



## CLIMASKIN

### Lightweight Hygrothermal Plaster

#### DESCRIPTION

CLIMASKIN is designed as a “plaster-like” applicable membrane with the characteristics of a breathable skin, which interacts with the external or internal environment. It is part of the Bioclimatic Envelope System (BES) for internal and external faces of the external perimeter walls of the building. The BES as *passive cooling preventative technique* is the most important building element for buildings in areas with very high humidity, like tropical climates.



#### ECOLOGICAL PRODUCT

Manufactured from recycled glass, zero VOC, the disposal results in 100% non-toxic waste



#### FIRE RESISTANT

Non-combustible



#### BREATHABLE

Hygro functionality allows a building to eliminate moisture from masonry, walls and slabs



#### MAINTENANCE SAVING

Prevention of mold and algae and common building's problems such as weather aging and appearance of cracks



#### LIGHTWEIGHT

3 to 4 times lighter than conventional building products



#### WATER REPELLENT

Continuous hydro protection and water repellency



#### SOUND ABSORBENT

Space acoustics and noise protection



#### ENERGY SAVING

Continuous thermal protection in reducing of heat load in building, lowering the need in mechanical cooling

## TECHNICAL DATA

Material composition : • 98% natural components • 55% recycled glass • Zero VOC • 100% recyclable non-toxic waste

Appearance & Consistency	: Dry light grey powder	Water Vapour Diffusion	: $\mu = 4.4$ “highly breathable” (DIN EN 998-1)
Density Of Dry Cured Materials	: $302 \text{ kg/m}^3 \pm 10\%$	Water Vapour Transmission Rate	: $V = 470 \text{ g/m}^2 \text{ day}$ (BS EN 1015-19) @ 10mm thickness
Density Of Wet Bulk Material	: $450 \text{ kg/m}^3 \pm 10\%$ (BS EN 1015-6: 1999)	Water Capillarity Absorption	: $\bullet 0.1 \text{ kg/m}^2 \text{ min}^{0.5}$ (BS EN 1015-18: 1999) Class W2 (DIN EN 998-1)
Thermal Conductivity	: $\bullet 0.066 \text{ W/m}^2\text{K}$ (ASTM C 518: 10) Class T1 (DIN EN 998-1)	Adhesive Strength to Concrete	: $> 0.2 \text{ N/mm}^2$ (20 tons/m <sup>2</sup> ) (BS EN 1015-12: 2000)
Fire Resistance	: Non-combustible Class A1 (DIN EN 998-1)	Sound Absorption	: Approx. 23dB at 20mm thick
Compressive Strength	: $> 1.2 \text{ N/mm}^2$ (BS EN 1015-11: 1999) Class CS-I (DIN EN 998-1)	Sustainable	: inorganic - its properties don't decay in time

## GENERAL INFORMATION

Packaging	: CLIMASKIN is supplied in 7 kg bag	Pot Life	: Approx. 45 minutes
Water Ratio	: Approx. 4.0 ~ 4.5 litres of water per bag of CLIMASKIN, depending on the weather and the desired workability	Recommended thickness	: At a maximum 10 mm thick per layer of application with no limitation in total thickness
Duration of Mix	: At a minimum duration of 8 minutes per mix	Coverage	: Approx. $1 \text{ m}^2$ @ 20 mm thick per 7 kg bag of CLIMASKIN
Shelf Life	: Storage life of CLIMASKIN is at a maximum 12 months from the date of manufacture, storing in a dry conditioned environment with temperature between $5 \sim 30^\circ\text{C}$ and with Relative Humidity (RH) that is less than 60%		

## SURFACE PREPARATION

The application surface shall be free of grease, oil, loose materials, etc. It shall be cleaned and dampened prior to application of CLIMASKIN.

### Note:

- Existing coating to application surface shall be removed with scouring methodology to ensure a better bonding between CLIMASKIN and the substrate.

## PREPARATION FOR APPLICATION

It is essential to use our clip system with PVC depth and / or corner profiles to prevent material movement due to the lightweight and sticky nature of CLIMASKIN, and to ensure that the required thickness of application is obtained, as well as to achieve a flat levelled finishes.

- Setting up by marking on the substrate of the designated locations of clip system and depth / corner profiles.
- Installation of wall plug by drilling and complete with inserting of screw for clip system.
- Adjust and align all of the inserted screws according to the desire thickness of application, and install the clip system complete with depth / corner profiles.

### Recommendation:

- The distance between each and every profiles shall not be more than the length of the ruler/leveller.
- The first / last profile at the edges shall be installed at a distance of not more than 100 mm away from the edges.
- The clip system shall be installed at an interval of not more than 500 mm.

## PRODUCT PREPARATION

- Pour half amount of required water into mixing bucket.
- Empty the bag of CLIMASKIN in a slow and steady manner into the bottom of the mixing bucket, to prevent the flying of powder due to pouring from height.
- Empty the balance amount of water into the mixing bucket.
- Begin mixing with the designated hand stirrer at a slow speed toward the bottom of the bucket to allow for the base material to absorb the water.
- Speed up the mixing thereafter material have been fully absorbed in water without visible dry material, and complete the mix thereafter the required duration and the desired consistency is achieved.
- Total mixing time required is 8 to 10 minutes. Once mixing is complete, let the product stand for a further 2 minutes before use and be sure to use the entire mixture within 1 hour of preparation.

### Note:

- To prevent separation of ingredients, only mix with full bag where no part mix shall be carried out.
- Only designated mixing equipment is allowed in the mixing procedure to allow for ultimate performance of CLIMASKIN. These designated equipment are:
  - Heavy-duty Hand Stirrer from EIBENSTOCK with paddle @ dia. 160 / 180 mm
  - Automatic Mixer with 3 arm and turbo technique mixing
  - Compact Mixing and Spray from PFT- RITMO XL

## APPLICATION

- Apply with slight pressure of CLIMASKIN onto the substrate using trowel.
- Should CLIMASKIN is to apply in a thickness of more than 10mm, every layers of a maximum 10mm thick per application shall be sequentially applied till the total thickness as desired is achieved.
- Ruler / leveller shall be used to flatten the surface and remove excess materials according to the desired depth, with ruler / leveller moving against the installed depth profiles (as a rail) from bottom to the top.

### Note:

- Depending on the environmental factor, the applied layer of CLIMASKIN should be in a touch-dry conditioned prior to application of any subsequent layer.
- For placement that under direct sunlight, adequate protection shall be in place especially in the process of curing, to prevent rapid dehydration or desiccation (excessive moisture loss).

## FINISHES

Applied CLIMASKIN will be set thereafter 48 hours in a normal dry condition. For stone-alike smooth or rough textured finishes, lightweight hygrothermal skim coat; CLIMAFIN shall be applied as a whole system in vapor permeability.

## COATINGS AND PAINTING

Any other coating or paint can be applied onto CLIMASKIN or CLIMAFIN thereafter. However, these coating / paint products shall be accordance to their requirement in the application procedure.

### Recommendation:

- To allow for a complete full system in vapour permeability, the use of vapour sealant type of coating / paint should be avoided, where we recommend only silicate or lime based paints.

## HEALTH AND SAFETY

Use of Personal Protective Equipment such as goggle and facemask is recommended no doubt CLIMASKIN is non-hazardous. Do not inhale the powder while in the process of mixture and in the event of eye contact, rinse eyes immediately with clean water and seek medication consultation if irritation persists. Skin contact shall be wash with soap complete with clean water.

## TECHNICAL SUPPORT

Please consult our technical service for further information and any site assistance required (especially prior to the 1<sup>st</sup> time application)

## DISCLAIMER

The use of this product is beyond the manufacturer's control and liability is restricted to the replacement of material proven faulty. The manufacturer is not responsible for any loss or damage arising from incorrect usage. Specifications are subjected to changes without prior notice. Buyers shall be solely responsible for determining the suitability of products for their intended use. Before application, customers and users shall check to ensure that they have the latest version of Technical Data Sheets from [www.bioclimaticsolutions.com](http://www.bioclimaticsolutions.com)

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