



Mold Preventing Interior System

interior insulation and renovation boards

A system of components that have been designed to work perfectly together to repair damage caused by mold. The system consists of boards, insulation wedges, reveal boards, and a filler (capillary active coating).

This lightweight, low-density calcium silicate board improves thermal insulation and optimally regulates the interior condensation and the indoor climate. Its specific properties allow for the perfect interior insulation for ornate buildings or historical structures; the rehabilitation of condensation-drenched walls; and rapid drainage of structures as a secondary measure to counteract rising moisture. The system is also used for lining interior walls and restoration of living space after fire, water or mold damage.

- Nonflammable
- Seal of approval (approved for nontoxic construction), Institute for Building Biology, Rosenheim, Germany
- Elimination of moisture damage
- Prevention of mold growth
- Reduction of heating costs

Product range:

Thickness	Dimensions	Effective area per board	Number per palette
1 inch	4' 11 ⁷ / ₈ " x 3' 3 ³ / ₈ " x 1" 1220 x 1250 (mm)	16.36 ft ² 1.525 (m ²)	40

Thickness	Weight per ft ²	Weight per board	Weight per palette	Area per palette (ft ²)
1 inch	18.3 lbs 8.3 (kg)	27.8 lbs 12.6 (kg)	1,235 lbs 560 (kg)	656.6 61.0 (m ²)

Advantages at a glance

- Protecting and maintaining the value of existing buildings
- Mold prevention in new and existing structures
- Reduction of heating costs
- Improvement of indoor climate

In situations where objects cannot be insulated on outside walls due to aesthetic concerns or historical preservation, the system ensures functional interior insulation for improved thermal efficiency. Example: The heat loss of an 8 inch thick block wall is reduced by 50% with an interior insulation of only 1 inch thickness. Due to the high level of vapor diffusion, the interior climate is well balanced.



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The system consists of cellulose-reinforced calcium silicate, which is extremely light and absorbs condensation from the base surface and evaporates into the room air. This keeps the surface consistently dry and thus prevents the implantation of mold spores and shedding of wallpaper or paint. The pH value of about 10.5 (alkaline) prevents the growth of mold (pH value 4.5–6, acidic to neutral).

- Construction of physically sound system solutions
- Natural materials

By increasing the surface temperature, the formation of condensation on the inner wall surface will be avoided. During the production of system components, no mineral fibers or other additives, such as formaldehyde or CFCs are added. System boards provide no breeding ground for mold, remain free of insects and do not release toxic gases in any event.

- Cost advantage due to space-saving solution and easy handling

Due to the quick installation of the light-weight board and no need for additional structural components, the system provides a decisive cost advantage.

Use as interior insulation and avoid moisture problems

In situations where objects cannot be insulated on the outside walls due to aesthetic concerns or historical preservation, the system ensures functional interior insulation for improved thermal insulation. For technical support, please contact Eco-\$mart.

Use after mold, fire or water damage

The system is suitable for the permanent elimination of condensation problems on the inside of exterior walls and its associated symptoms such as musty smell, decay of the interior plaster, peeling wallpaper and coatings, mold and the commonly associated health problems. The system is highly effective if condensation forms on walls as a result of insufficient or incorrectly installed exterior insulation or if moisture penetrates exterior walls. The cause of the moisture penetration must be determined by a specialist. Permanent damage, such as defective sealing or leakage, must be repaired before applying the system.

Preparation of walls and ceiling surfaces

Remove old wallpaper and paint. Remove mold in effected areas. Eliminate loose plaster. Scratch out damaged mortar joints. Grout cracks with filler. Repair imperfections at the plaster surface, if the plaster is to remain. On an even base surface, the preferred method for installing the boards is the comb bed method. If the base surface is perfectly even, the bead-point method can be used.



Mold Preventing Interior System Application



- Mark the desired dimensions
- Saw with jigsaw or circular saw
- Bevel edges with rasp or file if necessary



- Mix Special Adhesive, ratio 4:1 with water
- Apply Special Adhesive with notched trowel
- Starting from the bottom, position boards and align with level
- Apply Special Adhesive to board edges



- Position next board
- Avoid cross joints
- Remove excess Special Adhesive
- Tools can be cleaned directly after use with clean water



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Surface treatment

In as little as 24 hours after installation of the boards, the surface can be treated. As the system is capillary active, open to diffusion and evaporation, the treatment of the surface should not negatively affect these properties. Filler, wallpaper, paint or plaster must also be capillary active.

Special Filler

The Special Filler is designed for fast, high quality surface finishing of the boards. When applied correctly, the product yields a very smooth and solid surface. The Filler is capillary active and has a high pH value. Before applying the filler to the boards, ensure that the boards have been treated with Special Primer. Otherwise moisture is removed too quickly from the filler due to the absorbency of the boards, resulting in insufficient curing and, therefore, poor adhesion.

Wallpaper

Light paper or glass fabric wallpaper is suitable. For painting, permeable plastic-free lime paints or silicate paints are recommended. Woodchip wallpaper (there is a danger of moisture due to wood components) is only suitable to a limited extent. Plastic or foil wallpaper (not permeable) is not recommended. Before applying wallpaper, boards need to be treated with Special Primer to ensure optimal adhesion. Depending on the properties of the surface, it may be necessary to apply Special Filler beforehand.

Painting

Before painting, the boards must be treated with Special Primer. For painting, permeable plastic-free lime paints or silicate paints are recommended. Latex paints should not be used, as they will form an impermeable film at the first or second coat. Applying Special Filler to the entire surface beforehand is recommended.

Anti-Condensation Coating:

Even the most difficult problems with condensation can be remedied with the Anti-Condensation Coating. The Anti-Condensation Primer is recommended in place of the Regular Primer. In this case, it is not necessary to apply Special Filler to the entire surface before applying coating.

Plastering

Application of a permeable, acrylate-free, mineral spray or thin plaster is possible according to the manufacturer's specifications. A thin silicate plaster (approx. 1/8 inch) onto the primed surface is recommended.

Tiles

When tiling onto boards, screw anchors are to be used to secure the board to the base surface. Tiling adversely affects the function of the boards. Therefore the tiling should not constitute more than 2/3 of the entire area of the wall. Boards must be treated with Special Primer before tiling. The tiling should be performed in accordance with the generally accepted rules of the tiling profession. In wet areas, sealant is recommended between board and tiling.



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Technical properties

Board

Material	Calcium silicate
Bulk density	Max. 516 lb/yd ³
Bending strength (break value)	0.8 N/mm ²
Compressive strength at 5% compression	0.85 N/mm ²
Change in form for 50% to 90% relative humidity	0.01 %
Water vapor resistance	$\mu = 4.61$
R-value	2.33 (1" thickness)
Combustibility	Non combustible
Porosity	~ 80 vol.-%
pH value	Approx. 10.5
Thermal conductivity	$\lambda = 0.0805$ w/mk

Special Primer

Application	0.21 – 0.42 qt / ft ² (0.2 – 0.4 l/m ²)
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Special Filler

Mixing liquid	Water
Mixing ratio	4 parts adhesive to 1 part water
Processing time	Approx. 45 minutes at 68° F (20 °C)
Processing temperature	40° F (+5°C)
Compressive strength	Approx. 45 N/mm ²
Flexural strength	Approx. 10 N/mm ²
Adhesive strength	Approx. 4.5 N/mm ²
Fresh mortar density	Approx. 2.0 kg/dm ³
Maximum particle size	0.008" (0.2 mm)
Layer thickness	Max. 3/16" (5 mm)
Color tone	Gray-white
Filler adhesive use	0.6 – 0.8 lb/ft ² (3 – 3.5 kg/m ²)
Shelf life	12 months in dry conditions



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Moisture resistance

It can absorb moisture up to 90% (based on mass) without causing change in its structure. After drying out, the original strength values are restored completely.

Processing

Can be cut easily with a handsaw, circular saw or jigsaw. The system is bonded directly to the wall, as interior insulation as well as protection against mold. No drilling, screwing or nailing is necessary.

Storage

Store horizontal on joists with a max. spacing of 12 inches (30 cm). Maximum stacking height = 3'-3".

Object examples



Mold Preventing System used for interior insulation for the protection of historical structures.



System used as an interior renovation board to eliminate damage from moisture and humidity and prevent the structure from mold growth.

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