

Application for a discharge of Condition 18 in relation to application SMD/2022/0083 and Condition 5 in relation to SMD/2022/0084

Construction materials & workmanship specification for external fabric repairs.

RE-POINTING/REPAIRING BRICKWORK:

All subject to further close-up inspection when safe access allows:

- Raking out and re-pointing historic stone and brickwork as required
- Localised repairs as required

REMOVAL OF FITTINGS/FIXTURES:

- Items to be removed, reinstated on completion of repair work: existing rainwater goods, waste and SVP pipes, surface-mounted wiring and cabling etc. as necessary all to be agreed with client/employer and the Architect.
- Treatment following removal: store, kept for reuse
- Storage: Protect against damage, and store until required
- Reinstatement: Refit in original locations using original installation methods.
- Items unsuitable or not required for reuse: to be identified by architect and client on site.
- Masonry fabric and surfaces: Do not damage during removal and replacement of fittings/ fixtures.

REMOVAL OF PLANT GROWTHS FROM MASONRY:

- Plants, root systems and associated soil/ debris: Carefully remove from joints, voids and facework.
- Removal of roots: Where growths cannot be removed completely without disturbing masonry seek instructions
- Unwanted plants close to masonry: Where removal of root system is not possible or desirable, cut through stem as close to the ground as possible. Remove bark from stump and apply herbicide paste. Leave stump to wither.

WORKMANSHIP GENERALLY

- Power tools for removal of mortar are not permitted
- Putlog or any mechanically-fixed scaffolding will not be permitted.

PROTECTION OF MASONRY UNITS AND MASONRY

- Masonry units: Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.
- Masonry: Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on facework. Protect using suitable nonstaining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

NATURAL HYDRAULIC LIME : SAND MORTARS

SAND FOR LIME:SAND MASONRY MORTARS

- Sharp, well graded and conforming to the methods of sampling and testing quality requirements of BS 882 or BS 1200, unless specified otherwise.
- Source(s)/type(s) of sand are specified elsewhere ie. **'Mercaston Washed Concreting Sand'** or **'Mercaston Coarse Building Sand'** from Hanson's Mercaston quarry; Exact choice of sand to be agreed/advised with the architect before commencing work.

HYDRAULIC LIME FOR HYDRAULIC LIME:SAND MORTARS

- Natural Hydraulic Lime (NHL), pre-bagged and conforming to the methods of sampling and testing and quality requirements of BS EN 459, unless specified otherwise
- Type(s)/strength class: NHL2.0 (feebly hydraulic), NHL3.5 (moderately hydraulic) or NHL5.0 (eminently hydraulic)
- Source/manufacturer(s): Contractors choice;

MAKING MORTARS GENERALLY

- Batching: By volume. Use clean and accurate gauge boxes or buckets.
- Mix proportions: Based on dry sand. Allow for bulking of damp sand
- Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
- Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
- Contamination: Prevent intermixing with other materials.

MAKING/USING HYDRAULIC LIME:SAND MORTARS GENERALLY:

- Use operatives who are skilled and experienced in the making and use of hydraulic lime : sand mortars.
- Avoid contamination of hydraulic lime : sand mortar by other materials or by any set material (including Portland cement).
- Measure materials accurately by volume using clean gauge boxes or clean undamaged buckets.
UNDER NO CIRCUMSTANCE re-point in natural hydraulic lime:sand mortars when the air temperature is at or below 5°C and falling or below 3°C. Where it is anticipated that the temperature in the first few days might fall to 5°C, or lower, the structure should be protected with damp (not wet) dark-coloured **felt carpet underlay** or **old wool blankets** to preserve the moisture and with sufficient cover, **to protect the structure itself and the mortar against frost**, whilst allowing air movement over the mortar. FROST RESISTANT ADDITIVES WILL NOT BE TOLERATED AS THEY CONTAIN SALTS WHICH WILL AFFECT THE MORTAR.
- Maintain temperature of the work above freezing until mortar has fully set.
- **Protect masonry against rain and snow** by covering when precipitation occurs and at all times when work is not proceeding.
- **Prevent masonry from drying out too rapidly** in hot conditions and in drying winds by covering with damp (not wet) dark-coloured **felt carpet underlay** or **wood wool blankets** (furniture removal company-type) as soon as possible to maintain moisture and then with additional cover to prevent it from drying out.
- Rake out and replace mortar damaged by frost and where instructed, redo the repair.

SITE PREPARATION OF HYDRAULIC LIME:SAND MORTAR

- Thoroughly mix (dry) natural hydraulic lime powder with sand, first in the dry state and then with water. Follow the lime manufacturer's recommendations for each stage of the mix. Follow the lime manufacturer's recommendations for each stage of the mix. Add only sufficient water to produce a workable mix.
- Use mortar within the time limits recommended by the lime manufacturer. NHL2.0 & 3.5 mortars can generally be re-worked, or 'knocked-up', for up to 24 hours and can improve workability (NHL 5.0 limes have a shorter 'knock-up' life).
- If the mix requires significant addition of water then it has reacted too far to be useable and must be rejected. Cover mortars intending to be re-worked to control water loss.

APPLICATION OF HYDRAULIC LIME:SAND MORTAR

- Mortar Mix: 1 part St.Astier NHL 2: 2-2.5 parts Mercaston Concreting Sand. Final mix **TBA with architect on site.**
- Sand source / type: Good quality, washed, well graded coarse (particle size 3.35mm to 0.075mm) or fine sharp sand to suit application/joint width ie. 'Mercaston Concreting Sand' or 'Mercaston Building Sand' from Hanson's Mercaston Quarry, Ashbourne tel. 01509 503161
- Mixing:
 - o Mix materials thoroughly by compressing, beating and chopping. Do not add water.
 - o Mix powdered hydraulic lime with sand and pigment.
 - o Following initial mixing of about 20 minutes, the mortar should be allowed to stand for about 30 minutes to allow the aggregates to absorb, mixing water to help with water retention. The mortar should then be remixed for about 10 minutes and a little more water added if necessary to get the right consistency – it should be a stiff, sticky mix that holds its shape on the trowel; if too wet it will shrink too much.
- Joints: Flush pointed
- Other requirements:
 - o Mortar to be carefully pressed/ 'tamped' into the pre-wetted joint **with a pointing tool/'iron' that fits into the joints** so that they are fully filled, but not 'trowelled' which leaves the faces smeared. **After initial setting and before fully dry, revisit area of pointing and remove any surplus mortar with timber plastering lath, and COMPACT/'BEAT' with a stiff bristle 'churn brush' to remove any laitance and to roughen the surface slightly** (or 'dress with a shaped wooden spatula', or use a soft brush depending upon required finish) to consolidate the finish and ensure consistently (exact technique to be discussed and agreed on site) **so that the mortar is FLUSH/recessed by approx. 1mm behind face of adjacent BRICKS. Do not 'brush' joint.** Do not smear adjacent masonry.
 - o **Prevent masonry from drying out too rapidly** and keep damp (moist, not wet) as clause 185C. For best results the moist conditions should be maintained for at least the first five days so that the mortar does not dry out, whilst allowing air movement over the mortar, and then provisionally for up to three weeks.
 - o UNDER NO CIRCUMSTANCES re-point in natural hydraulic lime:sand mortars when the air temperature is at or below 5°C and falling or below 3°C and rising. Where it is anticipated that the temperature in the first few days might fall to 5°C, or lower, the structure should be protected with dry (not damp/wet) dark-coloured **felt carpet underlay** or **old wool blankets** (furniture removal company-type) to preserve the moisture and with sufficient cover, **to protect the structure itself and the mortar against frost**, whilst allowing air movement over the mortar. Frost resistant additives will not be tolerated as they contain salts which will affect the mortar.