ornateinteriors
Fibrous Plasterers GRG & Restoration Specialists

INFORMATION SHEET 2 – Energy efficiencies with traditional materials.

We have a flexible approach to our business, and can offer any combination of services. We are highly skilled in a range of plastering methods, using contemporary or traditional materials. We design, manufacture, supply and install an extensive range of standard and bespoke plaster mouldings, cornices and decorative features

Lime Mortar and the Environment

Driven by environmental concerns relating to construction, Lime Mortars are becoming increasingly accepted in new build.

Environmentally friendly Lime binders require significantly lower energy and generate much lower CO2 emissions than Portland cement. They are an excellent bedding mortar for use with reclaimed bricks and natural stone masonry, are aesthetically very pleasing and work in harmony with breathing wall technology.

However, when specifying lime mortars for new build, particularly with thin wall (half brick thick or cavity) construction, be aware that Lime mortars may take longer to set initially than cement mixes. Although this should have little or no impact on the rate of build.

Consideration of wind loads on freshly built walls and the impact of slower hardening around wall ties should also be accommodated.

Mortars made with natural hydraulic limes that stiffen and harden faster, reduce the risk of wall tie failure, others are more suitable for thicker wall construction where wall tie dependency is not so important.

Energy efficiencies and Part L compliance

Building Regulations have detailed recommendations regarding energy efficiency, and Part L particularly refers to the conservation of fuel and power. Details cover insulation continuity and air tightness in walls roofs and floors, and contain a series of checklists for the designer, contractor and building controller to demonstrate their compliance.

This provides few problems in new build structures, but can be more complicated in period properties.

Special considerations relate to historic buildings in order to preserve their special character and features, and alternative approaches may need to be negotiated with the local conservation officer. We are very familiar with the process and can use our knowledge to help you achieve the perfect results.

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 CO2 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.