

Proposed External Lime Render Specification Bickleigh House

1211/BIC/DET07

Specification Clauses for NHL Renders

Traditional Lime rendering and plastering while within the capability of competent tradespersons is nonetheless a highly skilled craft discipline and should not be underestimated. As such work is to be undertaken by plasterers with the requisite skills to a standard fitting the historic importance of the structure; work based evidence of their competence on similar buildings may be requested at the discretion of the C.A.

It is accepted by the "*Specifier*" that such craftsmen have a sound working knowledge of their craft and as such it would be expected and appreciated, that any suggested amendments to the specification they may have, will be brought to the attention of the Architect prior to commencement of works.

GENERAL REQUIREMENTS FOR WORKMANSHIP

- 1) **Basic Workmanship:** Comply with the clauses of BS 8000:Part 10 relevant to the works herein described.

- 2) **Measurement:** All constituent materials used for lime rendering will be accurately gauged using clean gauge boxes or clean undamaged buckets. Mix water should be accurately dosed to ensure continual consistency throughout. The addition of hair/fibres is to be weighed using calibrated scales. **There is no substitute to accurately measured quantities.**

- 3) **Admixtures:** Not to be used unless specified or approved.

- 4) **Mixing:** All mortar for renders shall be thoroughly mixed using appropriate mechanical means for a minimum of 10 minutes mixing time or at least 20 minutes prior to application. Where necessary additional mixers should be used to facilitate this and no exceptions will be allowed. The volumes specified herein are for dry sand, due allowance must be made for bulking of damp/wet sand. Renders should be sufficiently plastic for reasonable yet economic application by the craftsman; the C.A. will not accept too sloppy a mix which will increase the propensity for cracking.

5) Weather: Cold Weather Working; No rendering shall take place when the air temperature in the shade is below or is likely to fall below 5°C during the setting period, unless special precautions are taken, in accordance with BS 5628:Part3 and to the approval of the Architect. Ensure that all materials when used shall be free from snow, ice and frost.

6) Protection, Curing and Drying: As soon as practically possible after rendering and for a minimum of 5 days thereafter, the works shall be protected against the harmful effects of weather. The greatest threat is likely to be rapid drying from wind or sun, which acts to the force drying the fresh mortar, inhibiting hydration resulting in a poorly bound and friable mortar, which will not be accepted.

All works shall be protected upon completion against rain as work proceeds until such time as the work is completed and the upper coping or other finishing features are complete.

Refer to Cornish Lime Technical Advice sheet on “*Curing Mortars and Renders*”

7) Cleanliness: Thoroughly protect all existing work and use catch boxes or equal to collect mortar droppings (please remember fresh fallen render using St. Astier lime may be remixed, providing it is clean enough to do so). Clean off all droppings on to finished work as soon as is practically possible ensuring minimum dwell time.

Materials

Sand: source/ type: Cornish Lime Co

Base coat: CLS28, Coarse washed sand 4 mm down

Top Coat: CLS35, Washed plastering sand <2mm down

Lime: St. Astier NHL3.5 available from Cornish Lime Co all works to be carried out in accordance with that detailed in the St. Astier technical Guidance Sheet “NHL Renders” (see attached data sheet), please refer any technical enquiries through the Cornish Lime Co, advising the Architect of any suggested changes prior to execution.

Mix Ratios (External Rendering)

- | | | |
|----|-------------------|---|
| 1) | Base/Bonding Coat | Mixed @ 1:2 CLS28 / NHL3.5 average 4 mm thick |
| 2) | Scratch Coat | Mixed @ 2:5 CLS28 / NHL3.5 average 12-15 mm |
| 3) | Float Coat | Mixed @ 2:5 CLS28 / NHL3.5 average 7-10 mm |
| 4) | Top Coat | Mixed @ 1:2 CLS28 / NHL3.5 not exceeding 6 mm |

Mortar should be plastic and workable but not swimming wet

APPLICATION GUIDANCE -

AG1) **THROWN BASE/BONDING COAT: ROUGHCAST (HARLING)**

Application of "Bonding Coat": Throw from a casting trowel or scoop, applied evenly yielding a relatively even, textured finish to support subsequent render coats.

Additional tensile strength can be gained from the addition of fibre/hair reinforcement, not essential unless specified, but worth inclusion on high suction backgrounds, as it will assist in controlling the drying shrinkage, which will be inevitable.

On impervious or high suction backgrounds the bonding coat should be cast onto a primed surface of lime and water mixed and applied as a slurry coat with the bonding coat cast onto the slurry whilst it is still **tacky*** thus improving the bond even further.

❖ It is vital that the slurry coat should **NOT** be allowed to dry prior to application of the "Harl" coat..

AG2) **SCRATCH COAT**

This coat should (in principle) be the main levelling out coat and will be applied at the greatest thickness, with the potential for the greatest shrinkage and should be managed accordingly. Should this require more than one coat (depending on the "straightening" required?) use the same mix as specified but the first of these coats should be thicker and get progressively thinner for subsequent coats.

AG3) **FLOAT COAT**

This coat is the final coat and as such it should be applied to an even thickness and consistency to aid finishing, Different thickness of this coat in application will contribute to issues with finishing as a result of differential drying rates.

NOTE: for internal use where a fine/smooth finish is required the float coat may be lightly scoured back and keyed with a devil float to aid the mechanical bond

AG4) **TOP COAT**

FINAL COAT - PLAIN FLOATED FINISH

Finish: Even, open texture free from laitance.

FINAL COAT - SCRAPED FINISH

Finish: Scraped to expose aggregate and achieve an even texture.

FINAL COAT - ROUGHCAST (HARLING) FINISH

Finish: Left as cast with an even thickness and texture.

FINAL COAT - DRY DASH FINISH

Coarse aggregate: To BS EN 12620. Well washed.

- Size: _____ .
- Type: _____ .

Application and finishing: Achieve firm adhesion to an even overall appearance. After throwing aggregate tap particles lightly into coating.

General: Prevent premature setting and uneven drying of each coat.

- Curing coatings: Keep each coat damp by covering with polyethylene sheet and/ or spraying with water.
- Curing period (minimum): 7 days
- Final coat: Hang sheeting clear of the final coat.
- Drying: Allow each coat to dry thoroughly, with drying shrinkage substantially complete before applying next coat.
- Protection: Protect from frost and rain. *Refer to Cornish Lime Technical Advice sheet "The Importance of curing Lime Based Renders & Mortars"*