

# LIME IN MORTARS

MASONRY MORTARS, PLASTERS AND RENDERS  
– THE BENEFITS FOR THE OWNER



Owners and designers involved in building or renovating all aim at using reliable solutions and materials which positively contribute to functional, aesthetic and sustainability requirements as well as providing a healthy living space.

A building which meets the needs of its owner will:

- provide a healthy and comfortable living space,
- offer durable, long-lasting construction and finish,
- be environmentally sustainable.





Lime-based mortars, renders and plasters help to meet these aims, reducing the necessity for maintenance while at the same time maintaining a comfortable, healthy indoor environment.

### Indoor air quality

By allowing moisture to escape through the mortar and preventing water penetration through the masonry structure, lime-based mortars help to preserve the integrity of the masonry structure. The moisture and humidity within the building is better controlled by using lime based mortars, plasters and renders, with other materials which allow the building to “breathe” instead of trapping condensation and moisture within the structure. This makes for a healthier indoor environment.

Crucially, better moisture control and the natural properties of lime-based mortars can also help to prevent the formation of mould & fungi inside the building.

### Durability

We expect our buildings to be durable, but any construction is constantly exposed to climatic and structural stresses. Making the right choice of materials is thus vital to get right and will prevent damage and water penetration.

Due to their flexibility, lime-based mortars are able to accommodate building movements without excessive cracking. In addition, lime-based mortars are self-healing: the lime contained in the mortar reacts with water to increase the mortar strength and “heal” micro-cracks.

As they have excellent adhesion properties, lime-based mortars more readily allow for continuous, uniform bonds to masonry units. This considerably reduces the chances for water penetration, and the resulting damage or moisture problems.

Lime-based mortars are vapour permeable: this allows the structure to “breathe” and any water that enters a structure through a crack can easily escape by evaporating through the mortar.

During the lifetime of a building, maintenance operations will be required. Mortars therefore need to be replaceable without causing damage to the brick work. Lime-based mortars are generally softer than the bricks, making the mortar easier to remove without causing damage.

### Aesthetics

Using lime based materials usually results in a natural and warm appearance in masonry and rendering.

Mortars based on lime considerably reduce the chances of efflorescence\* formation as they contain minimal amounts of soluble salts and sulphur. They also have unique bonding and permeability properties which allow water to evaporate through the mortar rather than through the brick.

### Environmental performance

Lime-based mortars can accommodate natural (e.g. thermal) movements, which adds durability and reduces the need for maintenance.

At the end of the building’s life, lime-based mortars allow construction materials to be more easily re-used, contributing to resource sustainability.

- The numerous historic buildings in our cities provide evidence that lime based mortars and finishes effectively contribute to long lasting performance.
- Lime-based mortars are generally softer than bricks. This makes the mortar easy to remove without causing damage: **bricks originally laid with lime-based mortars can be cleaned and re-used in new constructions.**

Lime absorbs the carbon dioxide from the air which gradually further increases its strength over time, and which improves the carbon footprint of a building over its lifetime.



[\*] Efflorescence is a powdery deposit of water-soluble salts which forms on the surface of bricks, mortars or facades. It is caused by multiple factors and tends to increase with increasing proportions of alkali salts, sulphur and high moisture content in masonry walls.

