

Method Statement & Recommendation for Using the Stonehealth Steam DOFF system – Masonry & Building Fabric – Soiling & Coating Removal

The STONEHEALTH DOFF 'superheated water' system is generally appropriate for the removal of thermoplastic paints (oil based, acrylic, dispersion etc.) and oil, grease, bitumen, algae (and other biological matter including mosses, lichens & fungi etc.), chewing gum etc.

1. The objectives and scope of the project will be taken into account. This will determine the boundaries for the cleaning / removal process e.g. timescale, access, cost limitation & aesthetic requirements.
2. The areas to be worked will be examined by the Supervising Officer. The said officer will be assisted by the contractor or other participants having an understanding of the principle and possibilities of the system. Considerations will include safety, substrate condition, control of water and proximity of other works.
3. It should be normal practice before commencement of the cleaning operation that one or more sample areas are evaluated. Due merit should be given to the following;
 - a) Areas should be representative of the substrate, soiling and detail of the main works
 - b) Test panels should be positioned discreetly
 - c) Location of the test areas must be recorded and protected from further alteration
 - d) The parameters by which the result is obtained must be recorded
 - e) An acceptable test area should be retained as a control panel for the main works
 - f) Measures adopted as a result of the tests must be attainable and controllable in the main works
4. The cleaning of the building surface should be carried out by a capable operator who has received instruction from Stonehealth Ltd into the proper use of the DOFF steam cleaning system. Stonehealth Ltd maintains a record of the induction of each operator.
5. If the Test Supervisor (the Client's nominated representative) is not familiar with the DOFF system, they should seek such information from Stonehealth Ltd as to be able to correctly identify the origins of the principle components of the system (equipment serial numbers, nozzle type number).
6. Consideration should be given to protecting windows, doors, delicate features or any other areas not to be treated. For example 'Tank-Tape' and polythene to reduce water ingress through openings. Isolation of vulnerable electrical apparatus, lighting etc.
7. Gutters and down pipes leading to soakaways should be diverted in order that the removed solid matters do not impair the drainage system. The use of a geo-textile such as 'Terram' or 'Tygar' may be found useful for the control of paint or other solid residues.
8. It is advisable that work commences at the uppermost level and continues downward. This will (a) reduce the need for re-rinsing and (b) when removing a coating will reduce the exposure of surfaces to residues and water

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9. In some instances it may be necessary to use supplementary techniques to expedite the process.
 - a) Chemical paint stripper / softener. This may be beneficial when used in conjunction with the DOFF to increase speed and reduce impact of water pressure. However, precautions applicable to use of such chemicals must be taken into account e.g. Do not use adjacent to watercourses.
 - b) Certain paints (e.g. lime based) and carbon deposits may require sympathetic mechanical assistance, such as the Stonehealth TORC system.
 - c) Where the paint / coating layers are thick and do not immediately peel away it may be advantageous to have an assistant with spatula or other implement to pull away such layers. Suitable PPE must be worn when such a task is undertaken.
10. 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.
11. To maintain full temperature at the nozzle, consideration must be given keeping the high-pressure hoses as short as possible and fitting insulation (pipe lagging) if necessary. This is normally appropriate for hose lengths greater than 30m, or under cold prevailing weather conditions.
12. When progress is difficult it may be found beneficial to carry out cleaning in stages, allowing a dwell period between applications.
13. Where there is a high risk of water damage to adjacent fabric e.g. during internal usage, consideration should be given to vacuuming or channelling away unwanted matter and vapour. 'Steam' will activate smoke detectors if placed in local proximity.
14. Consideration must be given to all Health & Safety matters. These are;

a) Protective Clothing & Equipment

Normal will be: 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.

b) Electrical Safety

Appropriate electrical ancillaries and supply protection (see the Electrical Considerations sheet). Isolation and / or protection of electrical fittings.

c) Location of DOFF Equipment

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 them self or an assistant.

d) Storage & Use of Fuel

Stonehealth Ltd now only advise the use of kerosene (28 sec heating oil) as a fuel for the Hot Box. The Hot Box will function on red or white diesel but will not burn as cleanly both for the machine and the environment. **Kerosene is not** suitable for use in engines eg diesel compressors etc. This will be stored in suitable marked containers or drums away from heat or direct sunlight. Storage will not be adjacent to the DOFF heater unit (at least 5 metres distant). Precautions should be made to avoid accidental or malicious spillage. Make use of containment / bunding as required by law. Avoid contact with skin, soil and vegetation. Transfer of fuel to the DOFF should be 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.

e) Storage & Use of Acid Descaler

In hard water areas descaling of the boiler unit will be required in accordance with the Operator Instruction. The descaler will normally be inhibited hydrochloric acid (see product Health & Safety Data Sheet). This should be stored at ambient temperature with controlled access. Preliminary transfer (in a controlled location) into 1 or 2½ litre marked containers will reduce later handling. Protective waterproof clothing, eye protection and rubber gloves / gauntlets are required. Supply of clean water should be readily accessible during usage. Do not dispose of untreated residue: neutralize with Limestone or similar. Neutralized residues may be disposed to the foul drain (not into surface water drainage or watercourse).

f) Education of Personnel

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. A nominated person adjacent, other than the Operator, should be aware of how to safely shut down the system in circumstances unforeseen.

g) Firefighting Equipment

Maintain access of an appropriate fire extinguisher to suit liquid fire in electrical environment.

15. Following the completion of any repair work it is recommended that a final rinse be given to remove any residue.