LAKESIDE-BUCKINGHAM STONE LTD
Cast & Natural Stone | Installation | Restoration | Bespoke Projects

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Guidance for Operatives Handling, Installing, Pointing, Repairing, Painting and Cleaning Cast Stone Products

The below guidance notes should be read and followed by all personnel and operatives due to work with or operate in the vicinity of the Cast Stone products. Further explanation of the below guidance, and diagrams can be found on the UK Cast Stone Association website: www.ukcsa.co.uk. We do not take responsibility for any loss or damage from failing to heed to the below guidance for good practice, nor for loss or damage caused by third party installers.

General Installing (Fixing) and Storage/Handling guidelines

All Cast Stone products should be considered as fragile. We strongly advise that the stone units are carefully stored and handled at all times. In most cases, the stone units will be supplied on pallets, wrapped with shrink wrap and protective polystyrene. When on site, pallets must be stored on level ground, away from moving vehicles and other pallets/items must not be stored on top of pallets containing cast stone, or cast stone pallets atop each other. This will greatly reduce the chances of damage.

It is necessary to ensure that the units remain protected during storage on site and care is taken during handling and fixing, as corners and edges of the units can be easily damaged, especially if units are slid over each other during unpacking or installation. Units can be stained by general builders 'muck'/mortar, so should be covered by Polythene sheets or similar if works are to continue above or around the fitted unit. It should be noted that (unless otherwise specified) the fitter/fixer should only bed under the stooled ends of cills and thresholds, otherwise central cracking will occur. (Please see our separate Cill Fitment Guide document.)

If units weigh over 25kg, a two person lifting method must be used. More than 50kg, or by supplied design, lifting eyes and loops must be used with mechanical lifting equipment as specified. Specific manual handling requirements are available from the HSE.

Care should also be taken to ensure that operatives do not allow pointing mix or mortar to come into contact with the visible faces of the units, as it will stain them. If any mix/mortar does come into contact with the faces in this way, it must be immediately washed off with clean water. (See Cleaning Cast Stone below)

Should the above guidelines not be followed and the units are damaged or stained, we will not be held responsible for any necessary repairs or replacements (and associated cost) required by the customer to rectify the problem.

Pointing – Mix and Method

On a clean surface or in a small, clean mechanical mixer, mix the supplied pre-blended sand and pigment, with white Portland cement in a ratio of about 5:1 cement (or 4:1 cement for a stronger/harder finish), then add a small amount of water, less than 10% by volume, thus keeping the liquid to the minimum needed to make the mix workable. Once fully and evenly mixed, should further liquid be required, only then add it a small amount at a time. The mix should be similar to the 'wetness' of a child's beach sandcastle for reference. It is worthwhile making a small practice mix prior to the supplied materials being mixed fully to avoid wastage from over-wetted mix.

It is advisable to add a general builders SBR liquid to the water. (Prior to mixing with the dry components to ensure correct dispersion) A ratio of 4:1 SBR will suffice. This will also aid pointing in cold conditions, increased waterproofing of the pointed joints, reduced risk of efflorescence, and durability in areas likely to be exposed to wear or impact damage. Do not use PVA.

It should be noted that grey cement will **not** provide a suitable finish if used as a substitute to white cement, where white cement is specifically required/supplied for a colour matched finish.
Please ensure that the pointing/repair mix that you have is of a matching colour to the original stonework. If the stonework has aged/weathered, it should be noted that the repair may not weather in to match for some time.

The pointing mix should be pointed using small pointing trowels with care, and not allowed to spill or be scraped across the faces of the cast stone units, otherwise staining will occur. It is good practice to cover all surfaces around or below the area to be pointed with polythene or a similar impermeable membrane to stop any spilled or dropped pointing mix from staining surrounding stonework or mortar. Masking tape can be applied along the edges to be pointed of the units to reduce the risk of staining from overspill. It is advisable that a straight edge be used under vertical pointing beds to help avoid mix dropping, and to hold the mix in place whilst pointing. Any spills must be cleaned away **immediately** using clean water only, and not allowed to dry out. It is also advised that operatives ensure that tools and gloves are clean to avoid staining to the units.

Freshly pointed areas should be protected from rain for at least 8 hours, 12 in cold and damp conditions, and not allowed to be loaded further or walked upon for at least 48 hours.

Please feel free to contact us for further advice or assistance.

Stone repairs (Non – resin based repair method)

Guidelines for general small repairs to stonework are shown below. Please read through these guidelines fully before starting. It should be noted that these are intended as a guide only, and that we will not be held responsible for an unsatisfactory finish if the works are not carried out by our own operatives. Please ensure you have all of the necessary tools and materials before commencing. Repairs on damp or wet days are not advised.

1. Ensure the working area (and tools to be used) are clean and dry, and protected from impact damage. Ensure surrounding stonework and mortar is protected from cementitious/liquid spills.

2. Paint, with a small brush, a film of neat SBR solution onto damaged face area only – *do not allow onto the surrounding stonework faces, as it will stain.* Wipe away any spills immediately with a wet cloth or sponge.

3. If necessary sieve the pointing mix to give a finer mix for smaller repairs. The larger grit as found in sharp sand or lime can make providing a suitable finish for small repairs more difficult.

4. Dry mix the sand and supplied white Portland cement in the ratio of about 5:1 cement. Grey High Strength cement can ONLY be used when specified for the supplied colour/mix. Ordinary grey cement should not be used.

5. Mix the water with SBR, at a ratio of about 3:1 SBR.

6. Add the above premixed liquid to the premixed dry mix, keeping the liquid to the minimum needed to make the mix usable/workable. (The consistency should be similar to that of which would be used to make a sandcastle). ALWAYS start with a small amount of liquid (Less than 10% liquid by volume to the dry mix material) and then gradually add more. Liquid can always be added, but never removed. Do not be tempted to allow an over-wet mix to 'dry out' if it is too wet, it will not perform as intended.

7. Apply to damaged area using a small pointing trowel and then blend carefully into surrounding stone to create an even face. Support the repair using a straight edge to avoid sagging/the mix falling out of place, if necessary.

   A small wooden straight edge and small metal pointing trowel are ideal for this. To blend the repair mix into the surrounding stone, high density polystyrene (similar to a float) is best used to provide a matt finish.

   If the repair is larger than a chip, the repair may need to be built up in layers.

   Carefully clean away any spilled pointing mix from the area surrounding the repair with water **immediately**, as it will stain the surrounding stone face. It is advisable to mask off the surrounding stonework which is not

8. Repaired areas should be protected from rainfall and impact damage for 24 hours.

9. Allow the repair to fully dry and harden, it will take some time for the colours to match.

10. For larger repairs it may be necessary for the area to be pinned and mesh used, please contact us if you feel this may be the case for further advice.

11. For areas where a fast-set is required, a Potassium Hydroxide set-accelerating admixture can be used, however please contact us for further advice prior to use if this is an intended method.

Cleaning Cast Stone products

In general, it should not be necessary to clean cast stone products after fixing, if the above guidelines have been followed. However in certain cases, such as repairing and improving the aesthetics of aged/weathered stonework, cleaning is desired. In all instances where extensive cleaning is required by the client, an experienced stone cleaning contractor, or our own operatives should be used to perform this task to achieve a satisfactory outcome.

The cleaning of cast stonework should be treated with the same care as cleaning natural stonework to avoid damage, or a poor finish. Water and a mild detergent, with scrubbing applied by a non-metal bristle brush is advised for superficial staining, however it must be remembered that cast stone will weather and age in a similar fashion to natural stone, and a patchy finish may result.

We do not advise the use of a pressure washer at any time to clean stonework unless specified, as it can cause damage to the face of the stone, resulting in an unsatisfactory patchy finish, and future spalling may occur as a result. We also do not advise the use of acids to clean stone unless specified by ourselves, as they can etch the stone causing a different finish and colour tone to that of the original and surrounding finish. The use of acids also carry significant health and safety risks, which will need to be addressed before cleaning this way is commenced.

In all cases requiring heavy and extensive cleaning, we strongly advise that experienced stone cleaning contractors be used to avoid irreparable damage and an unsatisfactory finish to the stonework. In these instances steam cleaning or specific stone cleaning detergents may be required, but should be confirmed with the contractor and ourselves before cleaning commences.

For localised cleaning needs, products such as 'Lithofin MN Builders Clean' and 'Lithofin Cement-Away' can provide suitable results, however, please consult with us in the first instance to ensure the best advice is given.

Painting Cast Stone

Our Semi-Dry and Wet Cast stone products can be painted, should you wish to. Commonly, this can be specified where new units are to replace older failed stonework and the colour is to be blended in, or to hide repairs. It is also possible to paint weathered or stained stonework to refresh a façade, or completely change its colour.

Ordinary masonry paint, such as you may find at a DIY store is suitable for small scale applications, however we do not advise its use where a prestige finish is required. It gives a smooth 'satin' finish which does not match with the natural finish of our products, and due to its often latex based composition, the substrate does not allow the masonry below to sufficiently breathe which in turn causes damp problems, render failure and the masonry paint itself to loose adhesion and 'flake'. Where a professional, long lasting finish is required, we advise the use of a Sol-Silicate Mineral based paint system. This will provide a finish which allows the masonry below to breathe fully, and also retains the original surface grain of the stonework. Silicate based paints are also extremely hardwearing, as they are essentially a pigmented 'stain', rather than a painted substrate. We recommend products supplied by 'Keim', such as their 'Soldalit' range. We will be happy to provide you with further advice should you wish to specify this coating method.

All painting application must follow the manufacturer's guidelines; we do not accept responsibility or liability for any failure due to the incorrect specification and application of third party products.

Efflorescence

Further guidance can be found at www.ukcsa.co.uk

Efflorescence is a natural phenomenon, whereby a calcium or alkaline salt which forms as a blotchy, powdery or crystalline deposit on the surface of masonry walls and concrete products. It is due to moisture entering through the walls or the surface of the Cast Stone, combining with the calcium hydroxide in the cement or adjoining mortar, and bringing the hydroxide to the surface in a solution which forms crystals when it combines with the carbon dioxide in the air.

Efflorescence is unsightly and is usually a source of disagreement between builders and architects as to why it occurs and what should be done about it when it is present. It is not always possible to predict whether masonry will effloresce. These salts may be present in the concrete, mortar, brick or Cast Stone.

All of our Cast Stone products are manufactured to BS1217: 2008 requirements, and contain admixtures designed to reduce the capillary action of water (and therefore hydrolysed salts) through the stone. However Efflorescence can still occur. It is advisable to ensure that installations of cast stone are not allowed to 'wick' moisture from surrounding materials, or most importantly, the ground. Further advice can be provided for specific applications or instances of Efflorescence. It is usually not advisable to just attempt to clean away the Efflorescence with 'brick acid' as this can damage the finish of the stonework and also in some cases cause a return of efflorescence, aesthetically worse than before.