

SkamoWall
Building

Eliminate cold, damp and mould

The challenges of apartment buildings with cold and damp

Older apartment buildings often have out-dated structures. This is especially true in relation to the outer and end walls of the buildings. This is where traditional insulation solutions can often lead to disagreeable consequences for

the building and its residents due to poor indoor climate and problems with damp. Damp-related building damage due to mould may develop - mould is directly harmful to the health of residents.



Thermal rehabilitation of buildings from the outside is complicated and expensive

Moreover, the problems involve time-consuming and expensive solutions. This is often because the solution must be carried out as an exterior renovation of the façade. These types of solutions often lead to:

- **High scaffolding costs**

Setting-up and hiring scaffolding for carrying out exterior façade renovation is both costly and inconvenient.

- **Annoying building noise**

Exterior renovations of the façade are noisy and disturb the residents of the building. Noise from the workers as they drill, screw and mount on the façade is also annoying for residents during their leisure time.

- **Time-consuming building process**

The renovation of the façade takes a relatively long time from start to finish. Residents are naturally annoyed by the building work due to the sight of scaffolding and building materials all around them.

- **Unhappy residents**

Overall, there is a strong probability that the residents are unhappy with the situation. Complaints regarding workers, noise and other inconveniences will automatically lead to unhappy residents - resulting in trouble and inconvenience for the administration of the property.



The craftsman says:

Compared with other solutions on the market, we find that SkamoWall is significantly faster to put up, just as the preparation is significantly easier.

Martin Lægdsmand, master builder
Aarhus Murer & Tømrerforretning A/S, Denmark

Advantages of the SkamoWall system



The material is easy to carry up stairs

SkamoWall Boards are extremely lightweight and therefore easy to manage.



Apartments can be renovated individually

Installing SkamoWall is fast and simple. This means that you can easily work on one apartment at a time.



Minimum rehousing and inconvenience for residents

Rehousing of residents is practically unnecessary, as the installation is fast and simple.



Sustainable waste management

The material is made up of natural materials and any waste can be disposed of via the municipal waste disposal.



The material is easy to work on

SkamoWall Board can be worked on with quite ordinary hand tools to fit the desired measurements.



SkamoWall is screw-friendly

TVs, radiators etc. can be mounted by screwing directly into SkamoWall. It is recommended that dowels be used in order to benefit from SkamoWall's screw-friendliness.

Typical problems with damp, cold and heat loss

Heat loss and cold downdraught

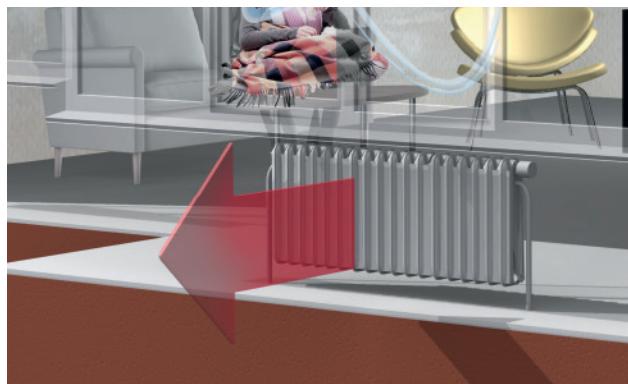
Poor insulation is the main reason for a building's total heat loss. You can therefore considerably reduce the heat loss in an apartment by ensuring optimal insulation.



1 Cold walls

Cold walls are a typical indication that the room has problems with damp, which will eventually develop into mould. This means that you will often have to move the furniture away from the wall.

SkamoWall improves insulation and eliminates cold downdraught from the outer wall, thus reducing heat loss and enhancing comfort.

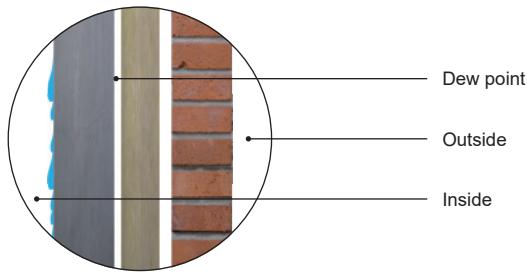
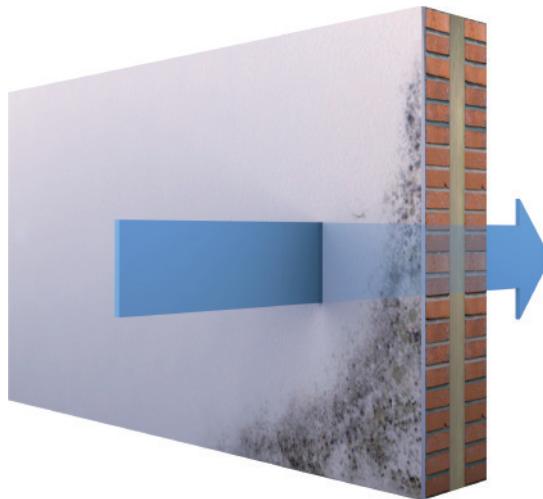


2 Parapets

Parapets under the window section are an overlooked place where insulation is often inadequate. Heat loss often occurs here, as the insulation is insufficient.



This is how it looks in many apartment buildings

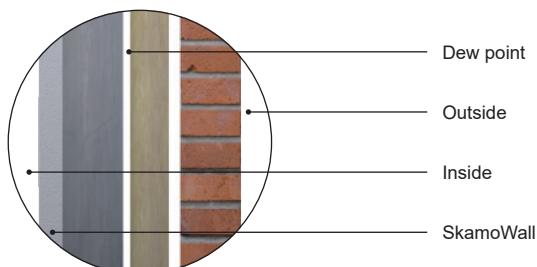
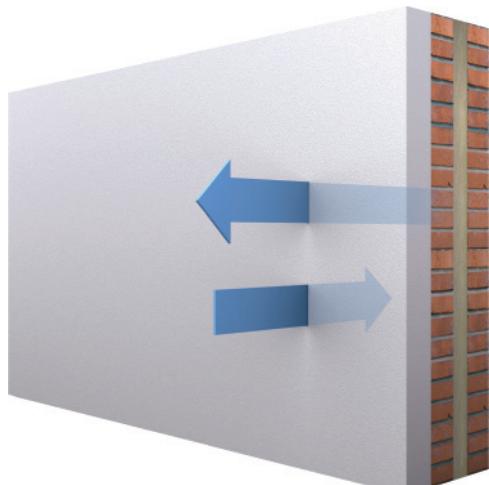


A poorly insulated wall will often be cold on the inside for most of the winter. When the hot and humid air inside an apartment hits the surface of this cold wall, condensation is formed and water begins to accumulate in the wall.

This results in the wall having three problems:

- The cold wall makes it uncomfortable to sit against - often you see that sofas and the like are pulled away from the cold wall simply because it is uncomfortable to sit near it
- The formation of condensation and the subsequent accumulation of water in the wall increase the risk of the wall creating a perfect environment for the formation of mould
- The heat loss caused by the wall is extremely high, as can be seen in your electricity bill

Use SkamoWall to insulate from the inside - without any problems



Unlike traditional interior insulation solutions, the SkamoWall system solves both insulation and damp problems in poorly insulated walls.

The bearing element of the SkamoWall system is SkamoWall Board. Its unique structure means that it absorbs the water that is already in the damp wall. Once the setup of the system has been carried out, it will also ensure that any damp from poorly ventilated apartments or rooms will accumulate in the SkamoWall Board. Once the correct air humidity is present in the apartment or room, the system will emit the moisture back into the room and not the wall.

This is totally unique and makes the SkamoWall system extremely suitable for interior thermal rehabilitation.

Case story: Garnisonshaven - apartment buildings in Copenhagen

A major problem with the renovation of old and listed buildings is the risk of damp and thus mould in their structures. Therefore, the SkamoWall system is being used for thermal rehabilitation under windows and recesses in the renovation of an 18th century Class A listed building, which was formerly a cloth mill and barracks.

It was essential for the architect and developer of the project that wall-mounted radiators could be installed in the individual apartments. SkamoWall's screw-friendliness and holding power was therefore of crucial importance in choosing SkamoWall for the project.



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The project manager had the following to say:

We chose the SkamoWall indoor climate system with calcium silicate boards, as it basically eliminates damp, prevents mould, eliminates thermal bridges and significantly increases the surface temperature of the wall. At the same time, it has unique properties regarding screw-friendliness. Our requirement was that it should be possible to hang radiators directly onto the boards without having to screw into the wall behind the boards and thus increase the risk of thermal bridges. We tested, e.g. that the board was able to hold over 15 kg per screw and a total of over 100 kg on one shelf.

Torben Vind, Project Manager
Boll+

Reduce heat loss substantially

Keep warm with SkamoWall

SkamoWall Board is available in three standard thicknesses, each with its own insulation properties. The thicker the board chosen, the less heat you will lose. The table on the right shows examples of heat loss in a room of 20 m² where the temperature is 20°C. The outdoor temperature is set to 0°C.

Insulation type	Heat loss
Without insulation	0.62 kWh
SkamoWall 25 mm (λ 0.068 W/mK)	0.39 kWh
SkamoWall 50 mm (λ 0.068 W/mK)	0.28 kWh
SkamoWall 100 mm (λ 0.068 W/mK)	0.19 kWh



Non-insulated wall



A wall insulated with SkamoWall Board 30mm

SkamoWall – the complete system

SkamoWall is a complete system for interior insulation. The focal point of the system is SkamoWall Board, which is made of calcium silicate. The additional products are accessories for making the perfect wall.

- 1 **SkamoWall Biocide**
Mould remover

- Other
SkamoWall products

- 2 **SkamoWall Adhesive**
Paste

- SkamoWall Bore**
Bore board

- 3 **SkamoWall Board**
Board

- SkamoWall Corner**
Corner protection

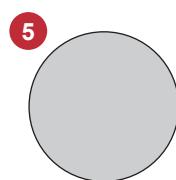
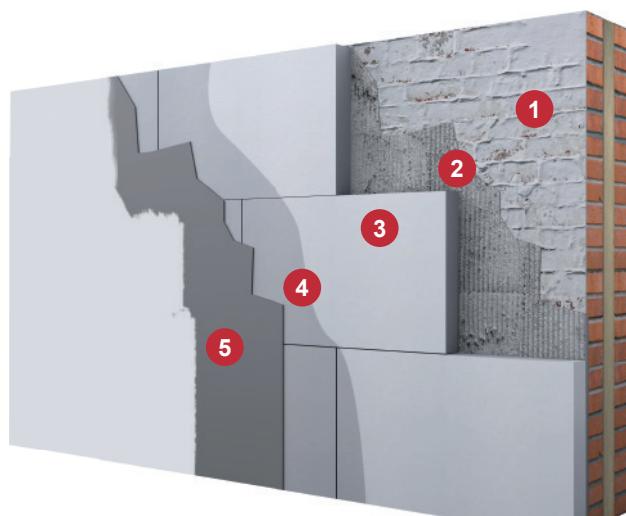
- 4 **SkamoWall Primer**
Primer

- SkamoWall Mesh**
Mesh reinforcement

- 5 **SkamoWall Smooth Plaster**
Smooth plaster

- SkamoWall Wedge**
Wedge

- 6 **SkamoWall Structural Plaster**
Structural plaster



SkamoWall is screw-friendly

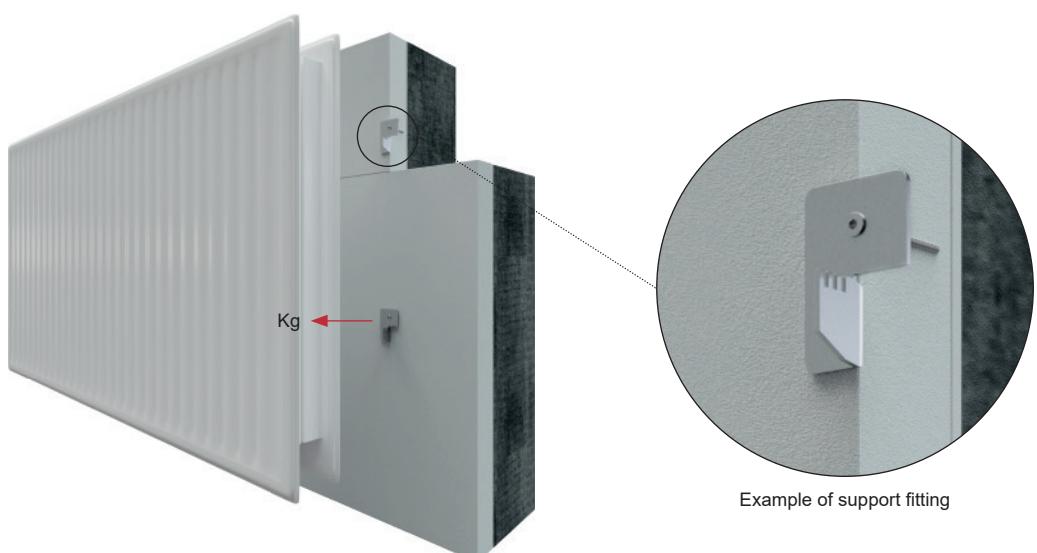
Holding power (vertical pull)

SkamoWall Board	Screw depth	Weight
25 mm – 3.0 × 25 screw with dowel	Min. 20 mm	3 kg
50 mm – 4.5 × 50 screw with dowel	Min. 45 mm	15 kg
100 mm – 8.0 × 85 screw with dowel	Min. 80 mm	25 kg



Holding power (horizontal pull)

SkamoWall Board	Screw depth	Weight
25 mm – 3.0 × 25 screw with dowel	Min. 20 mm	9 kg
50 mm – 4.0 × 50 screw without dowel	Min. 45 mm	38 kg
50 mm – 4.0 × 50 screw with dowel	Min. 45 mm	14 kg
50 mm – 4.5 × 60 screw with dowel	Min. 45 mm	21 kg



SkamoWall – powerful properties for a good result



Damp regulating

SkamoWall has a high capillary effect. This means that the damp is moved from the cold side of the wall to the hot side where it evaporates into the room.



High insulation value

SkamoWall reduces energy consumption by up to 70% in relation to a normal, non-insulated brick wall.



Prevents mould

The Technological Institute has tested the system's ability to prevent the growth of mould. There was no indication of the growth of mould on the surface seven weeks after SkamoWall had been installed. You can read the full report at skamowall.dk.



Protects against fire

The fire resistance of SkamoWall Boards is classified as the highest requirement level of A1 according to the European Fire Classification System EN 13 501. This means that SkamoWall Board is classified as a non-combustible material.

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The Research Institute writes:

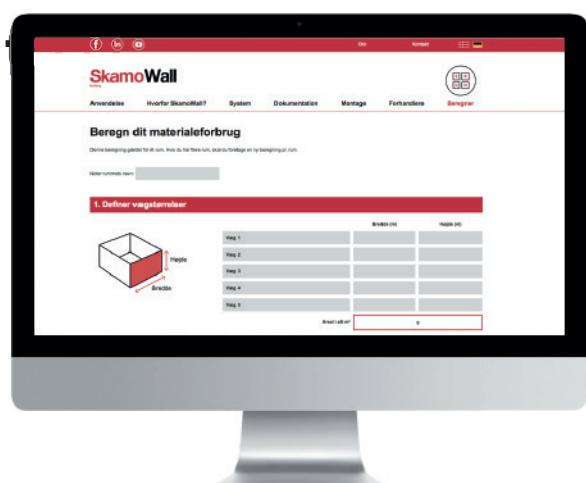
Calcium silicate boards are the opposite of framework walls, in that they can absorb damp from the indoor climate, which can then diffuse through the material. When the damp content of the material becomes so high that capillary condensation occurs in the side toward the outer wall, the capillary absorbing properties of the material means that the damp is pulled against the indoor climate again, as the water will search for the dry part of the material. The water can now evaporate in towards the room until stability occurs and the surface becomes dry.

DBI instructions 240
Danish Building Research Institute

Calculate the needs for your

You will find a calculator at www.skamowall.com, which you can use to quickly calculate material consumption based on the size of the walls. The calculation can be used in connection with the dialogue you have with the craftsman or distributor.

Contact Skamol or your local craftsman



Mounting instruction: SkamoWall



1 Remove any organic material with SkamoWall Biocide*.



2 Mix SkamoWall Adhesive.



3 Apply SkamoWall Adhesive on the wall.



4 If necessary, adjust SkamoWall Board.



5 Mount SkamoWall Board on the wall and make sure the board is firm after applying SkamoWall Primer.



6 Fill out any unevenness with SkamoWall Smooth Plaster.



7 Plaster the wall with SkamoWall Smooth Plaster.

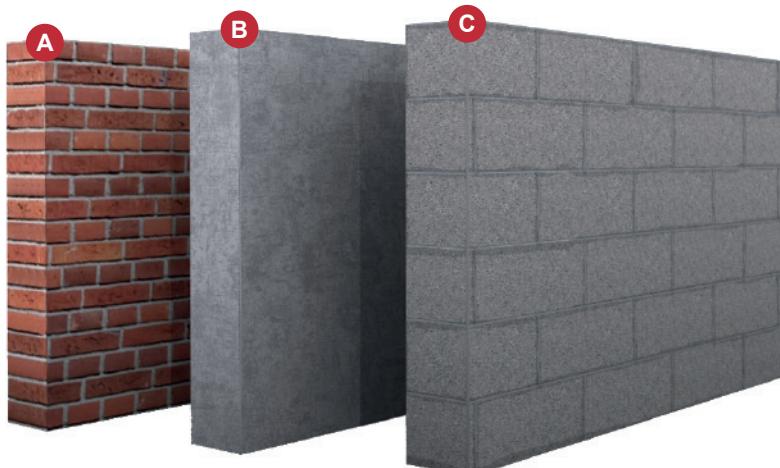


8 You can now paint the wall.



9 The perfect wall providing a healthy and comfortable indoor climate, without any issues with damp and mold.

* Use biocidal products with caution. Read the label and the information relating to the product before use.



The SkamoWall insulation system is applicable as interior insulation on wall of:

- A** Tile
- B** Aerated concrete
- C** Leca concrete
- D** ... and almost other types of walls – aside from wood.

Data sheet

SkamoWall Board

Grade	Value	Unit
Bulk density (EN 1602)	225	kg/m ³
Compressive stress (EN 826)	2,800	KPa
Total porosity (EN 993-1)	91	%
Water vapour transmission, μ (EN 12086)	3	
Short term water absorption (EN 1609)	28	kg/m ²
Thermal conductivity (EN 12667), $\lambda_{23,50}$	0.068	W/(m×K)
Fire classification (EN 13501-1:2007 + A1:2009)	A1	
HS Tariff number (Harmonized Commodity Description and Coding System)	6806.90.00	
Colour	Grey	

SkamoWall Smooth Plaster

Grade	Value	Unit
Bulk density	≤ 1,400	kg/m ³
Compressive strength	CS II	
Absorption of water	Class W0	
Water vapor permeability, μ	≤ 15	
Adhesion	≥ 0.08	N/mm ² FP B
Thermal conductivity (average tabular value; P=50%), $\lambda_{10,dry}$	≤ 0.45	W/mK

SkamoWall Structural Plaster

Grade	Value	Unit
Bulk density	1,500	kg/m ³
Compressive strength	5	MPa
Water vapour transmission, μ (EN 12086)	≤ 7	
Chromate content	< 2	mg/kg cement
Chloride content	0.003	% weight

SkamoWall is ETA approved



SkamoWall – the complete wall system

SkamoWall is a complete system for interior insulation. The focal point of the system is SkamoWall Board.

The boards must be mounted with the accompanying help system in order to obtain the best results.

Get the perfect wall and a healthy indoor climate with one complete system: SkamoWall.

SkamoWall Adhesive

Paste

SkamoWall Corner

Corner protection

SkamoWall Structural Plaster

Structural plaster

SkamoWall Biocide

Mould remover

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SkamoWall Wedge

Wedge

SkamoWall Board

Board

SkamoWall Primer

Primer

SkamoWall Bore

Bore board

SkamoWall Smooth Plaster

Smooth plaster

Eliminate damp and mould problems once and for all



Skamol Group

Sletvej 2C, 8310 Tranbjerg, Denmark

Tel.: +45 97 72 15 33

www.skamol.com

