

KÖSTER

Waterproofing Systems

Mold Remediation with KÖSTER Hydrosilicate Boards



How does mold develop?

Often mold develops in living areas such as bathrooms, kitchens, or bedrooms.

The determining factors of mold growth are:

Moisture and temperature

Mold spores need moisture to grow like any microorganism. An effective measure to stop mold is therefore the creation of dry environments. Certainly, moisture is present in form of air humidity anywhere, therefore creating dry surfaces is a necessary but not sufficient measure to stop mold.



Temperature is another important aspect. At high temperatures air has a greater capacity to absorb moisture. If warm, relatively humid air comes in contact with a cold surface, the air humidity condenses and forms liquid water on the surface. Condensation is the most frequent reason for mold to grow in living spaces. Therefore, insulating the building surface is important to avoid mold successfully.

pH value and nutrients

A nutrient-rich breeding ground for mold growth and development is provided by many popular building materials with low pH values, such as wallpaper. The ideal pH for mold growth is between 3 and 9. The majority of building materials offer an ideal environment for mold growth because their pH ranges from 5 to 8.



Depending on the presence of these key elements, different molds grow at different rates. Growth and spread are noticeable under ideal circumstances, but they can be completely stopped under unfavorable circumstances. Creating a surface pH of higher than 9 is an effective measure against mold.



Can mold prone walls be effectively protected?

The crucial determining factors of moisture, temperature, pH, and nutrients should be taken into account in an efficient mold control system.

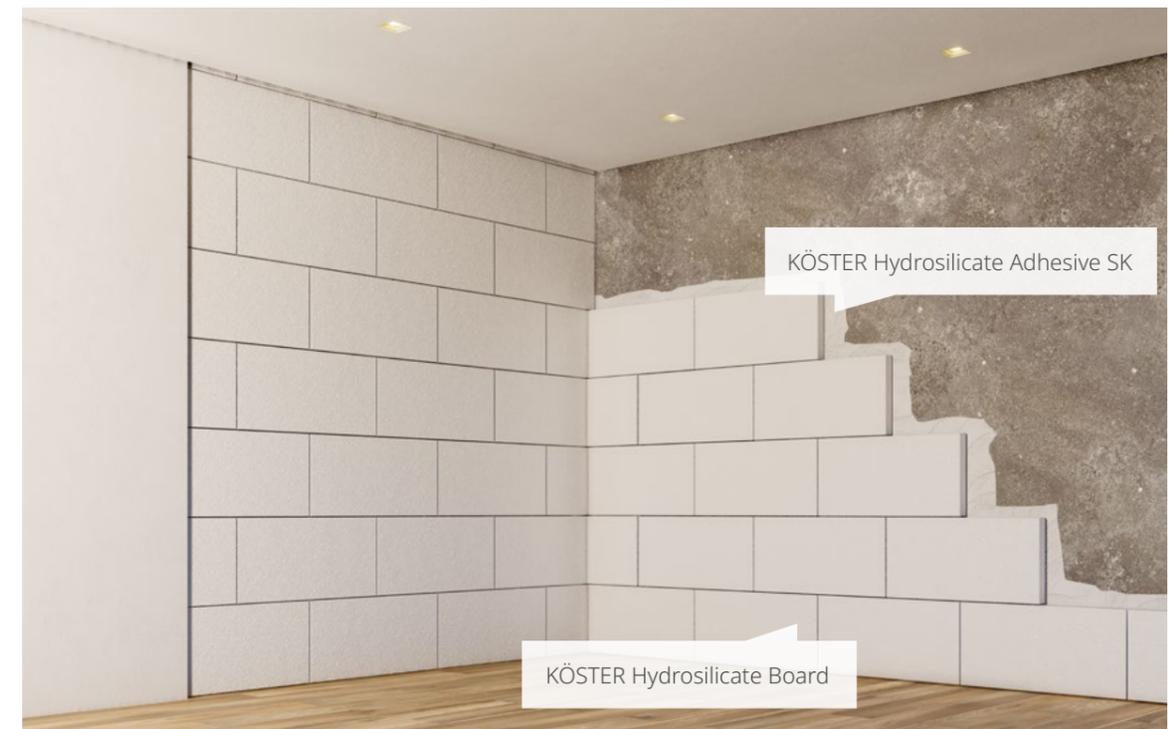
Regular ventilation is a fundamental strategy for preventing mold by removing moisture from the building. Additionally, an anti-mold system needs to be able to capture moisture vapor at its peak, store it, and release it gradually as the relative humidity drops.

The risk of mold growth can be significantly reduced with effective insulation. Condensate development is slowed down by avoiding thermal bridges, which also prevents mold spores from obtaining nutrients.

The construction materials' high alkalinity and low moisture uptake prevent the mold from receiving any nutrition and prevent mold spores from growing unfavorably.

The KÖSTER Hydrosilicate Board System

The KÖSTER Hydrosilicate Board System is a premium yet easy to install system for renovating mold infested rooms.



Only two parts – but a full system!



KÖSTER Hydrosilicate Board

KÖSTER Hydrosilicate Board is a purely mineral foam board, with which is highly porous, and insulating. This provides a high pH on the surface, and creates a natural environment in which mold cannot grow. KÖSTER Hydrosilicate Boards combine environmental friendliness with excellent insulation characteristics. The dimension of the boards are 600 mm x 380 mm x 50 mm. They can be easily adjusted in size using a conventional hand saw.



KÖSTER Hydrosilicate Adhesive SK

KÖSTER Hydrosilicate Adhesive SK is a mineral fine adhesive and fine plaster, that is used to level the surface, to bond the KÖSTER Hydrosilicate Boards and as a finish of the system for a smooth and level surface. It is easy to apply and fast-curing. The material is supplied in 20 kg bags. It is only mixed with clean water.

The KÖSTER Hydrosilicate Board – mold remediation with insulative characteristics

By enhancing the qualities of living spaces KÖSTER Hydrosilicate boards prevent mold growth. They increase the surface temperature, provide an alkaline environment that inhibits mold growth. The product creates an anti-mold environment as a purely mineral system. Chemical mold stoppers are not necessary.

Additionally, KÖSTER Hydrosilicate Boards actively control the room climate. The boards have a porosity of more than 90%, which makes them very open to vapor diffusion. The boards gradually diffuse the moisture, and help drying out a formerly moist wall structure. The boards not only provide protection against mold growth but also fosters stability and comfort in the building.

The material's unique structure also serves as an additional interior insulation. Rooms that are renovated with KÖSTER Hydrosilicate Boards warm up much quicker. This saves energy costs. By doing this, a building's value is increased.

Installing KÖSTER Hydrosilicate Boards is quick and simple. After 24 hours, a vapor diffusion-open decorative final coating can be applied.

Key features of the system at a glance

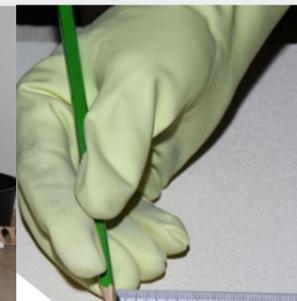
- High alkalinity (pH value 9.5)
- Always dry surface
- High resistance to aging
- Hydrophobic material (Water absorption 2.1 – 2.4 kg / m² * h0.5)
- Suitable for all breathable surface coatings
- Open to vapor diffusion (porosity > 90 vol %)
- Regulates moisture
- Faster heating of rooms
- Good insulative values (approx. 0.0473 W / mK) reduces heating costs
- Purely mineral system, easily recycled and eco-friendly
- Easy installation due to handy size
- Reduces condensation
- Creates a pleasant and healthy living environment



Safe and easy installation



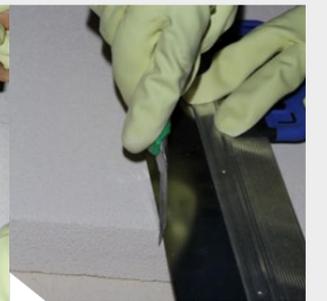
Old wall coverings and bond inhibiting substances such as wall-paper, gypsum residues, paint, or insulation must be completely removed. Absorbent substrates are primed with KÖSTER Polysil TG 500. Irregularities and holes in the surface smaller than 5 mm can be closed with KÖSTER Hydrosilicate Adhesive SK. Larger surface defects can be repaired using KÖSTER Repair Mortar.



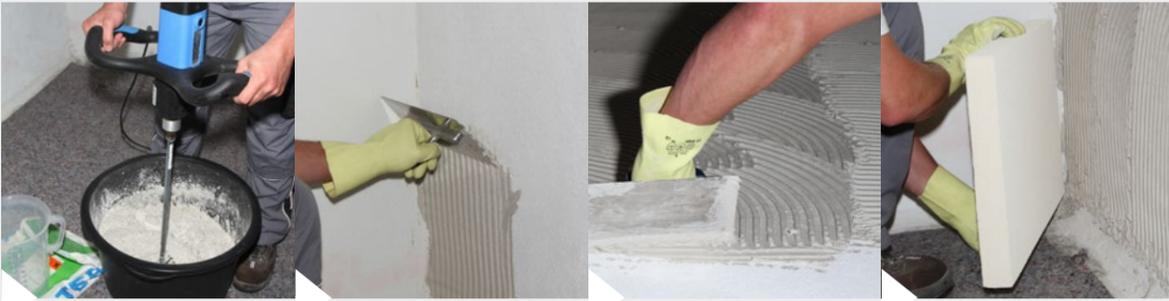
After measuring and marking, the KÖSTER Hydrosilicate Boards are easily cut.



The Boards are cut using a common handsaw.



Alternatively the boards can be cut with a utility knife drawn along a steel edge.



Each bag of KÖSTER Hydrosilicate Adhesive SK is mixed with 5.2 liters of water using a slowly rotating electrical mixer into a homogenous, lump free consistency.

Apply the KÖSTER Hydrosilicate Adhesive to the substrate with an 8 mm notched trowel fully covering the board area. The boards and the butted joints must be completely adhered.

Notched trowel (at least 8 mm)

The KÖSTER Hydrosilicate Boards can now be pressed onto the wall and leveled. A spirit level will help with that alignment.



A bead of KÖSTER Hydrosilicate Adhesive SK is applied along edges of the boards to make sure that the joints are fully filled.

After the KÖSTER Hydrosilicate Boards have been applied the surface can be sanded smooth.

Subsequently the whole area is plastered with a layer of KÖSTER Hydrosilicate Adhesive SK in a maximum thickness of 2 mm. KÖSTER Glass Fiber Mesh is to be embedded in the middle of the plaster.

In normal room conditions and with good air circulation the surface can be decorated after 24 hours with breathable materials.

Related topics

Moist walls and mold can have several reasons. In the restoration of the building it is important to remove the origin of the damage, and not only remediate the symptoms. For further information see our related information brochures on restoration of masonry:





We are there for you – worldwide.

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