



**StoVentec**  
Ventilated rainscreen  
cladding systems

# StoVentec: More to it than meets the eye

A peek behind the facade.

Thermal insulation has long become a mainstream topic. Energy resources are declining worldwide, heating and cooling energy costs are on the rise, building activity is regimented by ever more stringent economical and ecological requirements.

Architects and investors alike are well acquainted with this problem area, which they have long sought to counter through energy-efficient construction. An ideal balance of economy, functionality and innovative design is crucial to their choice of facade insulation systems. In this context, the StoVentec ventilated rainscreen-cladding system combines particularly good efficiency with broad scope for individual design.

## Creating great new architecture and maintaining our architectural heritage

StoVentec is the ideal option, both for renovation projects and for new buildings. Its special building physical properties make this seamless system the perfect solution for old and new

commercial and prestige buildings. In renovation work on old buildings, StoVentec frequently proves the sole means of giving apparently hopeless cases a vital facelift in the shortest of possible time.

## Exploiting recoverables – recycled glass

The core element of StoVentec is the carrier board produced in the innovative material expanded glass granulate. The outstanding properties of this recycled glass material – such as low thermal and hygric expansion, weather resistance, low weight and ecological purity – have won over planners and investors worldwide. The fact that well over 3 million m<sup>2</sup> of this material have been installed in all the earth's climatic zones to date speaks for itself.

## Letting off steam

As a ventilated facade insulation system, StoVentec offers crucial advantages over conventional insulation systems particularly in

indoor applications involving high levels of moisture, e.g. at swimming baths, dairies and breweries. The system features a cavity between the insulation layer and the render carrier board. A continuous exchange of air is possible in this cavity, substantially facilitating the discharge of moisture. The masonry dries out quickly over large areas, ensuring sustained protection and effectiveness for walling and insulating boards. Cracking and damage to plastering are prevented.

## Flexible on all substrates

However severe the damage to the substrate, a solution is at hand: The adaptable sub-construction permits variable spacing between wall and render carrier board. This levels out unevenness and provides for absolutely perpendicular surfaces, however extreme the irregularities involved. Fixation problems are virtually unheard of, even on moist, cracked walls or unstable old plaster.

**Multiple dwelling Nordlyset Plads, Copenhagen/Denmark**  
Architectural firm: C.F. Moller's tegnestue



## Economic arguments

Economic aspects are a key factor. StoVentec fits the bill here, too.

### The system is:

- particularly durable, as it is weather-resistant and shock-proof.
- suitable for installation without requiring any expensive, drawn-out substrate treatment.
- a time-saver and cost-cutter, thanks to the simple installation process.



Paul-Wunderlich-House, Eberswalde/Germany  
Architectural firm: GAP Architects, Berlin/Germany



# Plenty of design scope into the bargain

Keeping your options open.

Optimum insulating properties and maximum system dependability are the defining pillars of an outstanding facade insulation system. StoVentec is also founded on these strengths. At the same time, architecture is more than just a means to an end. Aesthetic aspects have been acquiring increasing prominence in the building sector for some years now. Both architects and investors strive for unique design, a perfect integration of form and function. StoVentec opens up fresh scope for creativity and innovation.

## Anything is possible

Modern architecture would be inconceivable without the necessary versatility in the field of facade design. StoVentec engenders new creative scope for all tastes and all types of buildings. The exceptional properties of the carrier board enable StoVentec to be combined with the most diverse surface finishes. The carrier boards also provide an excellent base for all StoDeco profiles, rustications and cement-free plasters in numerous textures and grain sizes – and in all 800 colours of the StoColor System. Glass mosaics, ashlar and ceramics can also be applied directly at the construction site. Even with a Sto natural stone finish, it remains a lightweight system.

## Like a single entity

The low coefficient of expansion of expanded glass granulate and the low modulus of elasticity of the carrier board ensure that changes in temperature give rise to only very minimal forces in the joints of the boarding. This minimises the risk of cracking. This is crucial to producing dependable large-area facades.

## All-round malleability

Seamless, curved surfaces produce dynamic, sweeping effects: Apart from retaining sufficient mobility to absorb shocks even under the greatest levels of stress, StoVentec's outstanding malleability allows it to provide the perfect facing even for curved surfaces.

## Black is beautiful

A further advantage of StoVentec in the design field is its suitability for virtually any colour. The darker the facade, the higher the thermal load. StoVentec imposes no limits on the lightness value. This means that the system remains impervious even to extreme climatic conditions.



above:  
Student dormitory Stiftsbogen,  
Munich/Germany  
Architectural firm:  
Spengler + Wischleck, Hamburg/Germany

right:  
Hospital, Annaberg-Buchholz/Germany



Multiple dwelling Scylla 2, Malmö/Sweden  
Architectural firm: White arkitekter AB, Malmö/Sweden

**At a glance:**  
**One system – a host of advantages.**

**Design scope:**

- Broad variety of different finishes
- Can be used as a ceiling soffit
- Also suitable for very dark colours (no limits on the lightness value)
- Suitable for curved surfaces

**Special features:**

- Ventilated design for ideal building physical properties
- Moisture discharged via air exchange process
- Ideal for problematic substrates: Levels even major unevenness
- High level of sound protection
- Seamless installation

**System dependability:**

- Proven system, approved by the German building inspectorate
- Resistant to wind, frost and other weather influences
- Crack-resistant
- Shock-proof and impact-resistant, yet malleable
- Excellent water vapour diffusion

**Simple handling:**

- Handy format combined with low weight
- Simple to install, easily workable
- Readily interfaces with other facade systems

# Matched to perfection: The system components

The beauty's in the detail.

Anyone seeking to produce outstanding facades needs a firm foundation on which they will be able to rely in the future. StoVentec is more than just a "pretty face". As stunning as the walls the system adorns may be, a look behind the scenes shows that its true beauty comes from within. Without the intricate workings of the individual system components and the perfection with which they interact, the glory of even the most head-turning facade would be of only a short-lived nature.

A facade that is designed solely to stun will only impress at first glance. Those investing in new buildings or renovation projects look beyond this, however, and are not content with an immaculate finish alone. Sto quality is more than just skin-deep. Sto quality means dependability. Dependability means durability. Durability means added value.

For StoVentec, this means that every individual component of the system and the perfect interaction of all the system components are subject to an ongoing process of development and optimisation. And for you, this means that you will be able to depend on StoVentec in future, too.



**The render carrier board in recycled glass incorporates outstanding material properties which have secured it an outstanding track record worldwide.**

## The perfected modular principle

### 1 Sub-construction:

Sub-construction consisting of wood or aluminium profiles to fix the carrier boards in place. Anchored in the substrate with dowels approved for general applications by the building inspectorate.

### 2 Insulation:

Sto VHF Mineral Fibre Board  
Thermal insulation board made of mineral fibre. Application type W, non-combustible. Thickness variable according to thermal insulation requirements.

### 3 Render carrier board:

StoVentec carrier board  
Render carrier board consisting of recycled glass (expanded glass granulate), with mesh reinforcement on both sides, thickness 12 mm, format 1.20 x 0.80 m and 1.20 x 2.40 m; low weight of approx. 6 kg/m<sup>2</sup>, of limited combustibility in accordance with DIN 4102, frost-resistant.

### 4 Reinforcement fibre plaster:

Sto Reinforcement Fibre Plaster  
Organic, ready-to-use bonding and reinforcing compound. Highly expandable, crack-resistant, highly resistant to mechanical stress.

### 5 Reinforcing mesh:

Sto Glass Fibre Mesh  
Alkali-resistant reinforcing mesh, non-shifting with optimized capacity to absorb forces.  
The alternative: Sto-Shield Mesh AES  
Shielding and reinforcing mesh to provide protection against electro-smog. Protection from over 99 % of high frequency electromagnetic radiation. Damping of low-frequency fields.

### 6 Top coat:

Stolit (organic plaster) or StoSilco (silicone resin plaster)  
Cement-free, ready-to-use finishing plasters.  
Highly weather resistant, minimal susceptibility to soiling, highly elastic, resistant to mechanical stress. Film-conserved for enhanced resistance to micro-organisms.  
The alternative: Ceramics, glass mosaics, ashlar  
Frost-resistant and suitable for bonding directly on site, for broad design scope.







**Office building Drienerbeek, Enschede/Netherlands**  
**Architectural firm: I/AA Architects & Engineers, Enschede/Netherlands**  
**StoVentec with natural stone**



**GEWOGE, Ludwigshafen/Germany**  
**Architectural firm: Allmann Sattler Wappner, Munich/Germany**  
**StoVentec with ceramics**



**Elementary school, Erding/Germany**  
**Architectural firm: Dinkel, Persch/Stefan Dinkel, Munich/Germany**  
**StoVentec with ceramics**

## StoVentec

### Area of application

- Old and new buildings

### On all wall structures:

- Masonry (concrete, sand-lime block, brick, porous concrete)
- Fair-faced masonry
- Slab-type constructions
- On timber external walls

### Functions/characteristics

- Levels unevenness by means of a flexible sub-construction
- Very high crack resistance
- Improvement of up to 10 dB in the airborne sound insulation index
- Mechanically resistant
- Highly effective thermal insulant
- Weather resistant
- Limited combustibility  
B1 in accordance with DIN 4102
- Frost-resistant in accordance with DIN 52104

### Appearance

- Synthetic and silicone resin renders
- Variety of different colours: Tintable according to the StoColor System
- No limits on the lightness value
- StoDeco Profiles
- StoDeco Rustications
- Ceramic coverings
- Sto Brick Slips
- Glass mosaics and ashlar

### Installation

- Cement-free, ready-to-use system components
- Efficient installation through use of StoSilo facilities and construction site logistics
- Swift installation
- QS-technology

### Approvals

- Z-33.2-394 national technical approval with plastered surface
- Z-33.2-776 national technical approval with glass mosaics, ceramics or ashlar

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