



Natural stone panelling

Product range

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Quintessential natural style

Natural stones are heterogeneous mixtures of minerals which have arisen over millions of years under the effect of pressure in conjunction with a binder such as lime. There are around 4,500 to 5,000 varieties of natural stone throughout the world today. Natural stone was already in use thousands of years ago – by the Egyptians as a building material for the pyramids and also by the ancient Greeks and Romans, all of whom were aware of the advantages offered by this natural material. Today, we are able to draw on the experience which has been acquired over the millennia. Natural stone boasts many merits. No energy is required to produce the material. Extraction and processing involve relatively low levels of energy input in comparison to other building materials. By its very nature, natural stone is fully recyclable. Waste material arising during the extraction and processing of natural stones and the restoration of natural stone quarries can be put to economically viable use in other areas, such as horticulture or landscaping. This results in a closed cycle, with no losses of material. In addition, natural stone does not require any chemical additives or protective coatings. It is inherently free of harmful substances and non-combustible. These economical and ecological merits of natural stone provide for sustainability – a crucial factor in choosing building materials.



Timeless elegance

Sustainability and its many virtues



Q'Artis, Hannover (D)
Architects: Lassen Architekten, Langenhagen (D)



Versatility

Natural stone demonstrates its functional and aesthetic strengths today as facade embellishments, window sills, architectural elements and flooring in both interior and outdoor applications.

Sto-Fossil SKL (shell limestone) from the Sellenberg quarry is a particularly high-quality natural stone. This stone offers a broad spectrum of colours ranging from light grey through brown to blue, with deposits of snails and shells making every stone absolutely unique.

Stones come in all shapes and guises – smooth or rough, rugged or modern, warm or cold – to lend architecture a distinctive character.

Functionality

In addition to its variety in terms of appearance, touch and texture, natural stone also comes up trumps with regard to functionality. Facades made of stone stand up admirably to the ongoing effects of weather and pollution and offer a particularly long service life by virtue of their hard-wearing and weather-resistant nature. Stone also commonly performs a protective and structural function around windows and doors. Window sills play a key role in defining the character of a building.

Natural stone floors cope impressively with the continual stress and strain to which they are exposed while at the same time providing the basis for aesthetic design.

Product properties such as stability, hardness and durability are a boon in the planning and design of facades and provide buildings with sustained protection from environmental influences as well as ensuring an individual appearance.

Expert knowledge of the material and its applications

StoVerotec GmbH and HEMM STONE GmbH are the specialists for natural stone in the Sto organisation, reconciling the solid natural material with the needs of modern architecture through intelligent systems and high-quality products. A broad choice of natural stones is available for designing facades, flooring and window sills.

A complete overview of our natural stone range is to be found in the "Natural stone" product portfolio, which you can order or download at www.stoverotec.de.



Natural stone panelling

Applications

- Facades
- Window sills
- Stonemasonry
- Floors

Advantages

- Suitable for a variety of indoor and outdoor applications
- Unique textures and colours
- Surface finishing techniques enable various appearances for one and the same stone
- Absolutely eco-friendly building material
- Durable and sustainable
- Robust and weather-resistant
- Fire and impact-resistant
- Free of harmful substances

Surface finishing options

Natural stone shows its strengths



The diversity of natural stone is revealed in the vast design scope it offers in terms of colours, textures and surface finishes which can be crafted by hand or machine.

Architects are able to draw on a rich spectrum ranging from smooth-ground through sandblasted to coarse bush-hammered finishes. A smooth, gloss surface enhances the elegance of a foyer or the imposing character of a grand hall or auditorium, for example. A rough finish offering a good grip lends a building a more natural ambience.

StoVerotec GmbH draws here on the expert knowledge of its subsidiary HEMM STONE GmbH, which specialises in natural stone finishing and extracting Sto-Fossil SKL (shell limestone) from the Sellenberg quarry. To ensure the broadest possible product range, HEMM STONE GmbH obtains stones from all over the world. StoVerotec GmbH and HEMM STONE GmbH use German stones wherever possible, however, in order to save energy and cut costs.

The many different types of stones and surface finishes mean that every panel, every block, is unique.



C&A, Erlangen (D)

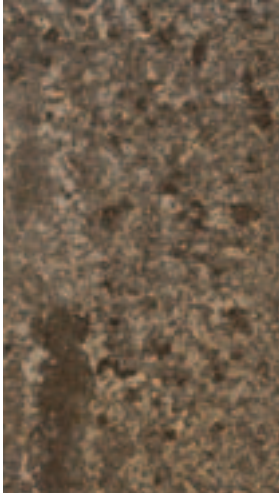





Left:
The stone sample cube featuring six different surface finishes can be ordered from HEMM STONE GmbH at the e-mail address info@hemmstone.de. The sample cube is available free of charge (Shipping costs to be borne by the customer.)

Row below:
Part of our natural stone panel range. A complete overview of our natural stone range is to be found in the "Natural stone" product portfolio, which you can order or download at www.stoverotec.de.



Surface finishes as demonstrated by Sto Fossil SKL

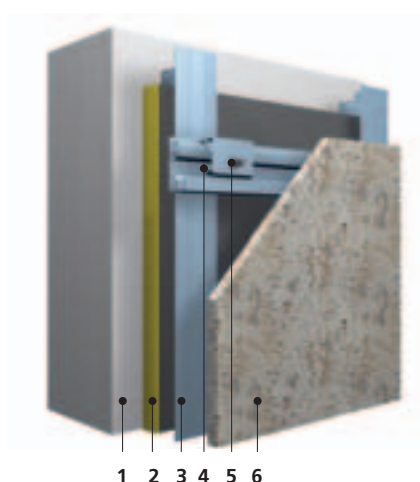
Surface finish	Polished	Ground, C 320	Ground, C 60	Sandblasted
				
Description	Gloss stone surfaces highlight the grain and characteristic features of each individual stone	Silk-matt gloss lends the stone depth and highlights the natural texture	A matt finish suits stones with a particularly lively texture	This finish highlights the harder components on the surface of the stone, which are generally lighter in colour

Other surface finishes (brushed, bush-hammered, niddged and flamed) and other abrasive grain sizes are possible on inquiry, according to the type of stone in question.

Facade systems

The technology behind the facade

- 1 Anchorage substrate
- 2 Thermal insulation (fleece laminated)
- 3 Sub-construction
- 4 Agraffe profile
- 5 Undercut anchor
- 6 Natural stone panel



StoVerotec Stone Massive

Ventilated rainscreen cladding system with natural stone panelling

A solid surface without any visible fixing points: The StoVerotec Stone Massive system with easily replaceable stone panels. A classy appearance, and economical to install. With this system the natural stone panels are provided with undercut drilled holes on the rear, technically approved undercut anchors are fitted and aluminium agraffes are screwed into place.

The panels are then fitted to the prepared stainless steel-aluminium sub-construction, which reduces the thermal bridging effect of the anchorage in comparison to drilling mortar anchorage. This simple fixing system minimises installation work and enables the panelling to be fitted on site in any type of weather. Another benefit of this system is the markedly lower noise and dust emissions in

comparison to conventional drilling mortar anchorage. This technically proven system is suitable for all natural stone panelling from the range. Any restrictions regarding panel formats result solely from static or geological reasons or technical aspects of the installation process.

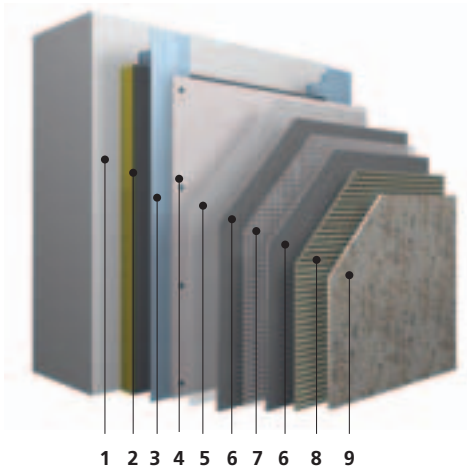


Undercut anchors have a load-bearing capacity three to five times greater than that of conventional pin anchors and also clearly reduce bending stress in the stone due to the central positioning in the rear side of the facade panel. This makes it possible to use thinner facade panels.

Residential complex at the Botanical Gardens, Braunschweig, Germany,

Architect: Wolfgang Koch, Braunschweig (D)

Owners: Wiederaufbau Immobilien GmbH, Canada Baud GmbH & Co., Beteiligungs- und Immobilien KG (see also cover)



- 1 Anchorage substrate
- 2 Thermal insulation (fleece laminated)
- 3 Sub-construction
- 4 StoVentec carrier board
- 5 Sto Primer
- 6 Reinforcement fibre plaster
- 7 Reinforcing mesh
- 8 Adhesive mortar
- 9 Natural stone panel



StoVentec Stone

Ventilated rainscreen cladding system with natural stone panelling

With pointed joints and broad scope for combination with other materials: The StoVentec Stone system, featuring a unique, stylish, high-class appearance.

StoVentec Stone is the ventilated rainscreen cladding system whose closed joints provide for a striking seamless look. StoVentec carrier boards, consisting of expanded glass granulate, provide an excellent substrate for natural stone panelling, are temperature-resistant and possess a low expansion coefficient.

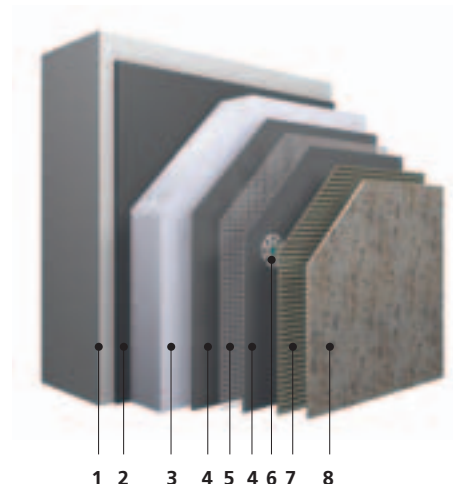
The technically approved StoVentec Stone system can be fitted with numerous thin and lightweight panels measuring up to 90 x 60 cm to provide effective insulation and an attractive finish for both existing and new buildings. With this system the natural stone panels which are bonded in place on site enable a natural stone facade at only just over a third of the weight of the StoVerotec Stone Massive facade system. StoVerotec Stone Massive combinations of stone with plaster, glass, glass mosaic or ceramics open up virtually unlimited scope for individual designs.

Kantoorpand-Kienhuis-Hoving, Drienerbeek office building, Enschede (NL)
I/AA Architekten & Ingenieurs, Enschede (NL)

Facade systems

The technology behind the facade

- 1 Substrate
- 2 Bonding
- 3 Thermal insulation
- 4 Reinforcement fibre plaster
- 5 Reinforcing mesh
- 6 Fixing system
- 7 Bonding
- 8 Natural stone panel



StoTherm Classic, StoTherm Vario and StoTherm Mineral

External wall insulation systems with natural stone panelling

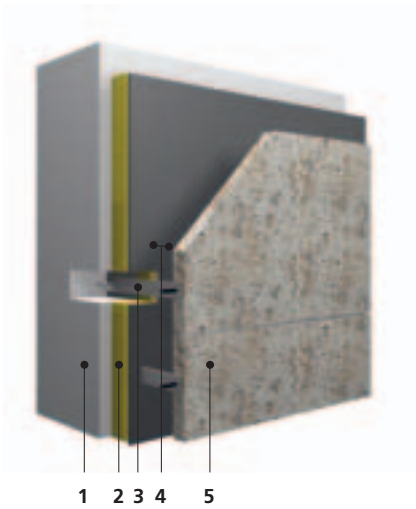
Simple and effective: Swift and economical installation. Reliable, combinable and extremely hard-wearing.

The limited combustibility / non combustible external wall insulation systems StoTherm Classic, StoTherm Vario and StoTherm Mineral are suitable for installation on both new and existing buildings. They offer high impact resistance, extreme resistance to weather influences and excellent thermal insulation. The protective and insulating functions and the swift and simple installation of these lightweight systems are a boon for any building. They reduce both energy costs and CO₂ emissions, making them a worthwhile investment all round.

Different surface finishes can be combined without any problem, as natural stone panels, plaster and ceramics can all be applied directly to the external wall insulation system (EWIS). The stone panels are available in the maximum size of 61 x 30.5 cm for installation up to a height of 4 m and in 30.5 x 30.5 format for fitting at a height of 4 m or above.



Holiday Inn Express, Schwabach (D). Architect: Hanno Höllfritsch, Munich (D)



- 1 Anchorage substrate
- 2 Thermal insulation
- 3 Mortar anchor
- 4 Ventilation zone
- 5 Natural stone panel

1 2 3 4 5



Pasing clinical centre, D-Munich

Pin-anchored natural stone panel facade

The traditional solution with 10 mm joints and pin-anchored natural stone panelling. A gold standard for prestigious effects.

These systems have been the most commonly installed natural stone panel facade systems for some years now. Various solutions have been evolved over the years to meet the most diverse requirements. Holes for fitting the anchoring pins are drilled in the panels in the area of the horizontal or vertical joints. All panels from our natural stone panelling range can be used to produce a stable system which is suitable for both indoor and outdoor applications.

Facade systems

Individuality meets functionality



Hotel Stadt Freiburg, Freiburg (D)
Architects: Grossmann Architekten | Ingenieure, Kehl (D)



Residential and commercial building, Saarbrücken (D)
Architects: Lamgo GmbH, Bous (D)



Solid workmanship

Prestigious stonemasonry and sculptural effects



Striking

Natural stone design elements lend facades, outside areas and interiors a highly distinctive appearance. New and existing buildings alike benefit from the high quality, durability and versatility of this natural building material. Natural stone preserves classical features and the historical character of old buildings in renovation projects while highlighting striking or discreet contours on modern architecture. The solid material can be delicately crafted to embellish buildings with added prestige value.

Varied

The varied spectrum extends here from decorative elements such as rosettes through ledges to columns and capitals.

The natural stone elements offer virtually unlimited scope for individual design in terms of shaping, texture and colour.

Customised

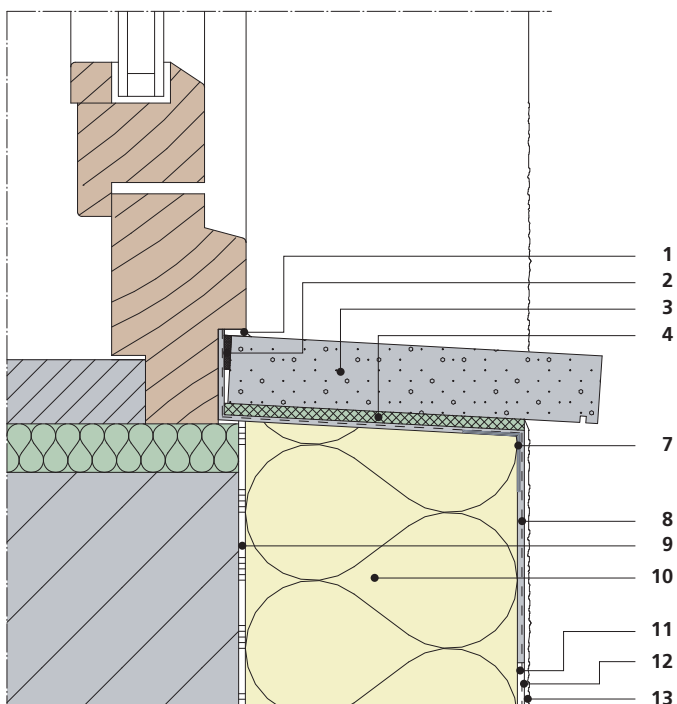
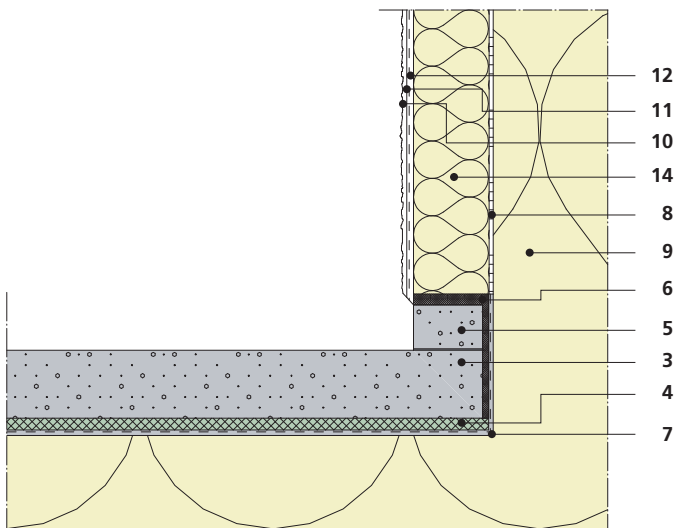
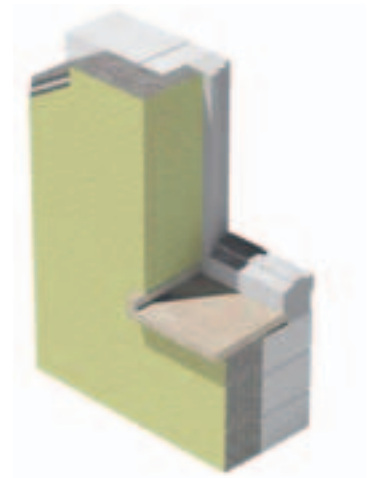
HEMM STONE GmbH is also able to realise individual, customised solutions. The robust stone's aesthetic merits come equally to the fore as abstract elements or as figurative, sculptural features.



Jackson Place, Washington (USA)

A finishing touch of class

Window sills provide structure



- 1 StoSeal F 505
- 2 Sto Window Sill Tape
- 3 Sto Stone Window Sill
- 4 Bonding
- 5 Sto Stone Window Sill Edge profile
- 6 Sto Joint Sealing Tape 2D 15/5-12
- 7 Sto PVC Mesh Angle Bead
- 8 Sealing level
- 9 Adhesive compound
- 10 Insulating boards
- 11 Reinforcing mortar
- 12 Sto Glass Fibre Mesh
- 13 Finishing layer
- 14 Insulating board

Strong on style - indoors and outdoors

Natural stone is also an ideal choice for features which ostensibly play only a secondary role in defining a building's architectural "face" – the window sills.

Outside, the true strengths of natural stone become apparent. It endures sustained exposure to weather influences and requires little in the way of care while adding aesthetic highlights to the facade.

Natural stone window sills are also ideal for installation in external wall insulation systems. As a leading manufacturer of external wall insulation systems, Sto AG has created a fully integrated system which ensures the driving rain-proof connection of stone window sills and optimum water drainage. The window sill is placed in a prepared sealing bed. The edge profiles and the drip edge profile (fitted with adequate spacing from the reveal) ensure that draining rain water does not leave behind any undesired traces on the facade.

Stone window sills can equally be used in interiors, where their high-quality appearance lends rooms a stylish character.

Rock-solid class

Natural stone panel floors



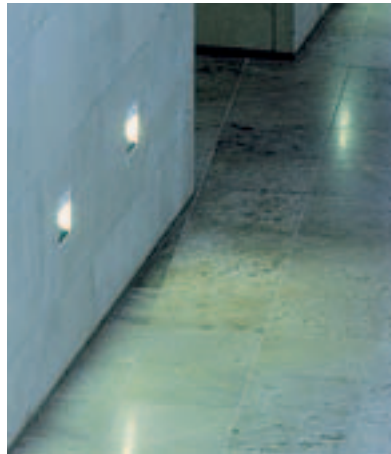
Floor coverings at concert halls, shopping centres, foyers and airport terminals are required to meet extremely high standards. At the same time, they must be easy to maintain and retain an attractive appearance for many years.

Hard-wearing stone floors are the ideal choice here. The high quality of the stone and the applied workmanship ensure that the flooring lives up to these exacting requirements. Each type of stone lends flooring its own distinctive style, from exclusive and elegant to a natural look.

Stuttgart Airport, Stuttgart (D)



**Roemer- und Pelizaeus-Museum,
Hildesheim (D)**



Elegant floors made of natural stone panelling can even be installed with floor heating.



HEMM STONE GmbH has comprehensive experience in this field and is able to provide the required materials and know-how. The suitability of a stone for outdoor applications is dependent on its crystalline composition. Many natural stones from the company's product range are suitable for indoor use with no restrictions.

Inside buildings, stone flooring is commonly used in halls and corridors. In combination with floor heating, stone also provides for hard-wearing, easy-care flooring in living areas.

Natural stone panel floors

Applications



A complete overview of our natural stone range is to be found in the "Natural stone" product portfolio, which you can order or download at www.stoverotec.de.

Advantages

- Good thermal conductivity and heat storage capacity
- Resultant good suitability for floor heating systems
- Architectural linking of indoor and outdoor areas
- Easy to maintain
- High compressive strength

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