3 metres thick.

It is well suited for installation on flooring and stairs and has recently been used in the new international airport in Berlin.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing										
Polished										
Coarsely honed C60	✓	✓	✓	✓		✓	✓			
Finely honed C320	✓	✓	✓	✓		✓	✓			
Blasted	✓	✓	✓	✓						
Blasted and combed	✓	✓	✓	✓						

Sto-Granite Bianco Ozieri



Finely honed C320 Polished



Bianco Ozieri is a granite that is of great interest from an economic point of view. It has been exported in large quantities from Sardinia since the 1970s. Even though the individual large blocks are very colour-stable, the wide range of qualities offered means that a binding sampling process should be carried out. This stone can be processed to form tiles and boards for interior and exterior use.

Areas of application										
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill			
Suitability	•	•	•	•	•	•	•			
Surface finishing	Surface finishing									
Polished	\checkmark	✓	✓	✓		✓	✓			
Coarsely honed C60					✓					
Finely honed C320	✓	✓	✓	✓	✓	✓	✓			
Blasted					✓					
Blasted and combed					✓					

Sto-Granite Final Red



Polished Finely honed C320



This medium- to coarse-grained granite features a red base colour, which is accentuated by black speckles. This material is Finland's most popular natural stone. This Scandinavian granite can be extracted as large blocks, making it extremely economical. It comes highly recommended thanks to its overall good technical values and, in particular, shines in the compressive strength category.

Areas of application								
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill	
Suitability	•	•	•	•	•	•	•	
Surface finishing	Surface finishing							
Polished	✓	✓	✓	✓		\checkmark	✓	
Coarsely honed C60					✓	✓		
Finely honed C320	✓	✓	✓	✓	✓	✓	✓	
Blasted					✓	✓		
Blasted and combed						✓		

Sto-Chlorite Slate Green Carat



Coarsely honed C60 Finely honed C320



The dark- to bottle-green Green Carat drawn through with white streaks and clouds belongs to the diabase family of rocks (from the Greek 'diabiano' meaning 'to pass through') and is therefore an extrusive igneous rock formed through metamorphic transformations. It is as hard as granite and, with a respectable 33 N/mm², features the highest flexural strength of all the natural stones presented here. Even so, sculptors appreciate how easy it is to work with. The finely honed stone absorbs grease when touched frequently, making it appear waxed and pleasant to the touch.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS*	Exterior floor	Interior floor	Window sill
Suitability	•	•	•	•	•	•	•
Surface finishing							
Polished							
Coarsely honed C60	✓	✓	✓	✓	✓	✓	✓
Finely honed C320	✓	✓	✓	✓		✓	✓
Blasted							
Blasted and combed							

Sto-Gneiss Dark Green



Polished Finely honed C320



Gneiss formed through metamorphosis, in other words through the exposure to high pressures and temperatures in the layers of rock far below the Earth's surface. As a result of tectonic shifts, these rocks subsequently moved towards the surface. They are very similar to granite and are also traded as such internationally (China, USA); this is not permitted in Europe. The highly variable texture of this frequently polished stone only allows smaller, homogeneous surfaces to be covered, and is subject to prior sampling.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill
Suitability	•	•	•	•	•	•	•
Surface finishing	Surface finishing						
Polished	✓	✓	✓	✓		✓	✓
Coarsely honed C60							
Finely honed C320	✓	✓	✓	✓		✓	✓
Blasted					✓		
Blasted and combed							

Sto-Gabbro Nero Transvaal



Finely honed C320 Polished



The Gabbro Nero Transvaal is similar to granite. Its continuously dark-grey colouring without much grain is highly striking. The stone comes from South Africa and has been very popular in Germany since the 1960s. This may be down to the fact that it is one of the most economical of the homogeneous dark stones. Thanks to its low level of thermal expansion, it is popular for use in science as a base material for technical and visual devices.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill
Suitability	•	•	•	•	•	•	•
Surface finishing							
Polished	✓	✓	✓	✓		✓	✓
Coarsely honed C60					✓		
Finely honed C320	✓	✓	✓	✓	✓	✓	✓
Blasted					✓		
Blasted and combed							

Sto-Gabbro Super Dark



Polished Finely honed C320



Gabbro Super Dark has an apparent density of 3 and can therefore be regarded as a true heavyweight. With its compressive strength of up to 252 N/mm², it also proves to be extremely tough. Its importance in German architecture is still modest at present; in Japan, however, it is used in great quantities as facade cladding.

Areas of application							
	StoVentec Stone Massive	Pin-anchored natural stones	Natural stone tile bonded to StoVentec S	Natural stone tile bonded to EWIS	Exterior floor	Interior floor	Window sill
Suitability	•	•	•	•	•	•	•
Surface finishing							
Polished	✓	✓	✓	✓		✓	✓
Coarsely honed C60					✓		
Finely honed C320	✓	✓	✓	✓	✓	✓	✓
Blasted					✓		
Blasted and combed							

Individuality in the form of a square – or would you prefer a trapezium?

The StoVentec Stone Massive ventilated rainscreen cladding facade system with solid stone panels provides the best foundation for good design – it focuses on the essentials. Thanks to the invisible mounting system, attention is directed to the stone surfaces and joints – uninterrupted by frames, rails, or point supports.

This homogeneous appearance can be formed using rectangle, square, trapezium, parallelogram, and other panel shapes. As the distance to the wall of the building can be adjusted precisely with StoVentec Stone Massive, any unevenness can also be levelled.



StoVerotec GmbH, DE-Lauingen





Systems More than just a wide range of exclusive stones is hidden behinsulation systems with natural stone panels – literally. Because they con	ceal the
ntelligent systems behind them. These ensure energy efficiency, durabilition iving comfort in the interiors.	ty and



StoVentec Stone Massive system structure

- 1 Anchorage substrate2 Thermal insulation (fleece-laminated)
- **3** Sub-construction
- 4 Agraffe profiles
- **5** Stone carrier profile with undercut anchor
- 6 Natural stone slab

Undercut technique: Compared with conventional pin anchors, the undercut technique demonstrates a loadbearing capacity that is three to five times greater. Due to their more central positioning in the rear side of the stone slab, bending stress in the stone is considerably reduced and thinner facade panels can be used.



The technology behind the facade

You only see the stone, not the technology. The StoVentec Stone Massive system works without any visible fixing points. Stainless steel wall brackets positioned on the facade are screwed to aluminium profiles, which, in turn, are attached to aluminium agraffe profiles. Wall brackets made of stainless steel are superior to conventional aluminium products because they greatly reduce thermal bridges.

The natural stone slabs are fitted with undercut drilled holes on the back. The stone carrier profiles are mounted on the natural stone slabs on site with the aid of undercut anchors. The stone carrier and agraffe profiles are precisely matched, enabling the slabs to be mounted easily in the sub-construction. The installation work is reduced to a minimum, the slabs can be installed on site under any weather conditions, and the slabs remain easy to replace. Compared with conventional drilling mortar anchoring,

the resulting benefits include, for instance, a reduction in the thermal bridging effect and lower noise and dust emissions. Thanks to its high-quality appearance and its economic and efficient installation, this technically proven system can be used with all natural stone panels from the Sto range.

Restrictions regarding slab formats may result due to structural or geological reasons or technical aspects of the installation process.



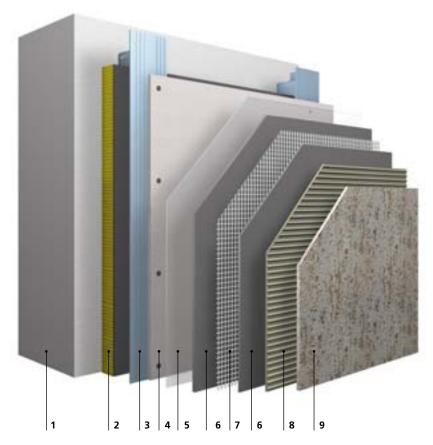
Pin-anchored natural stone facade: the traditional facade system with 10-mm joints. For this, the slabs around the horizontal or vertical joints are provided with drilled holes for fitting the anchoring pins. All panels from the Sto range can be used to produce a stable system which is suitable for both interior and exterior application.

Facade insulation systems with natural stone tiles

The successful combination of facade insulation systems and natural stone tiles is both aesthetically as well as ecologically impressive. The solid natural stone appearance stands out at first glance – without any open joints. The maximum tile size is 90 x 60 cm. Upon a second look the additional benefits become apparent: the insulation systems with natural stone tiles exhibit particularly high mechanical and impact resistance. They are also frost-resistant. And the highly efficient insulation enables considerable energy cost savings.

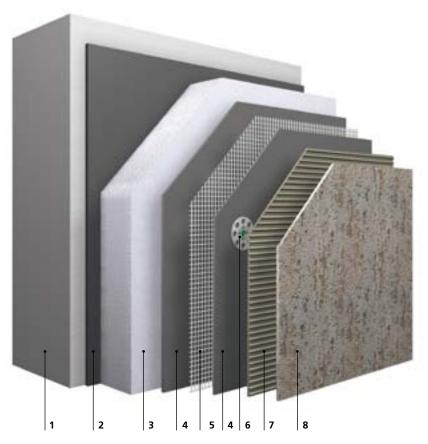
The StoVentec S ventilated rainscreen cladding facade system

The StoVentec Carrier Board – screwed to the sub-construction – is the key component of the ventilated rainscreen cladding facade system. It is temperature-resistant and has a low expansion coefficient. A note on application: first, the base coat is applied together with the embedded reinforcement mesh, then the natural stone tiles are bonded to it and the joints are pointed. Thanks to the exceptional properties of the StoVentec Carrier Board, there are hardly any limitations when it comes to combining it with other materials: render, glass, glass mosaic or ceramics can be combined perfectly – anything is possible. In addition, the special building physical properties – thanks to the rear ventilation – ensure not only improved sound attenuation but also optimal protection from humidity.



StoVentec S system structure

- 1 Anchorage substrate
- **2** Thermal insulation (fleece-laminated)
- **3** Sub-construction
- 4 Carrier board
- **5** Primer
- 6 Base coat
- **7** Reinforcing coat with glass fibre mesh
- 8 Bondina
- 9 Natural stone panel



External wall insulation systems with natural stone tiles

The proven StoTherm Vario, StoTherm Classic, and StoTherm Mineral external wall insulation systems can be implemented using natural stone tiles. A note on application: once the insulation boards have been bonded to the substrate, the base coat is applied and a reinforcing mesh embedded. Unlike the external wall insulation systems (EWIS) that use render, dowelling is performed through the reinforcing mesh in this case. The natural stone tiles are subsequently applied

The natural stone tiles are subsequently applied using adhesive. The joints are then pointed. Combining the stone with render or ceramics provides diverse design possibilities.

EWIS system structures

- **1** Anchorage substrate
- **2** Bonding
- 3 Thermal insulation
- 4 Base coat
- **5** Reinforcing coat with glass fibre mesh
- **6** Fixing
- **7** Bonding
- 8 Natural stone panel



Projects The design potential that facades made of natural stone offer can best be demonstrated using specially-selected examples. The reference projects on the following pages will provide insight into their diversity.	

A bank invests in lasting values

A facade refurbishment in a historic environment: situated right in the centre of Würzburg between the cathedral and the Residenz palace, the administrative headquarters of the Sparkasse Mainfranken bank were looking for a solution that combined a prestigious appearance with the necessary restraint. kuntz+manz architekten, the architects charged with the project, opted for a StoVentec Stone Massive natural stone facade made of shell limestone that could be found locally.

The existing building from the 1960s underwent a reinterpretation in terms of its form but without denying its historical context. The large-format glass openings of the conference rooms, for instance, were screened with vertical fins: they lend the facade a graceful structure and also serve to shield the rooms from view and the sun. The new concrete binding joists which bear the natural stone ventilated rainscreen cladding enable the building to project over the corner without requiring any supporting columns. The shell limestone on the wall plates and storey ceilings features a finish in various polishes, thus emphasising the facade's storey-based structure.

Project:

Sparkasse Mainfranken, DE-Würzburg

Architects:

kuntz + manz architekten, DE-Würzburg

Building owner:

Sparkasse Mainfranken, DE-Würzburg

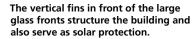
Sto expertise:

StoVentec Stone Massive with Sto-Fossil MKL

Tradesmen:

Hemm, DE-Kirchheim









Playfully light practicality.

The office building of Kienhuis-Hoving chambers in the Enschede business park says a lot about Dutch architectural traditions. With a glint in their eyes, the architects evoked the lightness of being in all its directness and practicality. The first four storeys emphasise a certain practicality – the rainscreen cladding system with natural stone tiles conveys tranquility and respectability. The bright white facade marks a great contrast. The outlandishly high top floor with its protruding, tapered roof slab takes the playful touch to the extreme.

The interesting contrast with the exterior facades continues seamlessly into the atrium. The thermal insulation is also incorporated in the atrium: plastered in white or finished with a six-millimetre-thin layer of natural stone. The stone quarried in Sweden covers, on the one hand, a conventional external wall insulation system based on polystyrene, and, on the other, a ventilated rainscreen cladding facade, which was put to use on the exterior. The connection between the white plastered and ventilated surfaces is designed seamlessly; only a joint tape and a basement section separate the two facade areas.

Project:

Drienerbeek offiice building, NL-Enschede

Architect:

IAA Architecten, NL-Enschede

Building owner:

Kienhuis-Hoving Advocaten & Notarissen, NL-Enschede

Sto expertise:

StoTherm Classic with natural stone StoVentec with natural stone

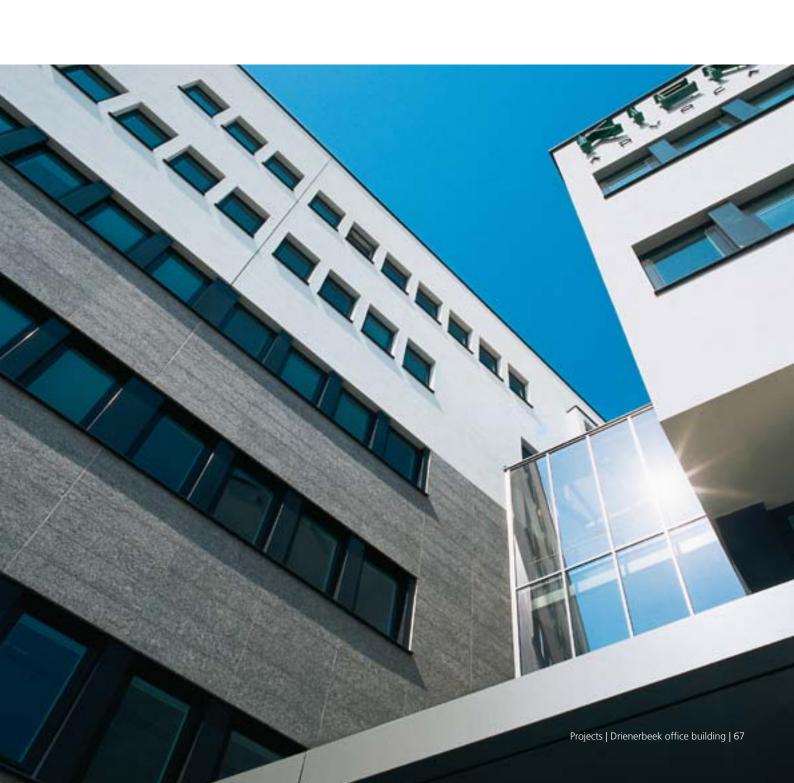
Tradesmen:

Olminkhof & Jannink & Eissink & Ottnik





On the exterior, the face brick facade is designed as a rainscreen cladding system for reasons relating to moisture. The natural stone tiles were bonded to the reinforced StoVentec Carrier Board.



Facades with a sea view

Living and working right by the sea. That was the idea for the "Ankarspelet" project in Malmö. Designed by the Malmö architecture office 'white', a completely new district of the city comprising modern office and residential buildings was developed – right on the waterfront and overlooking the imposing Øresund Bridge that connects Sweden and Denmark.

For the facade, the architects opted for the StoVentec Stone Massive facade system. The Travertin conveys a high-quality appearance and is also well able to withstand the severe seaside weather conditions – wind, water, salt. Thanks to the very narrow joints, the facade appears to be almost uninterrupted, thereby adding to the harmonious appearance of the building complex. Despite the "heaviness" of the material, the facade comes across as light and welcoming. A harmonious addition to the typical blue tones of the sea and sky.

Project:

Kvarteret Ankarspelet 2, SE-Malmö

Architects:

White arkitekter AB, SE-Malmö

Building owner:

Riksbyggen Brf. Ankarspelet, SE-Malmö

Sto expertise:

StoVentec Stone Massive with Sto-Etrusker Travertin

Tradesmen:

Klagshamns Maleri & Fasad AB, SE-Klagshamn







Stone makes your home more beautiful

Exclusive residential quarter in an inner-city location. Four large town houses containing 27 spacious, owner-occupied apartments overlooking the Botanical Gardens and Theaterpark have been built in Brunswick. The aspiration of the planner was to work uncompromisingly using high-quality materials for both the interior and exterior. For the facade, the architect Wolfgang Koch opted for the natural stone slabs from StoVentec Stone Massive.

The unusual grain of the Sto-Sandstone Neubrunn visually breaks up the cube. It appears to contain drawn shapes and figures. Thanks to the undercut technique applied, it was possible to use sandstone slabs that are just 3 centimetres thick. The facades are clearly structured by means of the clearly visible joints, which form a characteristic grid.

Project:

Am Botanischen Garten residential estate, DE-Brunswick

Architect:

Dipl. Ing. Wolfgang Koch, DE-Brunswick

Building owner:

Wiederaufbau Immobilien GmbH, DE-Brunswick, Kanada Bau GmbH & Co Beteiligungs- und Immobilien KG, DE-Brunswick

Sto expertise:

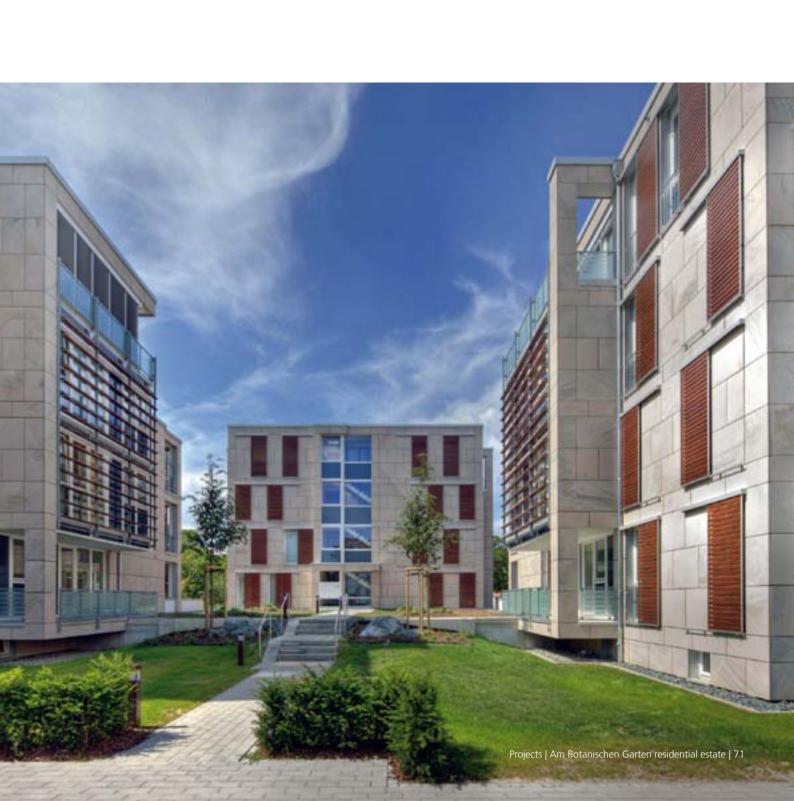
StoVentec Stone Massive with Sto-Sandstone Neubrunn

Tradesmen:

Hibbeln GmbH, DE-Wolfenbüttel



The unusual texture of Sto-Sandstone Neubrunn provides pleasant relief from the harsh appearance of the cube.



Tradition is sacred

The property of a former Franciscan monastery was the foundation on which a premium residential quarter was to be built – the "Klostergärten Münster". On behalf of the Frankonia property group, the architect Christoph Sattler succeeded in creating a building complex, the architecture of which unites references to the monastic tradition with modern aesthetic requirements. The idea was to recreate a garden at exactly the same spot where once the Franciscan monks used to walk in their cloister garden and to make it the heart of the entire residential estate.

The gardens are surrounded by villas, the names of which commemorate the stages of life of the founder of the order, Francis of Assisi, – Subasio, Siena, La Verna, Colombo. The villas are linked to the gardens via all-round ambulatories – a modern interpretation of a traditional cloister.

Project:

Klostergärten residential estate, DE-Münster

Architect:

Hilmer & Sattler und Albrecht, DE-Berlin

Building owner:

Frankonia Eurobau, DE-Düsseldorf

Sto expertise:

StoTherm Vario with Portuguese Creme Sintra limestone and Spanish Giallo Bras granite in the plinth area

Tradesmen:

Matthias Cremer, painting and decorating company, DE-Wassenberg Prasse, DE-Rheda Wiedenbrück

The all-round plinth lends the buildings and ambulatories of the Klostergärten a classical touch.





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