



High-performance  
**heat-insulating  
mineral coating**

**thermolime**  
*Innovative Protection System*



## Simple, single layer system



**Thermolime® is the external insulation system for facades and roofs, based on the simplest, most ecological and sustainable solution on the market, suitable for use in both new construction and renovation, in both non-insulated and insulated buildings.**

Thermolime® is a mineral and ecological plaster based on nanotechnology, which is used as a high performance thermal insulation cladding for walls and roofs.

Formulated with **silica aerogel<sup>(1)</sup>**, **silica microspheres<sup>(2)</sup>** and **natural hydraulic lime<sup>(3)</sup>**, it provides superior thermal insulation, transpirability and fire protection.

Thanks to its low thermal conductivity and its ability to regulate humidity, it prevents condensation and improves the comfort and health of indoor environments.



Its resistance to salts and humidity makes it ideal for the energy rehabilitation of facades and walls affected by capillary action.

Thermolime® provides unparalleled climatic comfort in living spaces, outperforming all other thermal mortars and materials. In a single operation, it achieves superior results to multi-layered insulation systems, optimising all key qualities while providing water-repellent and breathable cladding, thermal insulation and fire protection.

## Thermolime, a unique product



### Superior thermal insulation

Thanks to the combination of aerogel and silica microspheres, Thermolime reduces thermal transmission by up to 99.5% compared to conventional plasters of the same thickness.



### Prevention of condensation

Optimised breathability allows water vapour to escape and prevents moisture build-up indoors. Its high pH level is effective in inhibiting the proliferation of mould and bacteria, thereby ensuring superior air quality and a healthier living environment.



### Passive fire protection

Rated A1 (non-combustible), making it ideal for areas with fire safety requirements.



### Durability and chemical resistance

Withstands conditions of high humidity, contact with salts and extreme temperature changes without degrading. Its deformability and strength prevent the formation of cracks.



### Ultra-light material, easy to apply and with low structural loads

Its low density (165-250 kg/m<sup>3</sup>) makes it easy to apply, reducing structural loads and construction times.



### Ecological and sustainable product

Composed of natural materials and with a low carbon footprint, aligned with sustainable construction and energy rehabilitation.

# Thermolime applications

## NEW BUILDING

### External thermal insulation

Its low thermal conductivity makes Thermolime an ideal product for the thermal insulation of buildings.

### Correction of thermal bridges

Thermolime eliminates or corrects all thermal bridges in the wall, both indoors and outdoors.

### Energy requalification of old buildings

Its lightness, adherence and high elasticity allow it to be applied on existing mortars and on any type of masonry.

### Avoiding damp

It is the only thermal mortar with thermo-dehumidifying properties, which eliminates any humidity generated in the wall by capillary rise.

### Acoustic insulation between adjoining dwellings

Thermolime corrects, by absorption, any acoustic system between dwellings.

### Eliminates acoustic reverberation

The high porosity of Thermolime makes it the best sound-absorbing plaster available.

## REHABILITATION

- Waterproofs, consolidates, renovates and regulates supports.
- It insulates the wall, fills gaps and eliminates empty areas to prevent the proliferation of fungal and bacterial colonies, thus guaranteeing the health of the building's walls.
- It acts as a dehumidifying mortar, thermal insulator and protection against rainwater.
- Thermolime's thermo-dehumidifying properties allow it to act in a similar way to a hygrometric lung, ensuring that the thermal properties of the building remain dry and therefore unaltered.
- It allows the wall to breathe and eliminates possible interstitial condensation.
- It can be corrected with thicknesses to eliminate any thermal bridging.
- Its mineral nature protects against fire, while its low diffusivity and high thermal inertia protect against large thermal shocks, maintaining its insulating capacity throughout the life of the building.

# Advantages of Thermolime insulation

## ✓ Faster and simpler construction system

Thermolime is the essential complement to single-leaf wall constructions to meet the requirements of local energy efficiency regulations, allowing you to build with lower material and labour costs.

## ✓ Maximum energy savings

Thermolime makes the most of the heat storage capacity of the walls, keeping the heating off for longer, avoiding thermal bridging and successfully preventing damage to the building from condensation, without having to invest in costly corrective measures.

## ✓ Increased thermal comfort

The internal temperature of buildings remains constant in both winter and summer, reducing energy requirements and creating a comfortable climate by eliminating annoying and uncomfortable temperature changes.

## ✓ No condensation

Prevents the formation of mould and mildew by eliminating thermal bridging.

## ✓ Longer useful life

Thermal rendering for exteriors can guarantee perfect resistance to atmospheric agents such as rain, frost, thermal variations, etc., reducing shrinkage-dilatation between different materials and increasing its durability.

## ✓ Building enhancement

Buildings clad with Thermolime increase their value by improving their energy certification.

## ✓ Fiscal benefits

The renovation of buildings clad on the outside with Thermolime allows tax benefits to be obtained by qualifying for subsidy schemes as it is considered an energy improvement of the building.

## ✓ Ecological and natural

Significantly reduces the impact on the environment. It has an excellent ecological balance and complies with all the principles of sustainability.

# Discover Thermolime benefits



## Thermal

Its lambda curve between 0.032 and 0.049 W/m.k for operating temperatures between -5 °C and 50 °C and its mineral condition make it an excellent thermal insulator, unalterable to sudden changes in temperature. Its high thermal inertia and high thermal capacity allow it to act as a thermal regulator, maintaining the most stable temperature of the materials it coats, compensating for the thermal difference between them and reducing the risk of cracks in the coatings caused by hygrothermal stresses.



## Highly waterproof

Its low water absorption coefficient of 0.05 kg / (m<sup>2</sup>·min<sup>0.5</sup>) and high vapour permeability silica aerogel ( $\mu \leq 3$ ) ensure that it stays dry and retains its insulating properties throughout its life.



## Breathable ( $\mu \leq 3$ )

Its microporous structure allows it to be permeable to water vapour, which, in addition to the evaporation of moisture from the supports, allows gas exchange between the inside and outside of the building, so that the walls of the house breathe and condensation is avoided.



## Acoustic

Thermolime is a material with elasticity and microcavity structure, which stands out, among other things, for its soundproofing qualities through acoustic absorption, reducing the transmission of sound from one room to another, attenuating exterior noise, reducing echoes and reverberation and, in short, improving the acoustic conditions of buildings.



## Deformability

Its high deformability allows slight movements of the substrate without cracking and adapts to the movements of the structure, whether old or new. Its low dynamic modulus of elasticity of  $\leq 450$  Mpa and an excellent ratio between flexural strength (0.6 N/mm<sup>2</sup>) and compressive strength (0.8 N/mm<sup>2</sup>) favour "elasticity" and guarantee the absence of cracks in the plaster. Furthermore, its coefficient of thermal expansion  $\leq 15$   $\mu\text{m}/\text{m} \text{ } ^\circ\text{C}$  (for temperatures between -20°C and 60°C) allows it to cover large surfaces without joints.

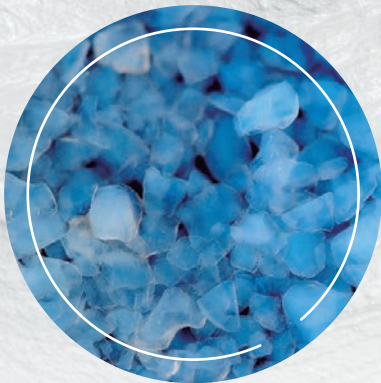


## Stability

It is chemically, structurally and mechanically compatible with ancient and modern building methods and materials, and behaves harmoniously with other materials such as stone, ceramics, concrete, clay, etc.

# The secret, its composition

Thermoline® is an exclusive product with high thermal efficiency, formulated from a unique combination of three components that give it exceptional thermal, mechanical and breathability properties. **This advanced composition makes it a revolutionary solution for renovation and sustainable construction projects.**



**Silica aerogel**

- 1 Silica aerogel** is an ultra-light material with a finely structured, hydrophobic, nanoporous structure, up to 99,8% air. Aerogel particles are amorphous synthetic silica. Its porous structure is smaller than the mean free path of air, which greatly limits thermal conductivity and therefore greatly improves thermal insulation performance. It is water repellent but also open to water vapour, allowing the design of insulation materials and systems with moisture management and control. **It is the solid material with the lowest known thermal conductivity, making it an exceptional thermal insulator.**

**What it brings to Thermoline**

- Reduced thermal conductivity and therefore superior insulation with less thickness.
- Ultra-lightweight, making it easy to install and reducing the load on walls.
- High breathability to prevent condensation and improve health.



**Silica microspheres**

- 2 Silica microspheres** are a lightweight material with high structural strength. They are spherical aluminosilicate particles with an ultra-light, hollow, closed-cell, multi-cellular structure designed to reduce the density of the material without affecting its strength. Their low density reduces the weight of the finished material and provides higher performance, allowing faster application speeds. Very low thermal conductivity, very lightweight and **extremely resistant to compression, chemically stable, highly weather and alkali resistant, environmentally unfriendly, solvent-free, odourless and do not provide nutrients for parasites and fungi.**

**What it brings to Thermoline**

- Lightness and density reduction.
- Improved ease of application, finish and performance.
- Structural reinforcement of the mortar, preventing cracks and increasing mechanical resistance.
- Reduces water absorption.
- Improved chemical resistance and thermal properties.
- Optimised thermal insulation and emittance, further reducing conductivity without loss of stability and improving comfort properties.



**Natural hydraulic lime (NHL)**

- 3 Natural hydraulic lime (NHL)** is a mineral binder obtained by firing calcareous clayey limestones without additives and consisting mainly of calcium silicates and aluminates and calcium hydroxide, obtained by firing limestone rich in clays, without the need for synthetic additives, and its **hydraulic properties mean that it reacts with water to form a breathable, resistant and flexible solid matrix.**

**What it brings to Thermoline**

- Hydraulic setting by chemical reaction of its own components, which gives it excellent short-term resistance.
- Compatibility with old building methods and materials from a chemical, structural and mechanical point of view, ideal for heritage and sustainable rehabilitation.
- Volume constancy in changing humidity conditions.
- High breathability which ensures the evacuation of water vapour and avoids pathologies due to humidity.
- Balanced mechanical resistance to ensure durability without excessive stiffness.
- Healthy environment to prevent mould growth and improve indoor air quality.



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More information  
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