

## **25 Cadogan Square - Repairs and re-plastering to Laths and lime plasters**

Proposed areas:

GF Front Entrance – Ceiling level, repair to LHS of entrance door – *Image 1*

GF Living Room – Ceiling level, repair to full width of room – *Image 2*

1F Living Room - Ceiling level, repair to open sections – *Image 3*

1F Hallway - Ceiling level, repair to open sections – *Image 4*

1F Bedroom 1 - Ceiling level, repair to open section – *Image 5*

### **Work Method Statement.**

- 1/. Preparation of ceiling.
- 2/. Fixing wire and treatment of laths.
- 3/. Application of pricking up or scratch coat.
- 4/. Application of set coat.

1/. Clean all old plaster from between the laths and vacuum to remove dust. Cut the edges of any existing plaster to halfway of the nearest joist; angle the cut on the old plaster at 45 degrees so the new material is applied over the bevel holding the edge of the original plaster in place. Ensure that all laths are securely fixed, re-nail where necessary.

*NOTE. Repairs would normally be carried out following the reinstatement of the key to the rest of the ceiling. Reinstatement results in the original ceiling being up to three times stronger than the original ceiling and resistant to affects caused by water leaks.*

2/. To remove the absorption from the laths spray with "Westox RAP primer" thoroughly wetting the laths top and bottom, also soak the exposed edges of the plaster around the repair with the primer to "kill" the suction, as an added precaution attach 1 inch galvanized chicken wire over the entire area to be re-plastered to provide an additional key and prevent cracking, fix the wire using galvanized nails or screws keeping the wire tight, use copper wire to fix the centre areas of the wire to the laths to prevent sagging.

*NOTE. Although not widely published or mentioned in plaster restoration books wooden laths required soaking prior to fixing, soaking laths makes them easier to cut with a lath hammer, prevents splinters in the fingers during fixing, makes them easier to nail with less splitting and prevents the expansion of laths following the application of wet plaster which causes key breakage. Lime plasters are badly affected by too much suction so it is important that all suction is controlled.*

### **PLASTERING**

#### **Traditional Plastering Specification**

#### **MATERIALS**

- Plastering Sand. Pitt sand is preferred.
- Slaked Lime Putty (minimum 14 days old)  
(If hydrated bag lime is used pre-soaking to a putty is necessary to provide the correct volumes)
- Meta Kaolin (Pozzuolan)
- Cow hair or synthetic fibers for reinforcing.

### **PREPARATION OF MATERIALS**

Roughly mix the sand and lime together at the ratio of 3 parts sand to 1 part lime and 1 part of teased hair. (all parts are by volume and the same part measurement should be used for each component) Mix by placing 1 portion of lime into a mixer with water and the fibers followed by three portions of sand, tip out after turning over 6 or 7 times. Form a pile of the material until enough mortar has been mixed that is required for the render and float coats. Cover the pile with a plastic sheet and leave for a minimum of 14 days before using if the lime has not been previously aged. (All measuring should be with gauging boxes, not shovels)

### **MORTAR.**

Take 3 portions of the mixed material (e.g. 3 x 20 litres) this measure will consist of 60 litres of sand and 20 litres of lime. To this add 25% (Meta Kaolin) to lime by volume (5 litres). Add water and mix to a usable consistency.

### **LIME SET COAT**

The basic components of a lime set coat is a reverse of the scratch and float coats, ie, 3 parts sand 1 part lime mortar to 3 parts lime to 1 part sand, set coat adjustment might be required depending on the sand and 5 parts lime to 2 parts sand is often the required mix after good clean pit sand is passed through a 300 micron sieve.

On small areas we recommend the Multi-Finish set plaster for setting the patches. This is a lime and gypsum based plaster that is compatible with the new lime render and the existing plasters and would be simpler to use than a lime set.

The use of lime set coats in patching small areas can prove to be very difficult.

3/. Mix the lime plaster in a clean mixing vessel using clean water, mix to a usable consistency and apply a scratch coat directly over the laths at a 45 degree angle to the laths so the plaster passes through the wire and laths curling over to form a key on the back of the laths, apply so approximately 5 to 8mm of the plaster is left on the underside of the laths, allow for initial set and scratch thoroughly ready for the following float coat. After the material has cured for several days mix fresh mortar and fill the area to be repaired or form screeds around the perimeter of the ceiling at the required finished level, if plastering a large area form box screeds to the perimeter screeds, fill between the screeds and rule and devil float to a flat keyed surface ready for the following set coat.

*NOTE. When carrying out small repairs and because of the time constraints it is quite common for the plasterer to use "gauged stuff". Gauged stuff is taking a portion of coarse stuff, forming a ring on the mortar board, filling with water and adding some gypsum plaster, the materials are mixed together and immediately applied to the laths in the same manner in place of straight the lime mortar, the addition of gypsum causes the mortar to set quickly so the scratch coat can be applied and scratched ready for the float coat within ½ an hour, the float coat is also applied using "gauged stuff" and ready for a gypsum set coat after another 1 hour. The set coat is applied and finished in the normal manner to a smooth flat surface ready for painting.*

4/. If a lime set is preferred allow three or 4 days before applying the lime set over the float coat (Depending on the drying conditions)

### **SET COAT**

In a suitable mixing vessel, place 3 portions of lime to 1 portion of sand, add 20% Meta kaolin to lime by volume and mix to a usable consistency. Apply the mix to the float coat in an even coat at the approximate thickness of 3 to 4mm. After the initial application, lay the material flat and scour the surface with water and a wooden float to compact the material and prevent crazing. (If crazing occurs, increase the portion of sand to 1½ or 2 parts). When the material is well

compacted, apply a 'laying in' coat tightly over the surface to fill any voids and finish with a steel trowel and water to a smooth even surface and leave ready for painting.

*The addition of Meta Kaolin is probably not necessary in colder climates and aerial lime can be used on its own, premature drying will "kill" the set of aerial lime and any strength will rely on compaction. As mentioned above lime set can be extremely difficult on small areas so using alternative materials can shorten the time and make the job easier if acceptable. Whichever method is chosen the repair method should be documented for future reference.*



Image 1



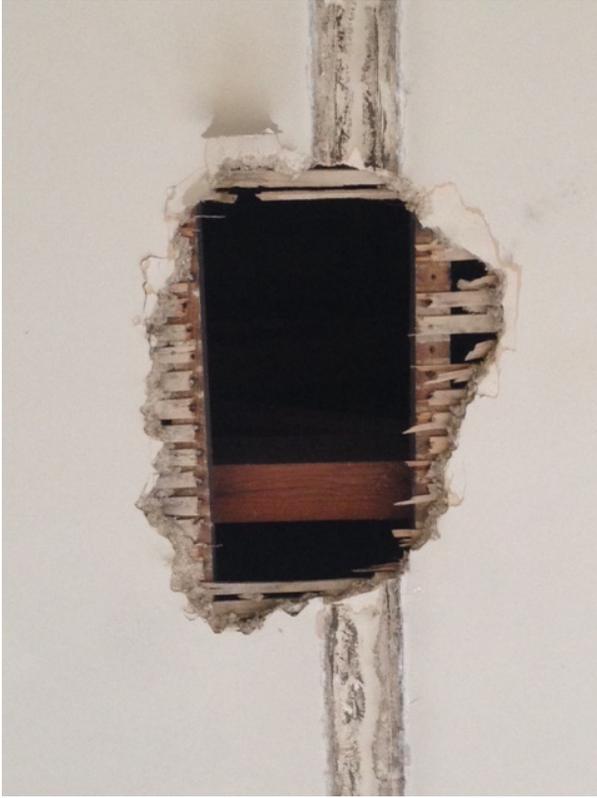
Image 2



Image 3



Image 4



*Image 5*