Klimasan Perlit
Let the nature be your partner – natural building materials for healthy living

Pure mineral:

• Indoor insulating plaster
• Outdoor insulating plaster
• Plaster for renovation
• Fire-protection plaster
• Anti-mildew-Perlit-filler
• Pure mineral Perlit-filler
• Pure mineral colours
• Perlit-ballasting
What is klimasan-Perlit?

Klimasan-Perlit is a surface-active renovation plaster which has been produced for more than 35 years. Since 1997 our company is registered in Würzburg and has been permanently developing its products. In 2006 we built up new premises in Röntgenstrasse 4 in Estenfeld. We are a family enterprise and a healthy living space as well as the necessary products to achieve it are very important for us.

What is Perlit?

Perlit is a natural vulcan rock. Our ecological building and insulating materials are based on Perlit. Through short-term heating water which is enclosed in the rock is vaporising and the expanded material is enlarged 15 times of its original volume. The expanded Perlit consists to 70 percent of silicone dioxid (Si$_2$O$_3$) and is therefore like natural glass. By vaporising water capillaries are formed, which provide a good heat insulation as well as a regulation of humidity and sound vibrations. Perlit doesn’t contain any contaminants. It is frost resistant, inodorous, surface-active and absolutely inflammable.
klimasan-Perlit is a natural insulator with excellent characteristics

• Comfortable and healthy indoor environment
• Natural drainage of wet bricking
• Extremely good isolation against heat & cold
• Easy to handle and low cost
• High carrying capacity
Eco-Insulated Wall

The eco-insulated wall is a homogene combination of pure natural building materials. Bricking, mortar and plaster possess similar exhalation diffusion values and are adapted to each other in a structural-physical way.

Advantages for you:

No additional expenditures for planning and construction, no loss of floor space caused by excessive insulating and wall thickness, retention of single construction, no sandwich-construction with barriers. With an eco-insulated wall you construct a house for generations – solide, non-ageing and biologically healthy.
klimasan-I
Homogene and high heat insulating plaster for indoor absorption, economically environment-friendly, pure mineral and surface-active

klimasan-RK
Perlit-indoor plaster with roman-lime

Building materials as klimasan-Perlit enable a good indoor temperature with a natural balance of humidity

klimasan-Perlit is not only a pure natural building material, but has also excellent water absorption characteristics. A wall which is plastered with klimasan-I can absorb up to 20 liters per square metre and release it again! This is an extreme important characteristic for a balanced indoor temperature. Wall constructions with artificial building materials like polystyrol or mineral cotton have minimal water absorption characteristics.

While renovating half-timbered walls in old buildings it is extremely important to achieve a reasonable indoor humidity. Humidity does not only come from the condensation of the ambient air, but also from the incoming humidity from outside and as ascending humidity. It is often almost impossible to make old buildings dry. Only a wall which is able to absorb and to release humidity is reasonable for a good indoor temperature and to avoid mildew.
Everything done with
Klimasan-I

Former diesel generating plant dkw in Cottbus, rebuilt to a national museum.
Anderhalten, architectes Berlin.

Former administration building in Nürnberg, rebuilt to a day care facility for children with low energy house standard.
Urban construction authority Nürnberg

Lüner mill in Lüneburg rebuilt to Maritim-Hotel „Bergström“
Springmeier, architects Braunschweig. (on the left)

City house in Schwerin, Schustergasse.
Indoor & outdoor with klimasan.
Stefan Hill, Schwerin. (on the right)
Technical data

**klimasan-I** and **klimasan-S**

Pure mineral inorganic heat insulating plaster, plaster for renovation and fire protective plaster

Castle in Wiesenheid, architects
Bilz & Meyer-Erlach, Kitzingen.
(see below)

Advices for handling:

**klimasan-I** and **klimasan W** can be applied manually as well as with a machine for plastering.
The processing takes about 4 hours maximum. Please read further advices in the handling manual.

- **Data:**
  - Value for heat conductivity: 0.08 W/(mK)
  - Oven-dry density: 300 kg/m³
  - Compression strength: 1.6 – 3 N/mm²
  - Bending tensile strength: 0.8 N/mm²
  - Steam diffusion resistance: $\mu = 6$
  - Resilience module: 2000 N/mm²
  - Category of building material: A 1
  - Co-efficient of water absorption: $>3$ kg/m² h⁰.⁵

- **Consumption:**
  - Bag content: 50 litres
  - Water needed: 15 litres
  - Productivity: abt. 40 litres mortal each 50 litre bag
“If water comes and goes, it does not matter!”

This has already been known by the architects in the 15th century. This knowledge is the basis for the klimasan renovation system. Instead of "blocking – absorbing – sealing" the surface active klimasan-S is used and provides a well balanced indoor temperature.
Surface-active renovation plaster

klimasan-S

homogeneous heat insulating renovation plaster, since more than 35 years

Absorption of saline solution
Dissertation University Leipzig. Prof. Dr.-Ing. habil. P. Bauer 1999

klimasan-S absorbs 10 times more humidity during a period of 400 h than other renovation plasters
Energetic strengthening and renovation of churches

**Convent „Himmelspforten“**  
Renovation of the complete sanctuary and dining-hall.  
Planning: Diocese Würzburg

**Church in Weyhers**  
Indoor renovation to optimize warmth and condensation with fogging-effect.  
Protects through a natural balance of the humidity the sacral inventory.  
Architects Gensler, Weyhers

**St. Elisabeth, Hanau**  
Indoor isolation with panel heating system.  
Wall construction:  
Clay brick wall with klimasan-I,  
Damper register in lime plaster, lime finishing plaster.  
Architects Krieg + Warth
Energetic efficiency and renovation of public buildings

Judiciary centre Würzburg
Indoor insulation, indoor renovation and fire protection abt. 10 000 m²
Wall construction: Sandstone, klimasan-I, lime-cement plaster.
State building authority Würzburg

District court Offenbach
Indoor renovation with klimasan-I for optimizing indoor temperature and condensation.
K+S Management Darmstadt

University Hospital Würzburg
Renovation of the buildings with klimasan-I

Historical building Augsburg
Indoor insulation of the ground floor with 10 cm klimasan-I and energetic optimisation of the embrasure of the windows.
State building authority Augsburg
Homogene wall construction with Klimasan-Perlit

**klimasan-W**

The eco-insulated wall is a homogene combination of pure natural materials. Bricks, mortar and plaster have similar heat co-efficients and are adjusted structurally-physically. Already with a single 30 cm brick wall and klimasan W heat insulating plaster 6 cm outside and 2 cm klimasan-I indoor insulating plaster you reach an U-value of 0.25 W/m²K.

With an eco insulating wall you build a house for generations. Solide, non-ageing and biologically healthy. We are pleased to show you in a detailed offer that the eco insulating wall is also first-choice economically.
klimasan-W
Homogeneous heat insulating plaster for outside, economically and environmentally friendly, pure mineral

Data:
- Value for heat conductivity: 0.08 W/(m²K)
- Oven-dry density: 300 kg/m³
- Compression strength: 1.6 – 3 N/mm²
- Bending tensile strength: 0.8 N/mm²
- Steam diffusion resistance: μ = 6
- Resilience module: 2000 N/mm²
- Category of building material: A 1
- Co-efficient of water absorption: >3 kg/m² h⁰.⁵

Consumption:
- Bag content: 50 litre
- Water needed: 15 litre
- Productivity: abt. 40 litres mortar each
- Productivity: abt. 50 litre bag
**Composition characteristics:**

**klimasan-Antic** is a water-repellent dry mortar of the mortar group P I c according to DIN 18550. It is produced with selected quartz sand (max. 1 mm) and pure mineral adhesive agents (e.g. hydrated lime). The water-repellent effect is reached by adding environment-friendly agents. The diffusion open characteristics of the plaster are not affected. While adding mineral colour pigments it is available in almost all colours.

**Consumption indications:**

Bag content: 30 kg  
Water addition: ca. 6 – 9 Liter clean water/ as per 30 kg bag

**Handling advices:**

**klimasan-Antic** can be handled manually as well as mechanically. You always have to use the complete contents of the bag. Consistence of mortar and mixing time have to be maintained constantly.

**klimasan-Antic** is grated with the help of a float or a sponge (latex sponge HaWe cat.no.: 138.53). As grated plasters can easily get fissures (see DIN 18550), you should by all means avoid to grate and to abrade too much, mortar and dewatering have to be avoided as well.

**Plaster ground:**

The plaster ground should consist of a well covering spraying in advance and of a roughened heat insulating plaster (**klimasan–W, or klimasan–I**) and has to be made wet sufficiently in advance.
klimasan-Antic

Pure mineral, inorganic, historical lime plaster (fair faced plaster).

A kind of „clouds“ are part of the characteristics of this historical plaster technique. For subsequent paints, which are applied after a sufficient time you only have to use diffusion open, pure mineral paint systems. The plaster should already be coloured in advance in the same colour.

According to DIN 18550 klimasan-Antic mustn’t be used on frozen grounds and not if the temperature is below +5°C. Please note the regulations of DIN 18550 and DIN 18350 as well as the VOB while plastering as well.
klimasan-MoX
Pure mineral anti-mildew Perlit filler

klimasan-MoX is alkaline and anticipates the development of condensation water on surfaces inside.

Application:
With klimasan-MoX you can renovate condensation and mildew damages inside your house for ever. klimasan-MoX is free of fungicides / biocides and free of organic adhesive agents. klimasan-MoX ist an alkaline, anti-bacterial Perlit filler.

Underground:
klimasan-MoX can be fixed on mineral undergrounds, cement carton (undercoated), cement fiber panels as well as dispersion paints. Instable undergrounds have to be renovated in advance. Existing mildew has to be removed with e.g. klimasan-FuX.

klimasan-MoX ingredients:
Lime, rock meal, Perlit, silicate

klimasan-MoX material values:
pH – value: > 12 targeted > 10
Weight: 0.5 kg /litre
Sorptive behaviour: $\Delta m > 20$ g by 2 mm application

Technical data:
klimasan-MoX is provided in barrels of 15 litres. This quantity is sufficient for a surface of 10 m$^2$, if you apply it with a thickness of 1 mm, it depends on the quality of the surface.

Colour:
Special pigment compounds are available on request.
klimasan-FuX is a biodegradable remover of mildew, free of chlorine

The places where klimasan-FuX is used are beside the removal of mildew and disinfection in the living areas especially hospitals, nursing homes, kindergarten, doctor’s practices, swimming pools and sauna, solariums, sports facilities, public facilities and the nutrition industry.

klimasan-FuX ist proofed according to the DVG guidelines for the alimentation sector and for hospitalisme prophylaxis.

Characteristics:
- klimasan-FuX is a biodegradable mildew remover (> 90%).
- After the application and the removal of the rests it hasn’t to be removed by washing and therefore remains its biocide effect.

Technical data:
- Form: liquid
- pH-value: abt. 7.5
- Ingredients: cationic tensides free of chlorine

Barrel:
- standard, ready for use: 1.0 litre bottle + sprayhead
**klimasan-F**

pure mineral fire protection plaster. Classification of fire protection A1 with no (< 1 Gew. %) organic components.

Handling advices:

klimasan-F can be handled manually as well as mechanically. Processing time is about 4 hours. Please read further handling advices in the data sheet “handling guidelines”.

Fire protection plaster:

klimasan-F according to DIN 4102-4, chapter 3.1.6.5 is appropriate for the strengthening of components like ceilings, walls and roofs. Klimasan-F is especially applicable for fire-resistant coating and covering of steel components. The provision of plaster thickness requested for coating can be maintained with the help of slim profiles. Please read further handling advices in the data sheet „Application of fire protection plasters“.

**klimasan-F** is especially appropriate for fire protection measurements in tunnels.

**klimasan-F** complies to the requests of RWS, Hydrocarbon-, EBA-, RABT / ZTV- tunnel curve.

If cement covering is missing you complete the thickness according to DIN 4102-4, Tab. 2.
klimasan-F
The pure mineral and heat insulating fire protection plaster

Administration building:
Chief construction authority
München,
planning SWM-München.
ca. 10 000 m² klimasan-F
(see below)

Incendiary class A 1
Rijkswaterstaat- tunnel curve (RWS)
Hydrocarbon-, EBA-, RABT / ZTV-
tunnel curve.
klimasan-perlit plasters do not contain polystyrol and no synthetic resin.

Test: 1350° C no burnt gas development in case of fire!

Data:
- Arithmetic value of heat conductivity: 0.08 W/(m²K)
- Oven-dry density: 300 kg/m³
- Compression strength: 1.6 – 3 N/mm²
- Bending strength: 0.8 N/mm²
- Water steam diffusion resistance: μ = 8
- Elasticity modulus: 2000 N/mm²
- Classification of building material: A 1
- Water absorbing coefficient: >3 kg/m² h⁰.⁵

Consumption:
- Bag contents: 50 litres
- Water demand: 15 litres
- Productivity: abt. 40 litres mortar as per 50 litre bag
Fire protection F 90 in public buildings with klimasan-F

Police headquarters Unterfranken
Fire protection strengthening with Klimasan-F of the ceilings with F 90. According to DIN 4102-4.
State building authority Würzburg

Police office Fechenheim
Fire protection F 90 and renovation of the basement with Klimasan-F

Telefunken skyscraper Berlin
Fire protection F 90 in the upper floors with Klimasan-F.

Shopping centre in Würzburg
Fire protection strengthening with Klimasan-F of the ceilings F 90 on all floors.
Architects R. Schwertl

Fire protection wall and heat insulation with Klimasan-F.
The ideal combination of fire protection and heat insulation.
Dickhardtstr. Berlin
Renovation and use of historical buildings

Historical hospital Rothenburg o.T.
Indoor insulation with klimasan-I
Wall construction:
Sandstone, brick stone wall,
klimasan-I, lime plaster.
Building authority Rothenburg
W. Sorge Engineering office for
Building Physics, Nürnberg

„Baumann’sches Haus“, Dettelbach
Indoor renovation with klimasan-I
Outside insulation of the invisible
half-timber with klimasan-W,
Final plaster: klimasan-Antic.
Architects Böhm + Kuhn, Iphofen

City castle Dillenburg
Complete renovation inside the
castle:
klimasan-S and klimasan-I.
Outside the castle:
klimasan-W and klimasan-Antic.
Architects B. Büxel, Lich
Range of colours Tuscany

We offer pure mineral silicate colours without any organic additives for the outdoor region and pure mineral lime colours for inside.

Volterra

Carrara

Safran

Siena

Terrano

Ravenna

Tuscany-Red

Medici-Blue

Assisi-Blue

Please read the instructions concerning pre-treatment of the underground, the structure of paintwork and the execution of paintwork in the handling advice.
Colours are on pure mineral basis, for inside and outside use, ecologically harmless.

The consumption of the outside colours depends on the absorptive capacity of the underground. Normally app. 400 g/m² colour and fixation is needed. If there is a strong absorptive underground you apply additional fixation.

The indoor lime colours are handled as a lime product.

Please read further information in the handling guidelines.

Due to typographical conditions all colours are only samples, please ask for our colour chart.
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