

THE ELMS FITZROY PARK LONDON N6 6HS

DESIGN & ACCESS STATEMENT 2013

APPENDIX IV : SPECIFICATION FOR EXTERNAL RENDER

4. Types of Stucco

The constituent materials of historic stucco varied considerably. However, between 1775 and 1850 when stucco was most popular, there were four principle types, with many variations within each type:

- a. **Lime/sand stucco:** Lime and sand mixes have been used for many centuries for exterior rendering. One of the earliest examples in Westminster is at Inigo Jones's Queen's Chapel (1623-25) at St. James's Place. This type was the most readily available throughout the 18th and 19th centuries.
- b. **Oil based stucco:** This type includes many variations, patented and used in the 18th and the 19th centuries. One of the best known variations - Liardet's mix - was produced and used by the Adam brothers, for example in Portland Place, Westminster. The critical constituent of this mix, boiled linseed oil, was used instead of water to make the mixture workable.
- c. **Roman cement stucco:** This type dates from the late 18th century and was a mix of naturally hydraulic lime mixed with sand. In Westminster it was used, for example, by John Nash in the building of Park Crescent and in many other buildings in the Crown Estate. Its use became very popular throughout the first half of the 19th century. Some buildings in Westminster still retain Roman cement stuccos, which are characterised by their rich brown colour.
- d. **Portland cement stucco:** Portland cement is a hydraulic binder produced by firing a mix of clay and limestone. It was not widely available until the 1850's, when stucco was falling out of fashion; it was however used extensively by developers, for stucco cornices, window surroundings and other stucco decoration.

5. Repair

Stucco was always made as a combination of a 'base' material (varying from sand to powdered marble and pulverised glass) mixed with a bonding substance (from egg-white to lime or artificial cement) and oil or water. Often reinforcing materials were added such as hair, straw and wire-mesh. Each type of mix produced stucco particular texture, colour, strength, structural compatibility with other building materials, water resistance, etc. Many of these types of mix can be produced and used today to repair old stucco.

In modern times many artificial bonding materials and emulsifying additives have become available for use in rendering and stucco work. In repairing old stucco, these should be used with extreme caution and never without expert specifications and confirmation that they can be used in a way which is compatible with the old materials.

If you wish to repair stucco, it is very important to establish the type of the original mix. use of an incompatible type is likely to result in 'patches' which look different to the rest of the facade and may cause cracks and serious deterioration.

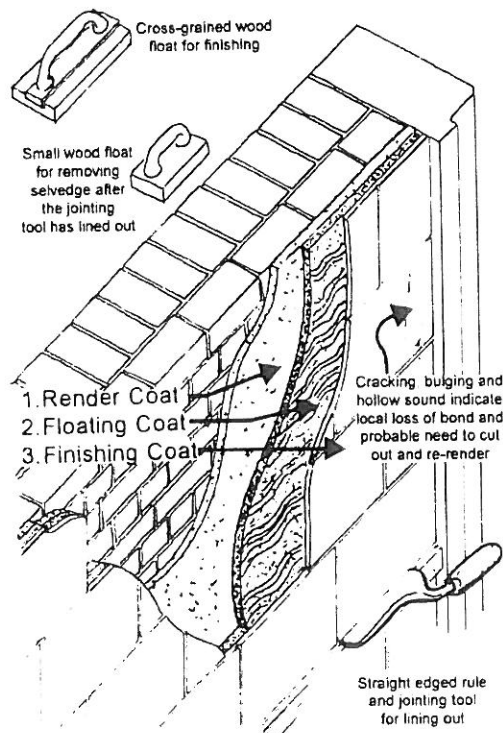
The Council's conservation officers or English Heritage experts will be pleased to advise you; their telephone numbers are given at the end of this Guide under Contacts.

The following two pages give information and explain repair procedures for two types of stucco (Lime/Cement Stucco and Oil Mastic Stucco) which are appropriate for many, but not all, buildings in Westminster. This information has been extracted from J. and N. Ashurst's book 'Practical Building Conservation (*)

However, it is emphasised again that this information should not be used indiscriminately without a specialist's approval in respect of a specific stucco building.

(*) John and Nicola Ashurst: *Practical Building Conservation*; Vol. 3, Mortars, Plasters and Renders. English Heritage Technical Publications/Gower, Aldershot, 1998, pp 24, 25

LIME AND CEMENT STUCCO



Typical lime-stucco, Roman or Portland cement stucco will appear as above rendered on brickwork and lined out in imitation of stone ashlar.

1. The render coat may be ruled flat and comb-scratched.
2. The floating coat will be ruled level and comb-scratched.
3. The finishing coat may be finished with a cross-grained wood float and jointed.

MIX TYPES A, B, C are suitable for repairing Roman and Portland cement stucco.

Types B and C are useful for unpainted Roman cement, to allow the aggregate to provide colour without lime, which tends to lighten the appearance too much.

MIX TYPES D, E are suitable for lime stucco, especially where the background is only moderately strong. Type E should not be used in severe exposures, and even in less demanding environments is best limewashed.

(After J. & N. Ashurst, see reference above).

LIME AND CEMENT STUCCO- MIX TYPES AND PROPORTIONS

MIX TYPE A (Cement/Lime/Sand) ('Compo')			
	Cement	Lime	Sand
1. Render Coat	1	1	5
2. Floating Coat	1	1	6
3. Finishing Coat	1	2	9
1. Render Coat	1	2	9
2. Floating Coat	1	2	9
3. Finishing Coat	1	3	12

MIX TYPE B (Cement/Sand/Plasticiser)			
	Cement		Sand
1. Render Coat	1	Plasticiser	7 to 8
2. Floating Coat	1	Plasticiser	7 to 8
3. Finishing Coat	1	Plasticiser	8

MIX TYPE C (Masonry Cement/Sand)			
	M.Cement		Sand
1. Render Coat	1	-	5½
2. Floating Coat	1	-	5½
3. Finishing Coat	1	-	6½

MIX TYPE D (Hydraulic Cement/Sand)			
		Hydraulic Lime	Sand
1. Render Coat	-	2	5
2. Floating Coat	-	2	5
3. Finishing Coat	-	1	3

MIX TYPE E (White Lime/Sand)			
		White Lime	Sand
1. Render Coat		2	5
2. Floating Coat		2	5
3. Finishing Coat		1	3

THICKNESSES		
1. Render Coat	2. Floating Coat	3. Finishing Coat
9mm	9mm	6mm

OIL MASTIC STUCCO

*detail of restored
half-frieze and gable
(bottom).*



Portman Square: Excellent example of 18th Century building by James Adam, with subtle use of stucco to produce elegant decoration and details.



Grove House, Regent's Park: Stuccoed classical mansion by Decimus Burton, 1824.



Waterloo Place: 'Athenaeum', by Decimus Burton, 1830, with classical stucco decoration of exceptional quality.



Belgravia: Robust stuccoed classical terraces by Thomas Cubitt/Thomas Cundy, laid out in the 1820s.



Westbourne, Chepstow Road: Mid 19th Century stucco properties, stucco Corinthian detail.



St. Martin's Lane: Late classical stucco work by