

## INFORMATION SHEET 3 – DAMP PROBLEMS AND LIME PLASTER

### Approaching the damp problem

It is common for old buildings to experience higher levels of dampness and this can usually be accommodated without substantially changing the fabric of the building by addressing the source of the dampness and then making appropriate repairs.

Traditional plastering techniques are ideal solutions where there is a damp problem as lime allows a building to breathe.

Lime and clay plaster are water permeable and regulate humidity by absorbing and releasing condensation according to the conditions, unlike cements and concretes which trap water in leading to cracking and flaking. The flexibility and autogenous properties of lime plaster make it perfect to resist the natural movement and expansion of historic buildings.

See our case study on Saltaire Village which showcases an example of using traditional materials to prevent damp problems.

### Why use Lime?

The benefits of using lime and sand as a building material in both traditional and modern buildings are many and varied. Some of them are outlined here:

- Plaster is vapour permeable, allowing buildings to breathe naturally, and perfect for humid or damp conditions as lime absorbs and releases condensation according to its environment.
- Free lime reacts with atmospheric carbon dioxide, locking it in to the chemical compound and increasing its strength while reducing CO<sub>2</sub> in the air.
- Gentle but effective adhesion qualities mean low impact on substrates and surrounding materials
- Calcite crystals perfectly refract light creating lustrous translucent finishes over time. The malleability and ease of use allow for exquisitely detailed features to be created.
- Durability. Consider some of our oldest Cathedrals are bound with lime, and the Pantheon dome survives after 2000 years.
- Self-repairing (autogenous.) All buildings settle and move over time. Stiffer concretes react by producing wide cracks, but lime, being more flexible, makes narrower cracks that can heal themselves. The calcium particles in the material react with water and flow into the voids which, on evaporation, produce new lime deposits that fill the spaces to repair its own cracks.