

## Maintenance Matters!

Historic buildings

# Patching Lime Render



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

[www.cymru.gov.uk](http://www.cymru.gov.uk)

You will need the following tools and equipment:

protective clothing, goggles, gloves and dust mask (if using hydraulic lime),	<input type="checkbox"/>
bolster chisel and lump hammer,	<input type="checkbox"/>
clean bucket for measuring materials,	<input type="checkbox"/>
stiff bristled brush,	<input type="checkbox"/>
mixing board,	<input type="checkbox"/>
shovel,	<input type="checkbox"/>
hawk and plasterer's trowel,	<input type="checkbox"/>
wooden float,	<input type="checkbox"/>
scratch comb,	<input type="checkbox"/>
straight edge, such as a length of wood,	<input type="checkbox"/>
shortened coal shovel (to apply rough cast finish)	<input type="checkbox"/>
pump action garden sprayer,	<input type="checkbox"/>
hessian or plastic.	<input type="checkbox"/>

Avoid using lime when temperatures are expected to drop to 41°F (5°C) or less. New render is easily damaged by frost, even several weeks after it has been applied.

Tap the surface of the existing lime render and listen for a hollow sound. This will indicate that it has become detached from the underlying building material. Hack off loose render back to a straight edge using a bolster chisel and a lump hammer. Undercut the edges to provide a key for the new render, leaving the lower edge square cut.

Rake out the joints of brick or stonework and brush away any loose material. On timber-framed buildings it may be necessary to install a sheet of expanded non-ferrous metal mesh lathing to support the new render. Once the background material has been prepared, thoroughly wet the area and apply the first coat of render to a thickness of just under half an inch (10–12mm) using a plasterer's trowel. Ensure that

enough pressure is applied to get the mortar into all of the cracks and crevices to achieve good adhesion, but do not overwork the surface at this stage as this will draw lime to the surface, depleting the layer beneath, which can cause it to fail.

Protect the new work against drying out too quickly and from heavy rain and frost by putting up a screen of hessian or plastic. Spray the surface regularly in dry weather as new render will shrink and crack if it dries out too quickly. As the render begins to stiffen up, work over the area with a wooden float as this helps to counteract shrinkage. Scratch the surface to provide a key for the next layer. Hair is sometimes mixed into lime render or plaster for the undercoats to help bind the materials together and control shrinkage.

Allow the first coat to begin to set firm before applying the next coat. On average, this can take a minimum of two weeks, depending on the render mix and time of year. As a rough guide, each coat should be hard enough to resist indentation from a knuckle, but soft enough to scratch with a fingernail. Dampen the surface and add a second coat of render just under half an inch (10–12mm) thick in the same way as the first. Depending on the depth of the original render, repeat this process with a thinner third coat. Scrape the surface level with a straight edge, such as a length of timber, and smooth the final coat with a wooden float, making sure that you do not overwork the surface.

When patching roughcast render, the final coat should be very slightly wetter than before and flicked on evenly with a trowel or shortened coal shovel. Make sure that the aggregate is the same size in the new and existing roughcast render. Specialist suppliers of lime products will be able to recommend an appropriate render mix to suit your building.

Whenever extensive patching or replacement is proposed it is essential to carefully record the location and dimensions of any features, such as raised render bands and decorative features, quoins (cornerstones) and scribing, to ensure that they are accurately reinstated. Do not bell the render out over the heads of openings as this is a modern detail, which looks out of place on an historic building.