TECHNICAL INFORMATION SHEET

THE CLEANING OF SPRAY APPLIED RENDER

This document provides guidance and precautions for the cleaning of modern lime, acrylic/silicone bound and painted renders with the patented ThermaTech® system and supporting chemical treatments.

Traditional renders consist of sand and crushed aggregate bound with lime or cement and are usually proportioned and mixed on site. Washing and brushing of the fresh render or prolonged weathering exposes the natural colour of the constituent sand and fine aggregate. Alternatively the render is painted over.

In recent decades factory 'pre-mixed' renders have been developed that offer very consistent finish, performance and the ability to be spray applied. Lime, silicone or acrylic binders are used and the render is designed to be flexible (and thus crack resistant), vapour permeable and self-coloured (using pigments). These characteristics require that particular care must be taken during cleaning.

The ThermaTech® Superheated Water Cleaning System has been designed primarily for the cleaning of historic buildings and structures but its operating parameters coincide with the requirements for cleaning high specification renders. The ThermaTech® operates at lower water flow and broader nozzle spray angle than conventional hot pressure washers. It also has the ability to maintain high operating temperatures and pressures or to be adjusted down to almost any temperature or pressure combination. The precision of this adjustment is unique to the ThermaTech® system.

SOFT MINERAL RENDERS

"High temperature, reduced pressure". With washing equipment mineral renders in general are unaffected by hot water or steam and so the temperature setting is best towards the top of the range in order to maximise the sterilising effects on organic growth. However, using a lime binder of low hydraulic strength (to resist cracking) means that the render is relatively soft. Therefore a high pressure setting, operating the nozzle close to the surface or using a nozzle of narrow spray angle all increase the risk of striation and other surface loss.

ACRYLIC AND SILICONE BOUND RENDERS

"Moderate temperature, moderate pressure". These binders are 'thermoplastic' and unlike mineral binders have a relatively low 'melting point'. The water temperature setting should therefore not exceed 90°C. They are also relatively soft, especially at raised temperature and so the pressure setting and operating distance of the nozzle to the surface must also be moderated. These factors taken into account, pre-wetting and chemical pre-treatment may compensate for the limitation of temperature and pressure.

PAINTED SURFACES

In general, painted surfaces are more reliably cleaned by a combination of warm water, a detergent or surfactant, and a non-abrasive fibre pad, cloth or sponge. Melamine sponges are non-abrasive but the 'hooked' profile of the fibres make them very effective for the removal of stubborn soiling, even without chemical assistance. ThermaTech® can be used for cleaning paint if used in combination with a detergent to first break the surface tension and soften the soiling. Both temperature and pressure settings however should be moderate and nozzle distance kept to the maximum to prevent striation.

USE OF CHEMICAL AGENTS

When considering the use of chemical products, there is an obligation first to minimize use and then to use the least toxic product available, that will achieve the desired results. Detergents usually offer a very

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low hazard. Where possible products should be used for localised staining and graffiti and the residue collected on cloths or sponges for appropriate disposal. Mild aqueous reagents can normally be disposed of to foul water drainage but no reagents should be permitted to enter a water course, standing water or ground water.

DOCUMENTATION SPECIFICATION AND REPORTS

Restorative has produced a family of documents to support project specification and management. These include 'Technical Information Sheets', 'Risk Assessments' and 'Safe Working Procedures' for the ThermaTech®, VorTech® and ThermaVac® systems. These have been written in conjunction with our independent health and safety advisors and are available for architects, specifiers and contractors for the use of equipment and products supplied by Restorative Techniques Ltd. 'Health and Safety Data Sheets' are issued for all chemical and poultice products. Restorative Techniques can be engaged to produce on-site trials and reports and to aid decision making in specification and implementation.

ACRYLIC/SILICONE BOUND RENDERS

- Temperature: 90°C max
- Pump pressure: Circa 60 bar*
- Nozzle distance: 100-200mm*
- Option for two operator set-up at ≤50 bar

CHEMICAL TREATMENTS (SUPPLEMENTARY)

- Restorative algae remover (organic growth)
- Restorative peroxide gel (residual organic staining)
- Restorative complex gel P3 (deposits and staining)
- Restorative algae ghost remover (organic and graffiti residue)

MINERAL RENDERS

- Temperature: 140-150°C
- Pump pressure: 50 - 100 bar*
- Nozzle distance: 80 - 150mm
- Option for two operator set-up at ≤50 bar

CHEMICAL TREATMENTS (SUPPLEMENTARY)

- Restorative algae remover (organic growth)
- Restorative peroxide gel (residual organic staining)
- Restorative complex gel P3 (deposits and staining)
- Restorative algae ghost remover (organic and graffiti residue)

PAINTED SURFACES

- Temperature: 140-150°C
- Pump pressure: 50 - 100 bar*
- Nozzle distance: 80 - 150mm
- Option for two operator set-up at ≤50 bar

CHEMICAL TREATMENTS (SUPPLEMENTARY)

- Restorative algae remover (organic growth)
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