Klimasan Perlit

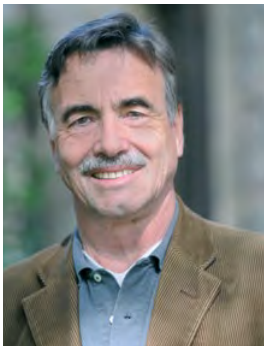
Let the nature be your partner – natural building materials for healthy living

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.



Dipl.-Ing. Roland Naujoks
Managing Director

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_2O_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

Raw material Perlit

Homogene wall construction with Klimasan-Perlit

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.

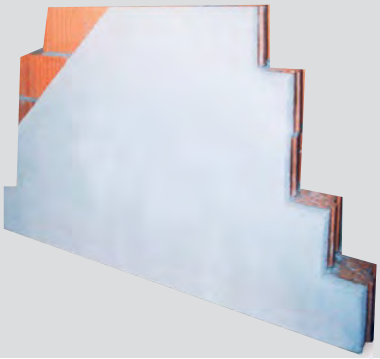
Advantages for you:

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.

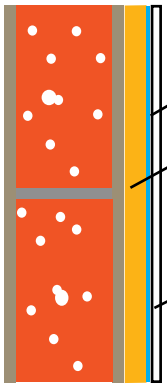
Dry wall of bricks or natural stone

klimasan-l indoor plaster e.g. klimasan-l

water absorption up to 20 kg/m² $h^{0,5}$



Wall construction with polystyrol, mineral cotton and other insulating panels with insufficient capacity of water absorption



moisture barrier

polystyrol or mineral cotton

cement carton

water absorption < 0,5 kg/m² $h^{0,5}$

klimasan-I

Homogene and high heat insulating plaster for indoor absorption, economically environment-friendly, pure mineral and suface-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 humidtiy 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 Wiesentheid, 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/m^3
Compression strength	1.6 – 3	N/mm^2
Bending tensile strength	0.8	N/mm^2
Steam diffusion resistance	μ = 6	
Resilience module	2000	N/mm^2
Category of building material		A 1
Co-efficient of water absorption	>3	kg/m^2 h^{0,5}
Consumption:		
Bag content	50	litres
Water needed	15	litres
Productivity	abt. 40	litres mortal each 50 litre bag

Homogene wall construction with Klimasan-Perlit

„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.

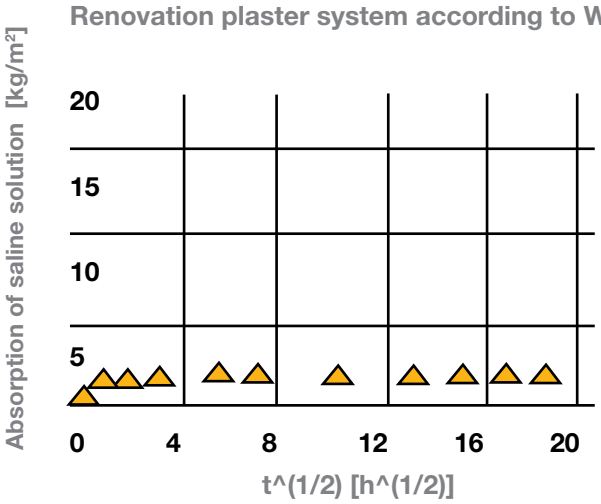
Surface-active renovation plaster

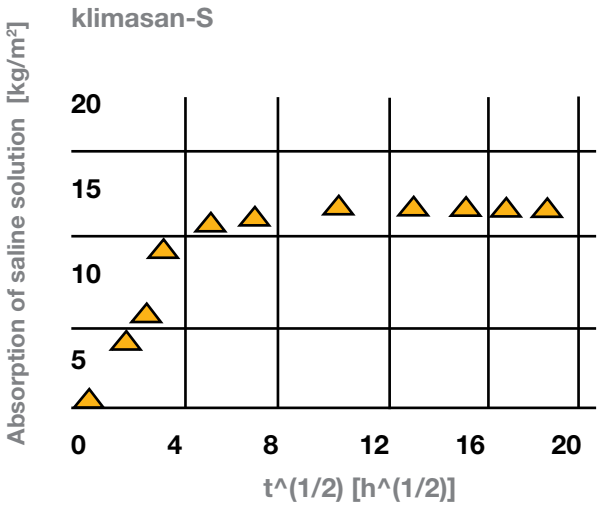
klimasan-S

homogene 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 structural-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 detailled offer that the eco insulating wall is also first-choice economically.

klimasan-W

Homogene heat insulating plaster for outside, economically and environment friendly, pure mineral

The nature–
our partner

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 $h^{0,5}$

Consumption:

Bag content	50	litre
Water needed	15	litre
Productivity	abt. 40	litres mortal each 50 litre bag

klimasan-Antic

is a thick (6 – 10 mm) lime plaster according to a historical standard, produced as a water-repellant fair-faced plaster for heat insulating plasters.

Composition characteristics:

klimasan-Antic is a water-repellant 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-repellant 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

Productivity:

30 litre mortar/ as per 30 kg ag
Using 10 mm plaster ca. 2.5 m^2/ as per 30 kg bag

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.

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.

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**.

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-MoX ingredients:

Lime, rock meal, Perlit, silicate

klimasan-MoX material values:

pH – value:	> 12 pargeted > 10
Weight:	0.5 kg /litre
Sorptive behaviour:	Δm = > 20 g by 2 mm application

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.

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

Characterstics:

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.

klimasan-F

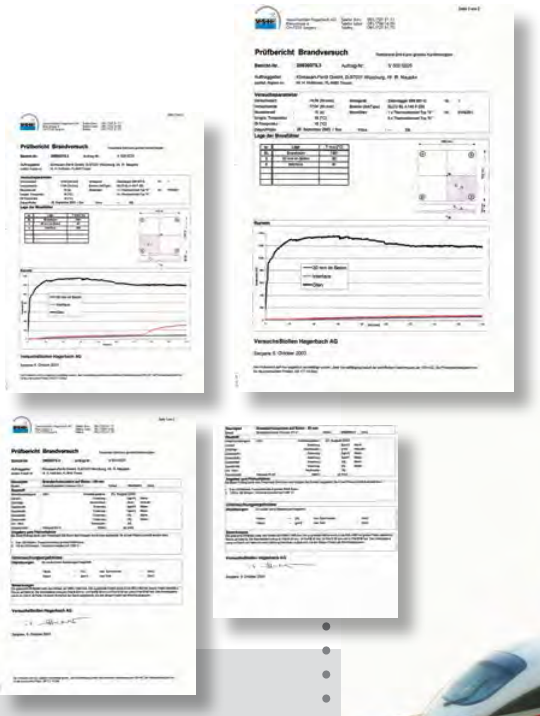
pure mineral fire protection plaster. Classification of fire protection A1 with no (< 1 Gew. %) organic components.

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 provsion 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”.



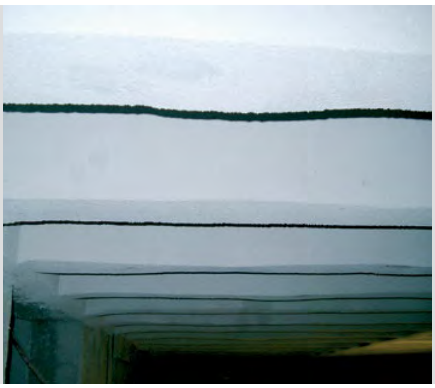
klimasan-F is especially appropriate for fire protection measurements in tunnels. **klimasan-F** complies to the requests of RWS, Hydrocarbon-, EBA-, RABT / ZTV- tunnel curve.

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 $h^{0,5}$

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

Volterra

Carrara

Safran

Siena

Terrano

Ravenna

Tuscany-Red

Medici-Blue

Assisi-Blue

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

Please read the instructions concerning pre-treatment of the underground, the structure of paintwork and the execution of paintwork in the handling advice.

klimasan-Colour

Colours are on pure mineral basis, for inside and outside use, ecologically harmless

The consomption 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 futher information in the handling guidelines.

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

Range of colours Friesland

- Watt
- Lübeck
- Fehmarn
- Morsum
- Rape
- Dune
- Hanse-Blue
- Westerland-Blue
- Seagull-White

klimasan-perlit GmbH

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