Plastering

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Tyrella

Lime putty plasters offer advantages over cement based mortars and pure gypsum plasters for the internal plastering of traditional properties, especially when decorated with a traditional limewash.

- their porosity allows the structure to "breathe".
- they can accommodate general movement better.
- their self-healing nature reduces cracking problems.
- they can reduce condensation problems.

As with all lime putty based materials the best outcome requires patience and careful control of drying and suction, the reward being a good looking and long lasting plaster.

We also supply a range of earth plasters for use in traditional properties and new build. They are designed to be used over cob, clay boards and reed mat and include a range of self-coloured finishing plasters that don't require painting.

PREPARATION:
Any existing plaster must be removed, except any sound lime mortars. Care must obviously be taken to ensure that the structure isn't damaged. Look out for very thick patches of plaster that are effectively load bearing. It may be necessary to plaster on top rather than risk rebuilding an area.

DAMPING:
It is very important to control suction from the background material (substrate) by spraying with water before applying each coat of plaster, especially onto cob or porous brick.

PREMIXING:
All lime mortars and plasters benefit from being pre-mixed for a minimum of a couple of weeks and then "knocked up" again prior to use to plasticise them - this reduces shrinkage in the plaster.

EXAMPLE SPECIFICATION:

- dub out any deep holes in the wall with a haired lime putty mortar, rebuilding defects with cob blocks, cob bricks or stone.
- treat wooden lintels with preservative and counter batten with oak lath.
- apply one hand harled coat of lime putty mortar, 3/1 unhaired to provide a key to cob. With stone this is a matter of preference depending on the friability and size of stone and joint.
- apply sufficient coats of haired lime putty mortar, 3/1 haired, to smooth the contours of the wall.
- apply a top coat of our 2/1or 3/2 unhaired, lime-rich plaster, based on a very fine sand and lime putty.

GAUGING:
If there is a high residual level of moisture in a wall that cannot be eradicated (e.g a high external ground level) it may be necessary to sandwich a waterproof barrier between the coats of lime mortar. We supply a waterproofing slurry for this purpose. Backing coats of lime mortar can be gauged with Metastar or NHL5 (eminently hydraulic lime) to get an hydraulic set, the latter

student plastering onto lath

being especially useful for the harled coat. Gypsum, Metastar or natural hydraulic lime can be added to the top coat plaster to ensure extra durability where knocks are expected, up to 2/1/1 sand/lime/gypsum or 20% Metastar or NHL5 by volume.

PLASTER SKIM:

Our 1/1 or 3/2 fine lime plaster is ideal for a thin skim over a wide variety of backgrounds such as plasterboard, blocks and mixtures of old and new plaster, old paint etc. For plasterboard it will be necessary to prime with Bayosan DG27 before one or two thin coats of 3/2 lime putty plaster. The other option is to gauge the lime plaster with gypsum onto a drying initial thin coat of pure gypsum first.

QUANTITIES:

for the Example Specification per square metre: one scat coat of 6kg 3/1 lime mortar 3/1 unhaired (3mm) one scratch coat of 30kg 3/1 lime putty mortar haired (15mm) one top coat of 6kg of 2/1 lime putty plaster (3mm)

SAFETY:

Limes are caustic. Always wear eye protection and protective gloves and clothing and follow the safety instructions on the labels.

Our advice and information are given in good faith. It's important that users satisfy themselves that they've chosen an appropriate product and have a suitably skilled workforce.

PLASTERING ONTO LATH

TYPES OF LATH:

Traditional timber laths were commonly riven oak or chestnut. These are laths that have been split along the grain of the wood by hand. They are generally irregular in shape, width and thickness with a coarse surface that provides extra key. Laths varied between 1 1/4" to 1 1/2" (31 - 37mm) in width and were around 1/4 " thick. The main key is formed by the lime plaster being squeezed between the lath by the trowelling action. Backing coats of lime plaster were typically haired to help the plaster keys stay in place whilst curing occurs.

By the end of the 19th century sawn lath produced by machinery was also much in evidence. This is much more uniform in nature and has a smoother surface giving less key to the mortar. Hence the key formed by the plaster squeezed between the lath is of even greater importance. Sawn laths are generally a little narrower at around an inch (25mm). Timber laths were generally spaced out by around 1/4" to 3/8", and a lath on its edge was used to set the spacing.

During the 20th century, expanded metal lath (EML) began to supercede timber lath both in new work and often in renovation work as well, being quicker to fix. Lime plasters stick less easily to EML and there was also a move towards using harder cementitious plasters and gypsums. Many of these developments were out of keeping with the properties for which they were specified but also introduced their own problems due to their relative lack of breathability.

PREPARATION:
It is important to control suction from dry timber lath by lightly spraying with water 30 minutes before the first coat.

PREMIXING:
All lime mortars and plasters benefit from being pre-mixed for a minimum of a couple of weeks and then "knocked up" again prior to use to plasticise them - this reduces shrinkage in the plaster.

EXAMPLE SPECIFICATION:
Apply a first scratch coat of 3/1 haired lime mortar through the lath, leaving around 1/3" (8mm) on top of the lath itself. Do not over trowel this coat otherwise too much plaster may be lost through the lath. Do not trowel this coat too smooth but instead leave an open textured surface for extra key for the next coat of plaster.

- lightly scratch this coat with a lath or comb scratcher and leave to dry and cure until green hard. A lime mortar or plaster is green hard when it can only be marked with a metal tool. It is dry enough for any shrinkage to have taken place without having to be completely dry.
- apply one float coat of 3/1 haired or unhaired lime mortar to straighten the surface as required. This coat may be 1/3" - 1/2 " (8 - 12mm) thick. Float this coat with a wooden devil float to provide a suitable surface for the final skim coat and leave to dry and cure until green hard.
- trowel on a double top coat of our lime-rich plaster, 3/2 unhaired, based on a very fine sand and lime putty. This can be in a single coat or two very thin coats for finer work. If any shrinkage cracks appear, lightly spray the plaster with water and trowel or sponge in the cracks.

GAUGING:
Where it is a ceiling that is being plastered and there is a floor above that will be walked on, sufficient time MUST be left for the plaster coats to carbonate to gain sufficient strength before using the room above. This time will depend on circumstances such as time of year, ventilation etc but may be a minimum of 3 months. This is especially true of there is any play in the joists that cannot be eradicated. If its essential to access the room above sooner, then the backing coats of lime mortar can be gauged with Natural Hydraulic Lime (NHL) fine casting plaster (Plaster of Paris) to get an earlier set. NHL, Metastar or fine casting plaster can be added to the top coat plaster to ensure extra durability where knocks are expected.

QUANTITIES:
one coat 3/1 haired lime putty mortar, 30kg per m2 (15mm)
one coat 3/1 unhaired lime putty mortar, 20kg per m2 (10mm)
two top coats of 3/1 lime putty plaster, totalling 6kg m2 (3mm)

Clockwise from top left:

Plastering onto laths

Woolhanger Manor

Riven Lath Build Up

Riven Lath with Lime Mortar

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