

Threadworks Signage

Fabric Repair Strategy

EXTERNAL FABRIC REPAIR SPECIFICATIONS

GENERAL REQUIREMENTS

- Works to be completed in strict accordance with all current British Standards and BS 7913 – Guide to Principles of Conservation of Historic Buildings and BS800 workmanship series
- All works to be carried out in a manner which prevents any damage or disturbance to the historic building's fabric
- All works to be completed by contractors who have proven experience working with historic buildings and are suitably qualified to carry out the task set out

STONE REPAIRS

Lime Based Repair Mortar

- Restoration of screw holes, damage or fixings in stone work from removal of old signage
- Once the signage is removed carefully cut out plastic/wooden/metal plugs from stone using hand tools to leave a sound keyed surface
- Edges to repairs should be slightly undercut to assist a key and attain a minimum depth of 10mm to avoid feather edges. Repairs to be squared off to mimic stone the appearance of a stone indent
- Introduce any preformed supports according to need and the extent of repair.
- Restore forward in layers in specialist Stone restoration mortar compressing well onto a pre dampened surface and around any reinforcement. Data sheet attached - MM Stone Repair Mortar Data Sheet
- The finish is to be worked with wooden profiles to match the original profile.
- Should it be found that upon cutting away that the depth of decay precludes achieving a sound mechanical base on which to apply the repair mortar it may be necessary to affect a new stone replacement.

Stone Indent Repair

- Where more significant repairs are required and mortar repair is not suitable, stone indent to be completed

- Replacement stone sections are to be a good match in terms of colour, grain, texture, bedding arrangement and dressing style. CAST STONE is not to be used. Replacement stonework to be sourced from the following:

Johnsons Wellfield Ltd,

Crosland Hill

Huddersfield

West Yorkshire

HD4 7AB

01484 652311

sales@johnsons-wellfield.co.uk

-Surrounding stonework to be protected before removal of stonework takes place

-Defective stonework to be cut out back to sound stone utilizing a combination of 4" and 9" masonry diamond cutter, stone to be cut out to avoid any damage to the surrounding stonework

-Friable, loose or flaking stone to be dressed back utilizing a sharp masonry chisel and mallet

-Where necessary, newly masoned stone indent to be fixed by drilling 2 holes into historic stonework avoiding damage to the retained stonework.

- Indent to be fixed utilizing stainless steel dowels to be anchored with Fischer 2 pack anchor resin system to ensure work is properly cramped and dowelled together to existing adjoining stonework

-New 1/2mm joint between the indent and historic stonework to be pointed utilizing dust retained from masonry diamond cutter dust extraction in a lime mortar mix. Joint to be sponged to provide an invisible repair to the joint between new & historic stonework

REMOVAL OF MASTIC & THE LIKE

- If any mastic or adhesives are found behind the old signage, below methodology to be completed

- Surrounding stonework to be protected before removal of mastic and old sealant to be removed

- Mastic and old sealant to be removed by hand tools only with a stanley knife, scraper to be used

- Cut large chunks of mastic off by hand using a stanley knife and scraper to remove from the stonework

APPENDIX A

Proposed repair mortar colour match - MASON MORTAR STONE REPAIR MORTAR - COLOUR 10S



8.0 - Proposed colour reference - 10S



9.0 - Proposed colour match



10 - Proposed colour match on alternative side of opening

APPENDIX B - MATERIAL DATA SHEET

MM STONE REPAIR USER GUIDE & DATA SHEET



1.Product description

Mineral dry bagged masonry restoration repair mortar. Completely cement free lime binders and special aggregates.

2.General application and uses

MM Stone Repair Mortar – For partial or full surface repair of weathered or damaged sandstone or limestone where a strong bond and the ability to shape on hardening or when fully set is required. Can be tooled and finished to match the original, whether single or multiple colours.

3.Material Properties

@ 28 days

- | | |
|-------------------------|----------------------------------|
| • Bulk Density | 1.420g/cm ³ |
| • Water demand | 4.5- 5L per 25KG |
| • Open time | 90mins |
| • Compressive strength | <7.5 N/mm ² |
| • Tensile strength | <1.5 N/mm ² |
| • Modulus of Elasticity | 9000 MPa |
| • Vapour permeability | 0.75-8 gxm ² xhx mmHg |
| • | |

4.Application instructions

Ambient and materials / surface temperature range to be within +5°C to +30°C Out with these ranges consult our technical department.

5. Background / substrate preparation

- Cut back surface to remove defective masonry, to a sound base using a toothed chisel.
- If repairing only part of a unit, cut edges to straight lines on flat work, ellipses on curved work. Use of cutting discs is recommended to form sharp back chamfered edges.
- Where straight or ellipse line work is not possible, ensure **MM Stone Repair Mortar** does not finish to a thin feather edge – Where a feathered edge is unavoidable, the minimum edge thickness should be at least 5mm and once the repair is fully set (minimum 36 hours).
- All backgrounds must be free of salts, dust, loose or friable materials.
- Clean surfaces with mild grit blasting, pressure washing, and/or brushing with a stiff bristle brush. Use Biocide if required.
- Dampen, to control suction by pre-wetting if required.
- No standing water, remove with a sponge

6. Mixing

- For best results use hand held drill or whisk type mixer. Mix dry powder into water gradually, start wet, work to drier consistency. Do not short mix. Short mixing requires greater water content and will lead to bleed or shrinkage. Over mixing will weaken the material. Mix for 3-4 minutes with suitable mechanical means. If hand mixing, mix only small amounts and ensure the materials are properly mixed, usually around 4-5 minutes of vigorous mixing.

7. Application (one or multiple coats)

- Apply an initial layer 3mm or so with some pressure to the background, pressing materials into all grooves and tooling, then lay the rest of the **MM Stone Repair Mortar** up against this, wet on wet, to the desired thickness. In many instances various deeper sections should be filled first and brought to the level of the next deepest section, and so on, until the entire depth is filled. Remove any laitance between layers.
- Generally, up to a maximum of 40mm can be applied in a single application, or thicker in multiple passes. If form work is being used, or on flat or nearly level supports, work can be filled or laid up in a single pass.
- If filling in hanging layers, allow time for initial stiffening to take up before applying next layer, particularly if free forming projections and the like. Work must always be applied green on green for continuous application. If the sub base skins over (forms a laitance layer), scrape back to form a key before applying more **MM Stone Repair Mortar**.
- Ensure the final application is at least 1mm proud of the finished surfaces to allow for tooling – scraping, shaping back.

8.Finishing

- Finish with appropriate tools as the mortar takes its initial set, 8-12 hours depending on ambient conditions, (may be overnight in colder weather).
- Shaping with trowel edges, sculpting tools, sanding blocks, tungsten and the like can be done from 8 to 24 hours. For uniform perfect colour across all the repairs, the method of finishing and timing should remain consistent. Reinstate any mortar joints. **MM Stone Repair Mortar** must not bridge live cracks or mortar joints.
- All repairs should be overfilled and cut back. Where a tight, closed down finish is required, scrape back and close down lightly with a stainless-steel float without creating laitance while still sufficiently green to achieve the desired results. Over working can lead to fine laitance spider crazing on hardening.

9.Consumption (Approximate)

- 12.5 KGs per M2 at 10mm thick

10.Clean up

- Wash tools with clean water immediately after use.

11.Coloured (Pre-blended) or Colourpack™

- As supplied, either through coloured or with a Colourpack™ for onsite mixing.
- Through coloured dry bagged product, take materials as required and mix with water, colour will remain consistent throughout the depth of the material.
- Colourpacks are supplied for mixing with 6.25KG, 12.5KG and 25KG units of uncoloured **MM Stone Repair Mortar**.
- Empty the Colourpack™ into 75% of the mix water in the mixing bucket, turn package inside out and clean off any residual powder, stir with the drill whisk to distribute the Colourpack™ and mix in dry bagged mortar, adding water as necessary until a uniform, satisfactory mortar consistency is achieved. Not less than 3 minutes, not more than 4 minutes mixing time with a drill mixer.
- Proper protection must be maintained throughout the curing process. Colour variation will occur if differential hydration takes place. After placing, keep work protected from impact, strong sunlight, drying winds, rain and frost until properly cured.

Hazardous substances classification

- **R 38:** Irritating to the skin
- **R 41:** Risk of serious damage to the eyes
- **S 2:** Keep out of reach of children
- **S22:** Do not breathe dust

- **S24/25:** Avoid contact with skin and eyes
- **S26:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- **S37/39:** Wear suitable gloves and eye / face protection
- **S46:** If swallowed, seek medical advice immediately and show this container or label

Transport Hazard Class

N/A

Disposal

EC waste code no 170101

Any residue must be emptied out of bags or containers before recycling.

Solidify any residual material with water and after consulting the relevant authorities, dispose of in a construction material landfill site.