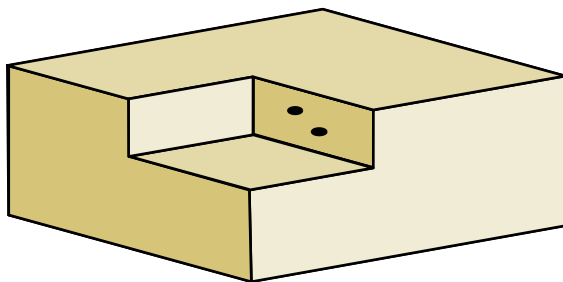


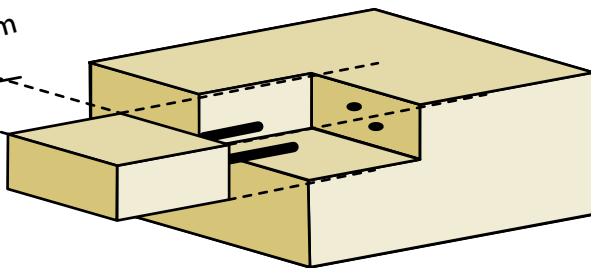
Indent Detail

Identify area of damaged stone as per drawings, in company with CA.



Cut out damaged section of stone, make good contact surfaces to receive indent. Prepare indent to desired size, dry fit indent, trim and adjust as necessary to ensure an accurate fit (joints to be less than 2mm to face work). Install dowels into stone indent. Dowel holes should be 2mm wider than the dowel diameter; dowel material to be threaded 3-4mm stainless steel dowel lengths up to 80mm approximate quantities min. 2 per indent and secure using polyester resin. Exact number and location of dowels to CA approval. Corresponding holes should be drilled into the receiving holes of same diameter and partially filled with polyester resin to secure indent.

Indent depth from face work not less than 100mm



Partially fill holes in stone with polyester resin. Ensure no resin applied to faces of indent or socket. Spread hydraulic lime mortar around the indent (mix to be agreed) and slide into place, ensuring face is kept clean, and excess mortar is removed. Dress face / tool indent to match facework of parent stone.

Re: 58-66 King Street, Manchester, M2 6DE.

Subject: Methodologies for Façade repair.

Stone repairs with repair Womersley's mortar

- To begin, remove all damaged stone back to a sound core.
- To remove stone, Use hand tools ONLY, unless stipulated otherwise by conservation officer, if mechanical means is necessary, extra care must be taken, ensuring no damage to surrounding stone is made.
- If possible, avoid using grinder and breaker and use hand tools, if grinder or breaker is used, operative needs to liaise with Structures site manager and record trigger times on HAV's Register.
- On cutting back, feather edges must be avoided.
- The areas to be repaired must be free from all unsound material, dust, oil, grease, corrosion by-products and organic growth.
- Smooth surfaces should be roughened, all loose material and surface laitance removed.
- Stone or bricks which are heavily salt contaminated may not be suitable.
- Once removed, stone shall be placed in correct skip.
- Highly porous backgrounds should be primed the day before with a gritty brush on primer.
- Ensure the background is suitable for supporting the weight of the new material (10mm of Contour over 1m2 weigh approx. 20kg).
- Mix in a drum mixer or by paddle mixer, avoid creating excessive dust.
- Carefully add the powder to clean water, using no more than 6 litres per 25kg bag. Mix for between 2 and 5 minutes until a workable consistency is achieved.
- Do not re-work. Do not use in temperatures less than 3°C or over 25°C.
- Lightly damp the background, before applying mortar with a hawk and trowel.
- Womersley's Stone Repair Mix should be used for patching or creating "blocks" of stone or brick effect.
- Never apply in a continuous coat as a render. Coats should be a minimum of 6mm and no more than 40mm.
- For multiple coats key each coat and apply green on green.
- For carved or cut back finishes apply the mix slight beyond the finished levels. As the mortar hardens it will become possible to cut and carve it back.
- Final profiling of a high quality is easily achieved with a steel float.
- When product is curing, prevent from drying out too rapidly, covering with hessian or mortar fleece if necessary.
- When area is completed, the area to be left clean and tidy.



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Stone Repair Mix: Brick and stone repair and imitation mortar



Womersley's Stone Repair Mix is a mortar for recreating and patch repairing bricks and natural stones in a wide range of colours. Contour can be carved, sanded, dressed and shaped like stone to give a uniquely convincing look and feel.

Availability

In 1 /5/10/ 24kg tubs. All colours are made to order.

Consumption

Approximately 1.7kg of dry mortar is required per litre. A 25 kg bag yields around 15 litres.

Storage

Store in a dry place free from damp and drafts. Use within 6 months.

Handling and cleaning

Wear suitable PPE, including gloves, dust mask and goggles. Do not breathe the dust. Wash any dust or mixed materials off skin straight away with plenty of clean water. Wash tools with clean water.

Surface Preparation

Remove any loose or friable masonry, and any contamination. Stone or bricks which are heavily salt contaminated may not be suitable. Highly porous backgrounds should be primed the day before with a gritty brush on primer. Ensure the background is suitable for supporting the weight of the new material (10mm of Contour over 1m² weigh approx. 20kg). Brass armatures or stainless-steel lath may be required to support the mix.

Mixing

Mix in a drum mixer or by paddle mixer, avoid creating excessive dust. Carefully add the powder to clean water, using no more than 6 litres per 25kg bag. Mix for between 2 and 5 minutes until a



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Stone indent/Granite Repairs:

- Identify together with Main Contractor all areas to be replaced.
- Manually remove all damaged stone back to a level allowing for a 100mm insert of stone using sharp chisels and hand tools.
- Form clean square cut edges to prevent any feather edging
- The area to be inset must be free from all unsound material, i.e. dust, oil, grease, corrosion by-products and organic growth.
- Using resin and stainless-steel dowels/cramps in accordance with manufacturers recommended instructions the new stone insets will be placed to desired lines and profiles
- All joints should then be re-pointed to match existing mortar
- All rubble/debris arising from these works to be removed to skip upon completion.
- All propping and restraining work to be carried out in accordance with structural
-

I engineer.

Rake out / repoint brickwork by hand

- Structures Group operatives to be inducted by PC Site management team.
- Area of works to be identified by PC Site management team.
- If access is required, Structures Group site operative to be PASMA trained.
- Structures Group to wear Full PPE plus face fit mask and safety goggles.
- Where possible and practical allowance should be made for dust suppression equipment, where suppression is not practical we will allow for the provision of suitable sheeting within the work area in order to ensure dust is confined to the work area and
- not transferred to public areas..
- Mortar must be removed by hammer and chisel.
- All brickwork must then be washed down using clean water ensuring all dust is removed from joint, this will also dampen joints ready for repoint.
- Re-pointing the joints Using mortar specified by PC
- Structures Ltd must ensure mortar is packed to the rear of the joint. Mortar can be mixed using Belle cement mixer or equivalent.
- To ensure mortar is a consistent colour, measure gauge must be used for products in the mix.
- When mortar has been placed into joint and left to cure, ensure the desired finished is achieved. This can be done by either, striking the mortar, brushing the mortar or jointing the mortar. This is down to the client's discrepancy.
- Once finished, ensure work area is cleaned ready for next trade.

Doff Cleaning:

- All other personnel except the operator are to be kept away from the working area.
- PPE must be worn. Rubber dipped cloth gloves, eye protection (visor), ear defenders (above 30 bar pressure), waterproof clothing (skin to be covered). Respiratory equipment will be advisable if toxic coatings are suspected or if bird/animal droppings are to be removed.
- 110v to be used.
- All electrical equipment to be PAT tested
- The cleaning of the building surface will be carried out by a capable operator who has been instructed by Stone Health Ltd. into the proper use of the DOFF Cleaning System.
- The DOFF will be connected to the water supply and then switched on only when in use.
- Care to be taken when handling the lance as some parts can become very hot
- All windows etc to be protected if required.



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- Adjustment of the water volume, pressure and temperature controls should be made whilst maintaining an appropriate distance of the nozzle from the work. A balance should be achieved in order to obtain an effective cleaning result without abrading the substrate. Consideration may also be given to differing nozzle specification i.e. aperture and spray angle
- Equipment should be placed in a well-ventilated area out of the reach of the lance or other water spray. The exhaust must not be covered or obscured. A purpose made ventilation duct can be used if required in an enclosed area. It will reassure the Operator if the unit can be observed, if only from a distance, by himself or an assistant.
- All other personnel except the operator are to be kept away from the area where the DOFF is situated
- The normal fuel for the DOFF is light diesel (red) or motor vehicle diesel (white) fuel. This will be stored in suitable marked containers or drums away from heat or direct sunlight. Storage will normally be at least some metres from the DOFF heater unit. Precautions should be made to avoid accidental or malicious spillage. If adjacent to drainage or water course
- Containment may be appropriate. Avoid contact with skin, soil and vegetation. Transfer of fuel to the DOFF is ideally carried out using a 20 litre Jerry-can with "clip on" spout. If storage on site is difficult transfer to the site sufficient only to maintain continuity of working
- On completion of cleaning work, all polythene protection and masking tape are to be removed. Waterproof masking tape has a high degree of adhesion; its subsequent removal can lift unsound remofilms. As the paint condition is beyond our control, remedial works are to be undertaken at the client's expense.
- At the end of the working day the DOFF is taken to secure storage supplied by the P/C → At the end of the working day any particles of dirt etc are placed into bags and taken to the P/C waste management area and correctly disposed of.
- Whilst personnel working in the vicinity need not be inducted into the working of the system they should be made aware of the potential hazards – heat, ventilation, the temperature of metal/rubber components etc. Someone adjacent, other than the Operator, should be aware of how to safely shut down the system in circumstances.



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DOFF

What is DOFF?

The DOFF Integra is a market leading, expertly engineered system that utilises a normal water supply to remove some of the more resistant forms of unwanted matter from a range of surfaces. The DOFF Integra is an advancement of the original DOFF Standard, providing greater ease of operation - eg improved manoeuvrability, quick release of modular components, digital displays and easy loading.

The water supply is fed via a pump into a hot-box where it is rapidly heated to temperatures of up to 150°C. The heated water is then fed through high temperature heat resistant hoses to the special nozzle at a rate of between 3 to 5 litres per minute.

Once cleaned, the surface dries within minutes which prevents any long-term damage as a result of trapped moisture.



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What is the DOFF most effective in removing?

Paint coatings (most oil and plastic types)
Certain types of graffiti
Bird or vermin fouling
Algae, moss, and fungi
Wax coatings
Chewing gum
Bitumen, Oil, Grease and many others, all without causing any damage or disfiguring the substrate.

What surfaces should I use the DOFF on?

We recommend the DOFF for use on surfaces such as brick, stone, concrete, tiled (glazed and encaustic), wood, faience and terracotta. It is a useful sterilisation tool for kitchens, toilets, swimming pools, hospitals and factories.

Where can I use DOFF?

DOFF can be used in Building restoration, Industry, Food production, Hygiene control, Hospitals, Factories, Transport & vehicle depots, Workshops etc.

How does DOFF work?

A normal water supply is taken through the pump into the Hotbox, where a range of temperatures of up to 150° C can be achieved. The low volume of super heated water and steam (5 litres per minute) is then fed through heat resistant hoses to special nozzles where a genuine 150° C is delivered. The surface being cleaned does not suffer any damaging pressure, thermal shock or deep saturation and dries within minutes. A range of different lances and nozzles are available.



TECHNICAL SPECIFICATION

DOFF INTEGRA

Power Supply Consumption	230 volt 50 hz 13 amp or 6.5 Kva (generator), 50 hz 30 amp or 6.5 Kva (generator), 115 volt 60 hz 30 amp or 6.5 Kva (generator), 110v 50hz 30 amp or 6.5Kva (generator)		
Water Consumption	Min 3, max 5 litres per minute. Use only clean cold water supply - if bowser or other, consult our technical team for advice		
Maximum Operating Pressure	100 bar 1450 psi		
Temperature Range	30°C to 150 °C		
Maximum Water Input temp.	30 °C		
Dry Weight kg	89 (hotbox) + 34.5 (pump) = when loaded 123.5		
Measurement mm	Length	Width	Height
	Pump 500	282	310
	Hotbox 680	630	1030
	When pump loaded length = 960		
Export Packing mm	1020	820	1150



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Torc cleaning

- Connect the Air Compressor to Inlet of the Air Cooler
- Connect the Air Cooler to the Pressure Pot
- Connect Inlet Water to Air Cooler. The TORC requires a positive pressure supply with no more than a 2BAR pressure.
- Connect the Blast Hose to the Pressure Pot.
- Connect the Dead Man Hose to the Pressure Pot.
- Connect the Water Outlet Hose to the Air Cooler
- Now turn on the water supply.
- Check the Water Separator Bleed Valve. This water separator is a secondary manual unit. A small flow of air should be leaking from this unit once the Air Compressor has been switched on.
- Adjust pressure using the Pressure Regulator. Push down to lock.
- Adjust the Vibro Pressure using the Ball Valve.
- Control and adjust TORC Head using the Dead-man Leaver and Water Valves. (See Stonehealth TORC instructional video for full details and operation of the TORC head and rebuild



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T O R C

What is Torc?

The TORC systems's most distinctive feature is its revolutionary modulised nozzle, which creates a gentle swirling vortex utilising low volumes of water, fine inert granulate and air. When in the hands of a competent person the results that are produced are probably the most sensitive and efficient methods of cleaning masonry.

The TORC system supersedes and offers additional benefits as well as other improvements over the original Jos system which Stonehealth introduced into the UK back in the 1980s.

The innovative TORC nozzle is available in a range of different sizes and types which can be selected for cleaning and removing unwanted matter from many various surfaces including large areas of ashlar or fine detailed stone carvings without damaging the substrate.

Not a blasting system, it has sensitive controls.

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