MANORWOOD
building on tradition

External Decoration

The George Hotel, Rye

Proposed Approach and Specification

Items Reference: EF5

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Description

The works relate to the external decoration proposed to The George Hotel, including removal of existing paint, repainting and the reinstatements of the original lettering to the main façade of the building.

The current external walls and fenestration of The George are the result of the major refurbishment of the building that took place during the 18th century. The resulting building was faced with brick and mathematical tiles, which were painted soon after the building was completed.

The historic paint analysis carried out by Catherine Hassall in November 2020 revealed that the external walls of the George were painted more than 53 times since the 18th century (Appendix 1). That means that the building was painted approximately once every 5 or 6 years.

The façade of The George was damage by the fire and by the water ingress from the fire that occurred in July 2019.

The proposed works include repainting the exterior of the various buildings that comprise The George Hotel, using a different colour scheme based on the report of Catherine Hassall. The scheme also proposes to reinstate the original external lettering for 'GEORGE HOTEL', which has become apparent after the removal of the existing plastic-based paint.

The proposed external elevations of The George and the proposed colours are shown in drawings P_01 and P_02 by James Stevens (Appendix 2).

Significance and minimising impact on the buildings Special Interest

The George Hotel is a well-known landmark in Rye. It is an imposing brick and mathematical-tiled building of three storeys and Georgian appearance, which occupies a central location on the High Street. This is a thriving and bustling, shopping street, displaying buildings of varying periods, designs and materials, all largely maintaining the characteristic qualities and scale of Rye, with a high proportion of inserted shopfronts at ground floor level.

The visual architectural character of the High Street is an eclectic mix between embellished Georgian façades and a well-preserved stock of late medieval timber-framed buildings in traditional styles and materials. As such, the High Street provides a colour palette from the Georgian pastels to the vernacular red, brown and black, provided by the exposed brickwork, tile-hanging and painted timber (see image 1).

Before the fire, the external walls of The George were painted with acrylic paints of the same colour (see image 2). This resulted in a disproportionate façade formed by different-period buildings, which have lost their individual legibility. The use of plastic-based paints was also trapping moisture which was causing damage to the brickwork and tiling behind.

The paint has been removed using Thermatech (a less aggressive but more efficient system than DOFF) to assess the condition of the material behind and repaired accordingly where required (Appendix 3).

IMAGE 1: *View of the High Street of Rye from The George Hotel.*

IMAGE 2: *Facade of The George Hotel before the fire.*

MANORWOOD
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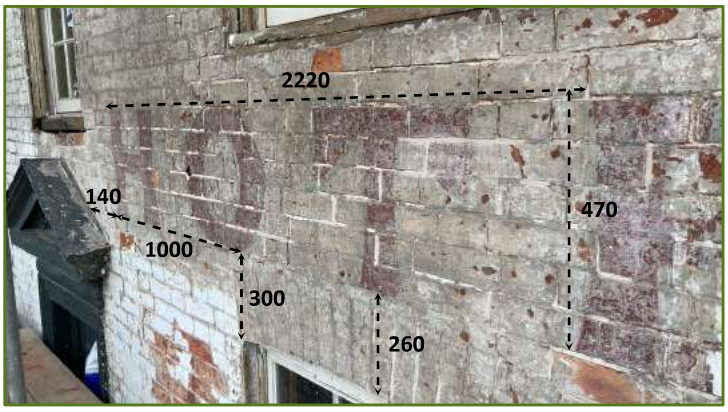
The removal of the paint revealed part of the original lettering 'GEORGE HOTEL' to the main façade. Historic images of the building suggest that the lettering was inserted during the 1880s and remained in place until the second quarter of the 20th century, where they were covered with layers of paint (see images 3 and 4).

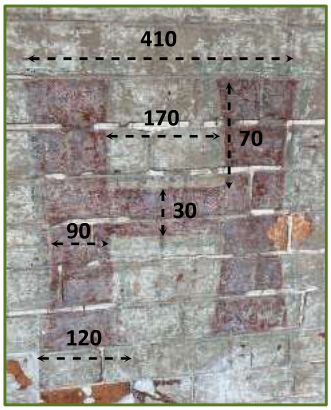
IMAGE 3: *The George Hotel, c.1890.*

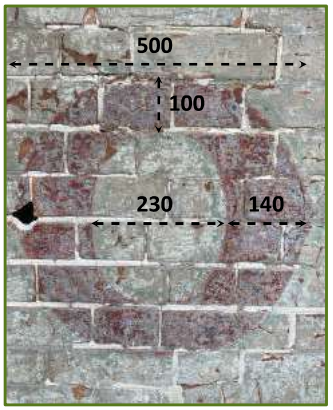
IMAGE 4: *The George Hotel, 1942. Historic England.*

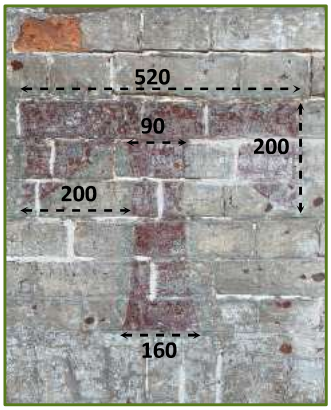
It is proposed, therefore, to reinstate the original lettering to the main façade of the building. This will reinstate part of the building's original appearance during the late 19th century, enhancing its significance.

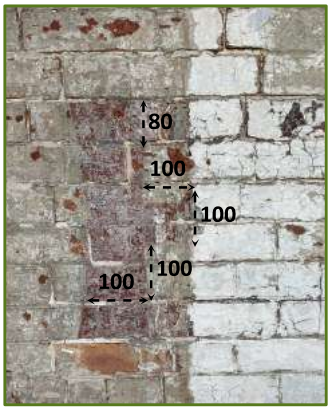
The original letters were recorded by Manorwood on 17th March 2021 in order to provide an accurate record to replicate the lettering as accurately as possible and its original location. Measures shown below are in millimetres (mm):











The historic paint analysis of the building carried out by Catherine Hassall before the paint was removed. This analysis is key to understand the original external appearance of the building and its evolution over the centuries.

Following the repairs required to the mathematical tiles (covered in report reference EF2 and EF3), the external walls of the George will be rendered with lime (Keim Universal Render) and then painted with a Keim Soldalit-ME system. The latter is a mineral based and fully breathable paint that provides long life, colour stability, low VOCs and weatherproofing to the walls (Appendices 4 and 5).

The proposed colours to the external walls of The George are based on the historic paint analysis undertaken by Catherine Hassall and as such, include a selection of earthy pink and brown colours which are also considered to be appropriate with the palette of The High Street. The buildings that comprise The George will be painted in different colours in order to soften the visual impact of the large composite façade on High Street and reinstate the legibility of such buildings.

It is, therefore, considered that the type of paint and the colour scheme are more appropriate and historically sympathetic than the previously used.

THE GEORGE HOTEL, RYE

EXTERIOR PAINTWORK

Samples were taken from the windows, doors and walls of the
High street elevation and the lion street elevation, as listed on p.18

The building underwent a major refurbishment in the eighteenth century, which involved new exterior walls, new windows and new doors. No exterior surfaces from before that refurbishment are any longer visible.

Following the refurbishment parts of the exterior have been repainted more than fifty three times, which is approximately once every five or six years [see Sample B1, p.9].

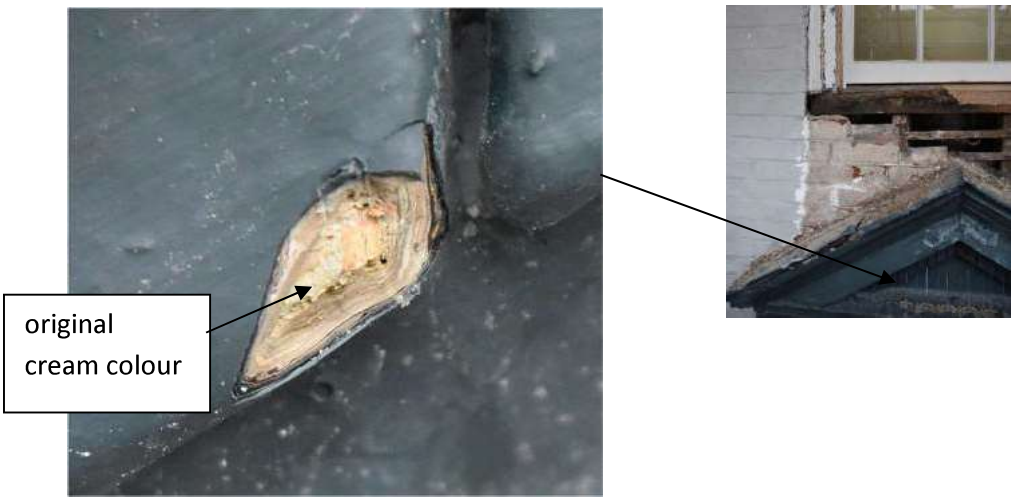
Original eighteenth-century finish

The building was faced with mathematical tiles, which were fired with a dark red slip coat, but these tiles must have been painted soon after the building was completed, as no obvious layer of dirt can be seen between the terracotta and the first paint [Sample B4, p.10].

The first paint on the walls was a cream-coloured oil paint based on lead white tinted with yellow ochre and a small amount of carbon black. This was used on the main wall surfaces as well as on window sills and on the plinth.

A very similar cream colour was also used for the wood of the windows. It was found on the easternmost dormer, and on the sash window frame. It was a slightly paler shade of cream compared to the walls, but the difference in colour would not be obvious to the naked eye.

No evidence was found for treatment of the doors themselves, but the doorcase for the front door at ground floor level [Sample B24, p.12], and the pedimented doorcase situated on the balcony were painted the same cream colour as the walls and windows.



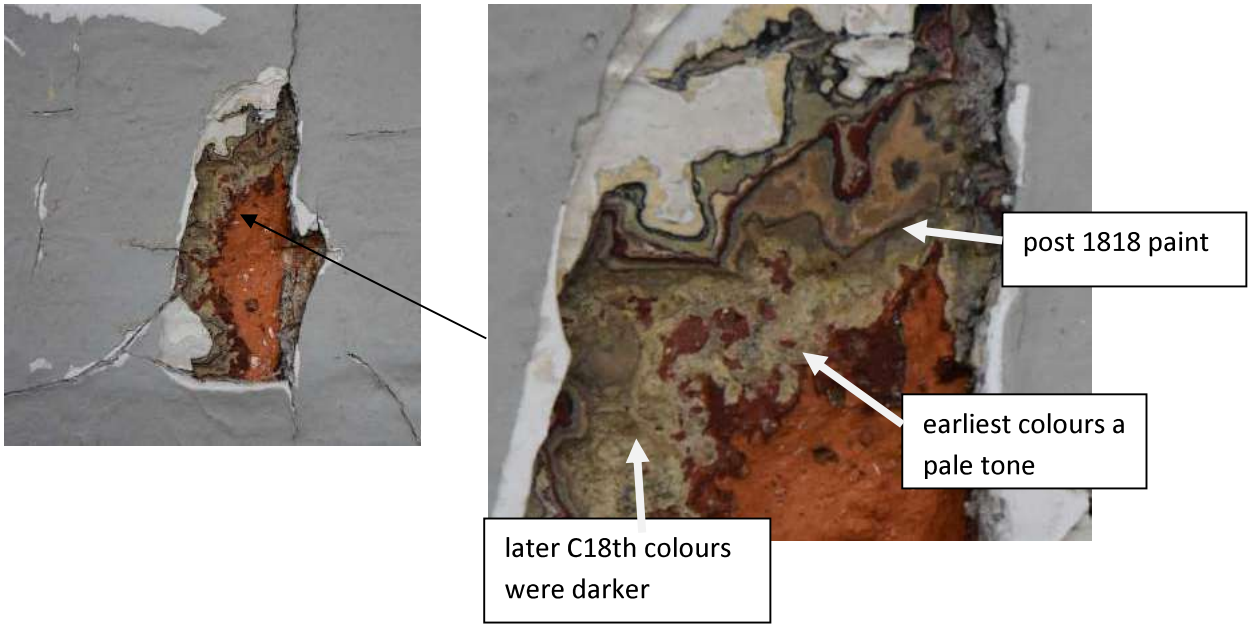
The porch columns have been vigorously stripped, and very little early paint has survived, but one paint sample did have remains of a red/brown oil paint with a varnish finish [Sample B21, p.12]. It is not possible to be certain that this is eighteenth century paint, but it is certainly an early finish, and the columns are clearly still a dark colour in the 1860s photograph.

No evidence was found for the treatment of the iron railings around the porch. All trace of early paint has been lost, and the ironwork may have been taken off site at some point, and chemically stripped.

No pre-nineteenth century paint was found on the surviving gutters gutter fixings, and the rainwater goods may have been replaced after 1818. Only one hopper was examined, and this had fewer layers than the gutters

Paint finishes up to 1818

The windows were painted more often than the walls, so it was not possible to tie schemes together precisely, but the general trend was a repeat of the original decoration, with the shade of paint becoming darker in tone. Towards the end of the century, the paints that were being used were a buff or dark stone colour.



1818 DECORATION

When the Ballroom was built, the walls of the whole Hotel on this elevation were painted with the same stone-coloured limewash [Sample C6, p.13]. These layers were only found in a few samples from the older part of the building, and they must have later been washed off, but they can be seen in Sample B4 [p.10].

The windows, the cornice and door cases were painted with a pale stone-coloured oil paint.

Change to oil paint

A second limewash followed the first and then there was a return to oil paints. The first oil paint that was used was a distinctive bluish grey colour [Sample C6, p.13]. Some blue pigment [Prussian blue] was added to the mixture, so the cool tone was intended. This grey was used for the flat walls and for the plinth at the base.

The windows, door cases and cornice were painted an off-white.

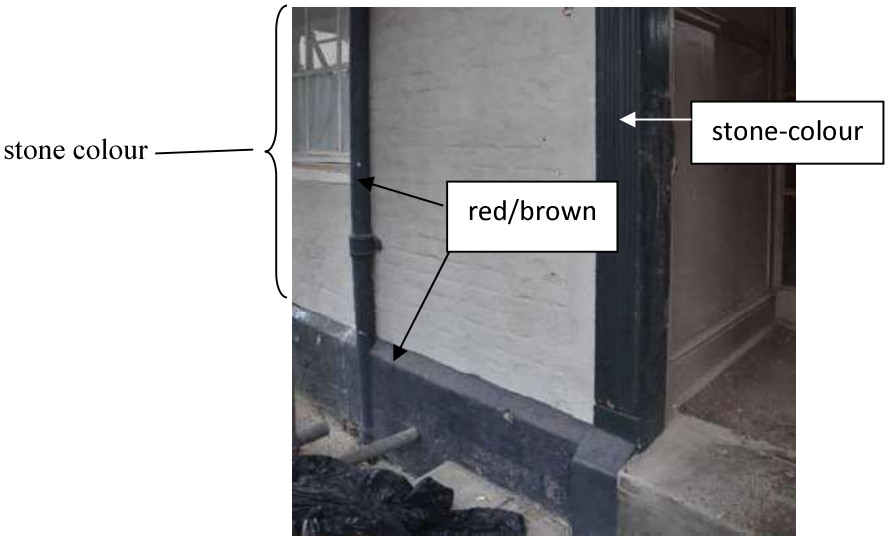
MID NINETEENTH CENTURY

The bluish grey used for the walls was not repeated, and the next time that the Hotel was painted, there was a return to warm, stone-coloured oil paints.

This coincided with the first time that 'GEORGE HOTEL' was painted across the façade using a red for the letters and green for the shading [Sample B10, p.11].

The red was a pure red ochre, the green a mixture of Prussian blue and chrome yellow.

Coinciding with painting 'GEORGE HOTEL' was the decision to now paint the plinths a dark reddish brown.

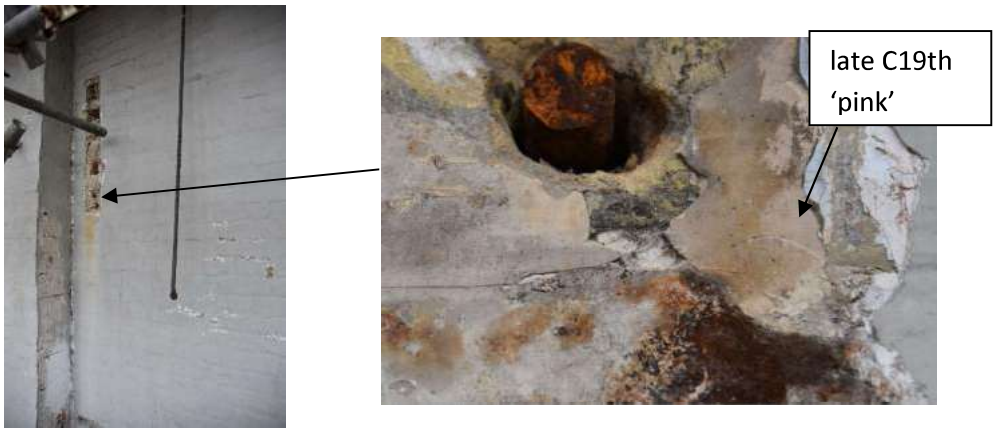


The same red/brown was also used for the rainwater goods [Sample C11, p.14].

LATER NINETEENTH CENTURY

The scheme was repeated the next three times that the building was painted: a stone colour for the walls and joinery, red and green for the letters, and red/brown for the plinths and rainwater goods. The shade of stone colour was initially quite dark in tone, with one of the schemes being almost a light brown but the last ones were a pinkish colour. By now the paints used for the walls were also being used for the woodwork of the windows, door cases and cornices.

Where a fitting has been removed from the Ballroom wall, the pinkish colour of one of the last of the nineteenth-century schemes has been revealed



Circa 1900?

It was probably around the turn of the century that there was a change, and the letters 'GEORGE HOTEL' were painted twice with black paint, and then once with dark brown. The plinths continued to be painted brown but now the shade was a dark umber colour.

FIRST HALF OF TWENTIETH CENTURY [1930s?]

There was a change: on two occasions there was a departure from the normal decoration, and brown was used extensively over the whole Hotel. Perhaps this coincided with the change of ownership to Trust House Forte. Brown was used for the sash windows, dormer windows [B1, p.9], window sills, door cases, cornices and rainwater goods. It was also used for the walls up to shoulder level [Sample C26, p.15]. Above that the walls were painted an off-white

AFTER WORLD WAR TWO

There was a long period when the windows were painted black, and there is evidence that the doors were also painted black. At least six lots of black paint were found in some samples.

The plinths were painted with the same black, but the rest of the walls and the cornices were painted a cream colour.

On just one occasion during this period a dark green was used for windows doors and plinths.

SINCE 2004?

A return to white windows and off-white for the walls.

Black plinths.

Dark green doors

LION STREET

It was difficult to work out what was happening on this elevation. Samples were only take from ground level.

Building at far north end

The wall at this end of the building was being painted with reddish brown oil paints [Sample A13, p.17]. These paints were difficult to date, as they were based on iron oxides, but there were so many that they must go well back into the nineteenth century. They were presumably being painted to imitate brick or tile. No trace of the stone colours used on the High Street façade were found.

Building with moulded cornice

The moulded cornice was painted the same as the cornices on the High Street, i.e. with cream coloured, and stone coloured oil paints.

Only twentieth-century paints were found on the wall itself and the samples show that the surface of the bricks has thick dirt on it, so these bricks may have remained unpainted until recently.

Building at north end with rendered facade

Only twentieth-century paints were found in samples taken from the rendered walls, but in one sample from the side of the door architrave we can see layers of limewash sandwiched between layers of oil paint used for the door, and the facade of this part of the building must have been limewashed through the nineteenth century.

SAMPLE B1
Easternmost dormer window – facing High Street

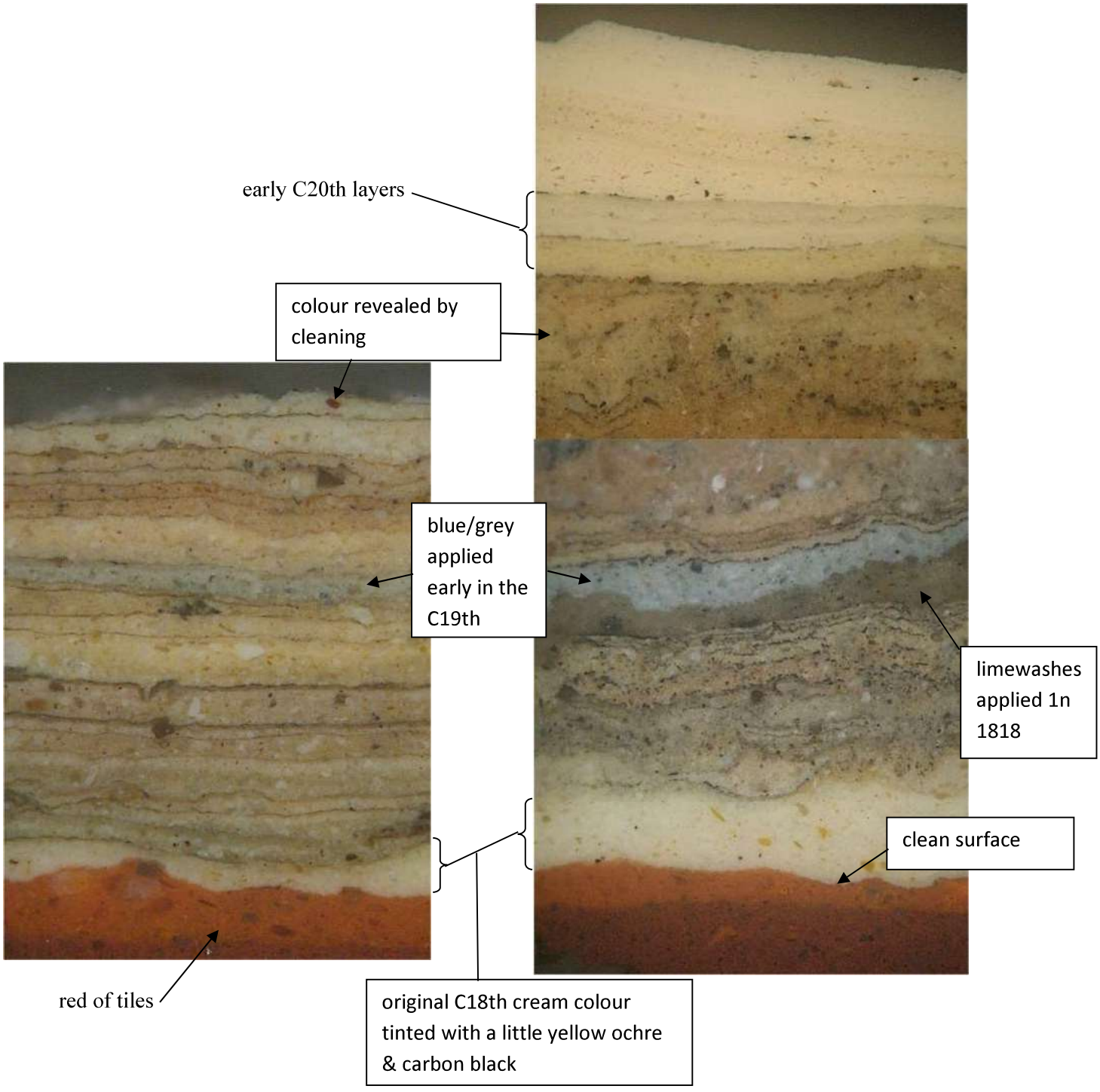
Some of the later C20th layers are missing, otherwise the sequence is complete from C18th to the present day

This window has been painted at least 53 times

Showing how the colour used became darker as the eighteenth century progressed, and even darker after 1818

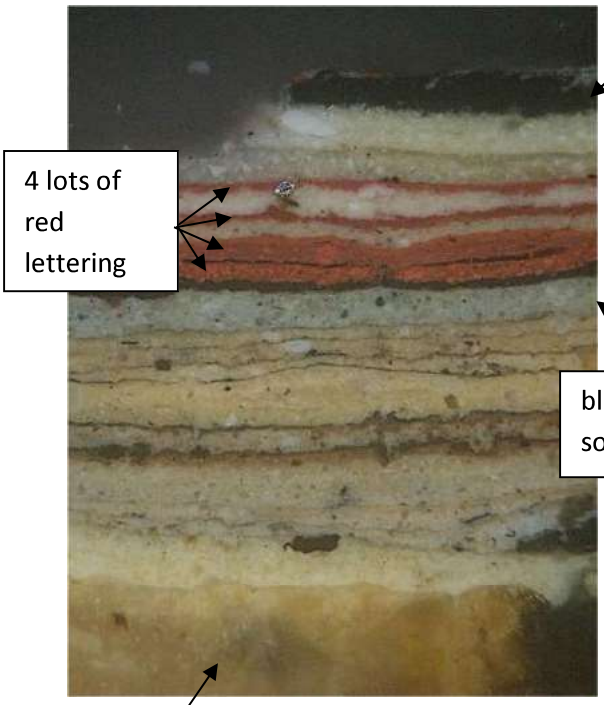
SAMPLE B3
Wall at 1st floor level – recent layers cleaned off

SAMPLE B4
Wall at first floor level – all layers

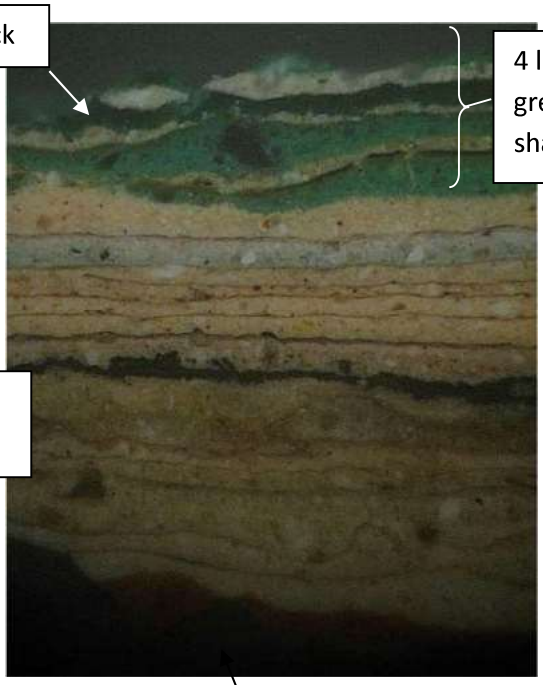


The original cream-coloured oil paint sits on a clean tile surface, and must have been applied soon after building was completed.

SAMPLE B10
Red lettering of word 'Hotel'

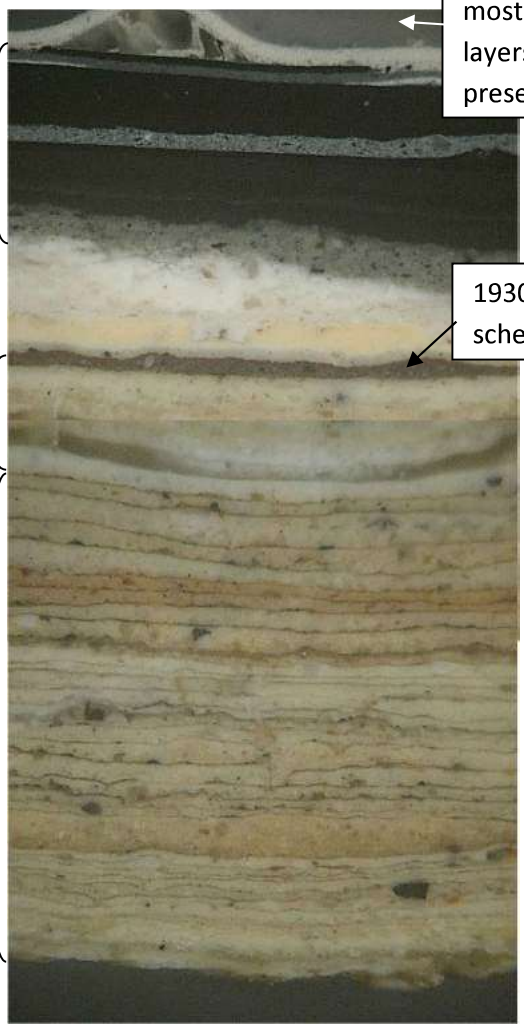


SAMPLE B11
Green shading of word 'Hotel'



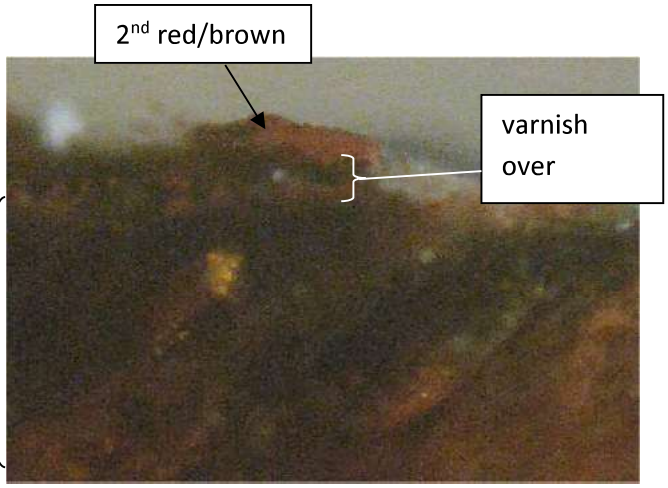
SAMPLE B16
Sash window – top floor

Showing that the window was painted a cream colour or stone colour, until the mid C20th



SAMPLE B21
Porch column

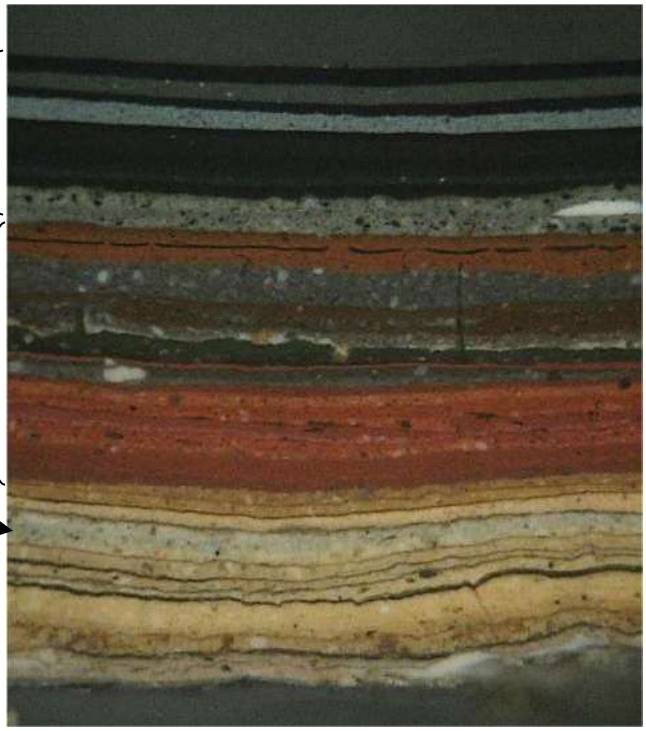
traces of original brown have survived the paint stripping



SAMPLE B24
Door case of front door

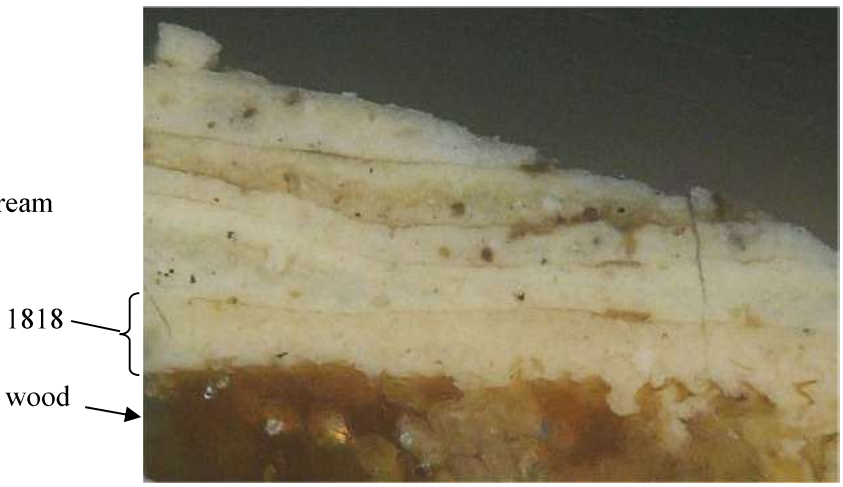
SAMPLE B29
Plinth to left of front door

Showing that the practice of painting the plinth a dark colour started after 1818



SAMPLE C3
Bow window of Ballroom

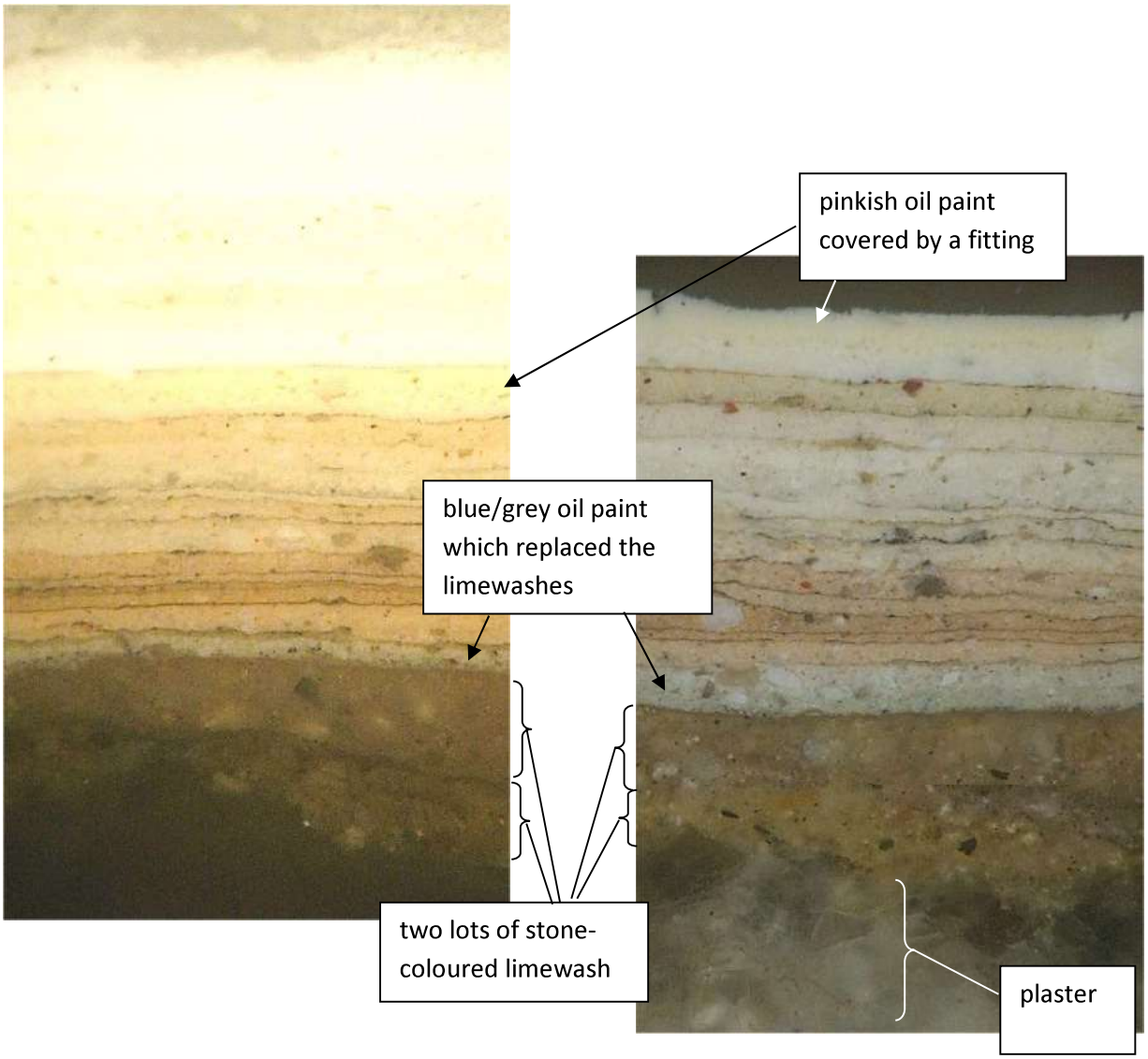
Later layers stripped off, but the fragment shows a sequence of cream colours used in early days



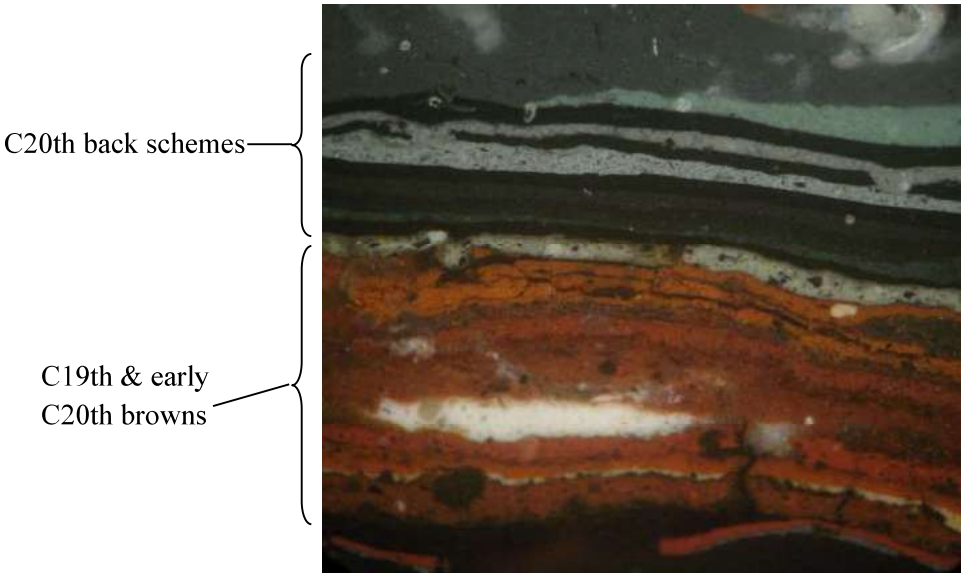
SAMPLE C5
Wall of Ballroom

SAMPLE C6
Wall where fitting removed

Samples showing the early limewash schemes applied after 1818



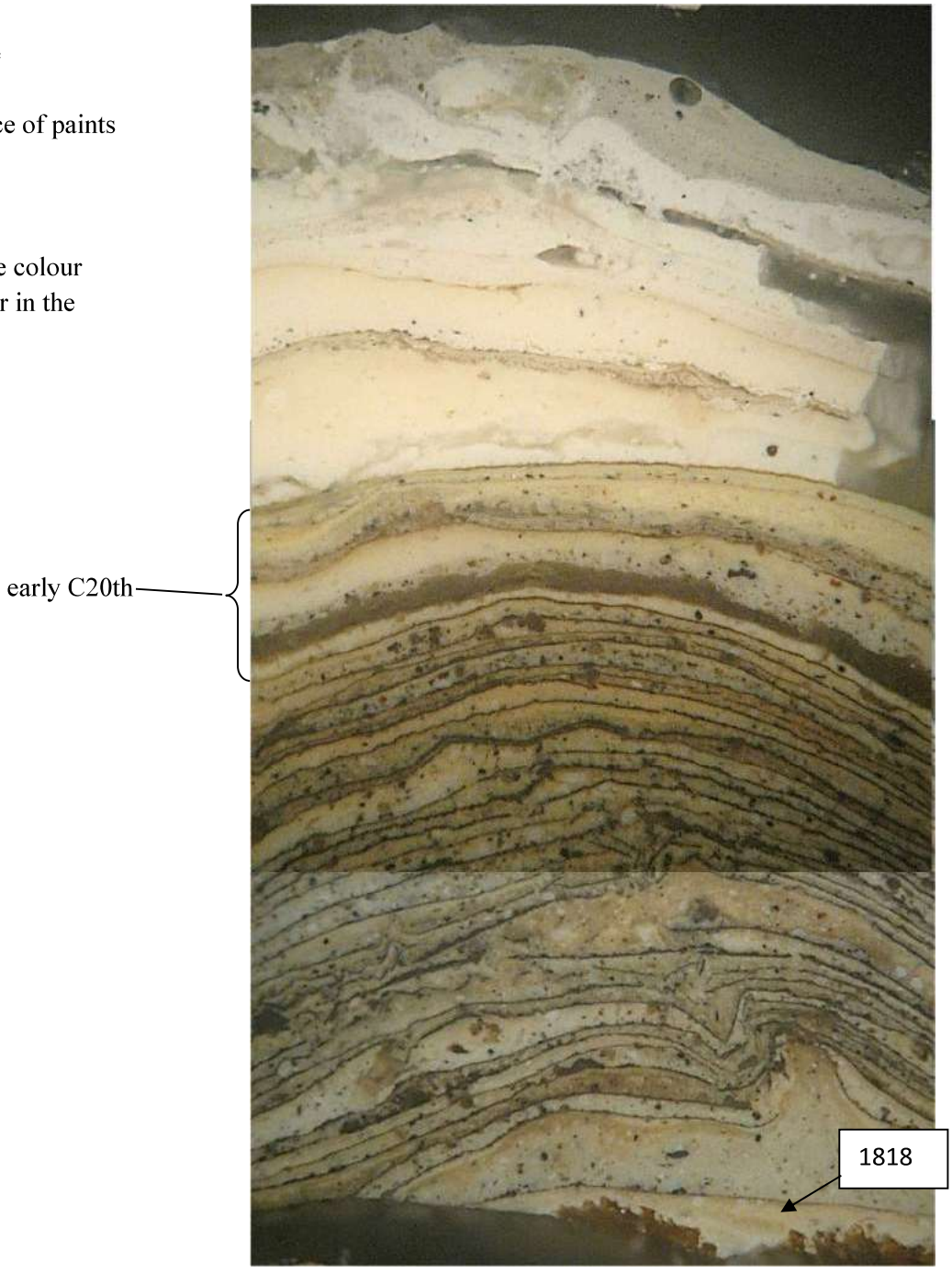
SAMPLE C11
Iron gutter fixing



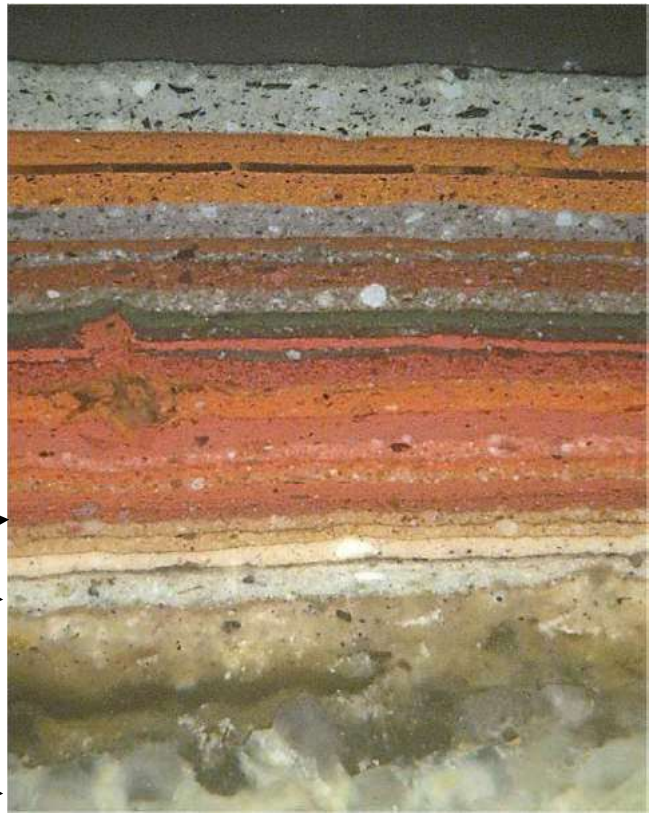
SAMPLE C12
Wooden cornice

The full sequence of paints applied since 1818

Showing that the colour was much darker in the later C19th

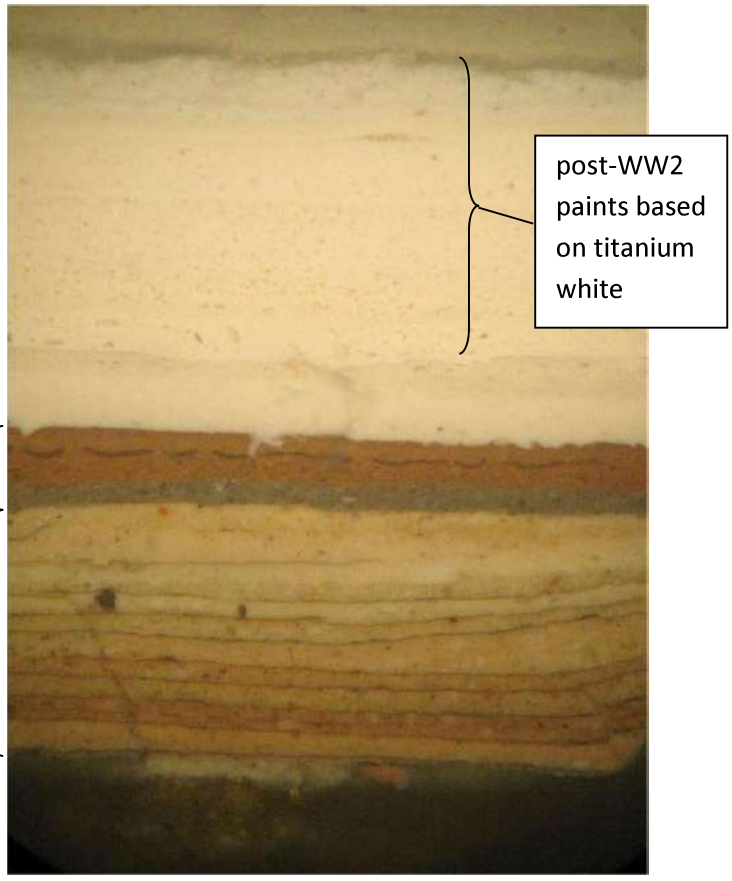


SAMPLE C18
Fictive plinth to right of front door



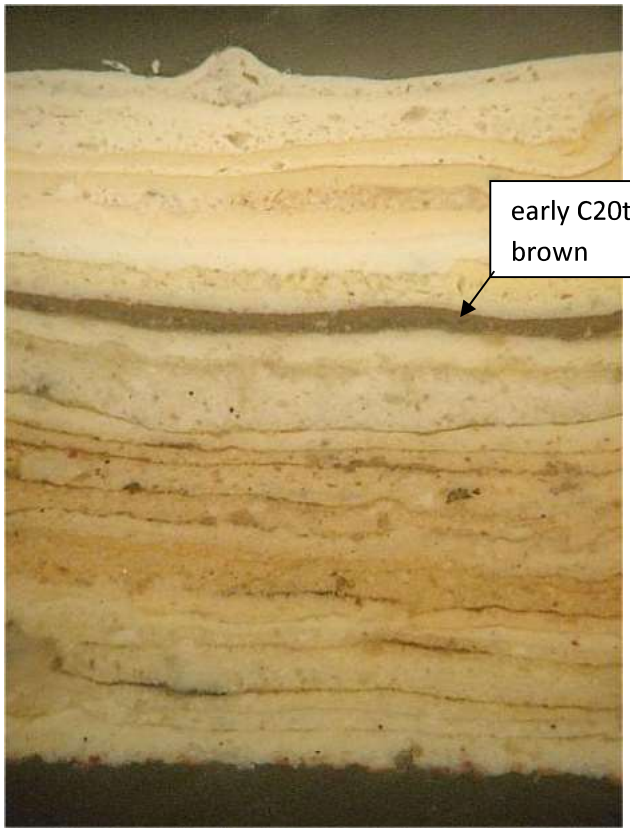
SAMPLE C26
Wall between plinth and lower part of ground floor window

comparing this with C18 above we can see that wall above the plinth was briefly painted brown in the early C20th



SAMPLE A1
Lion Street, north – ground floor 'cornice'

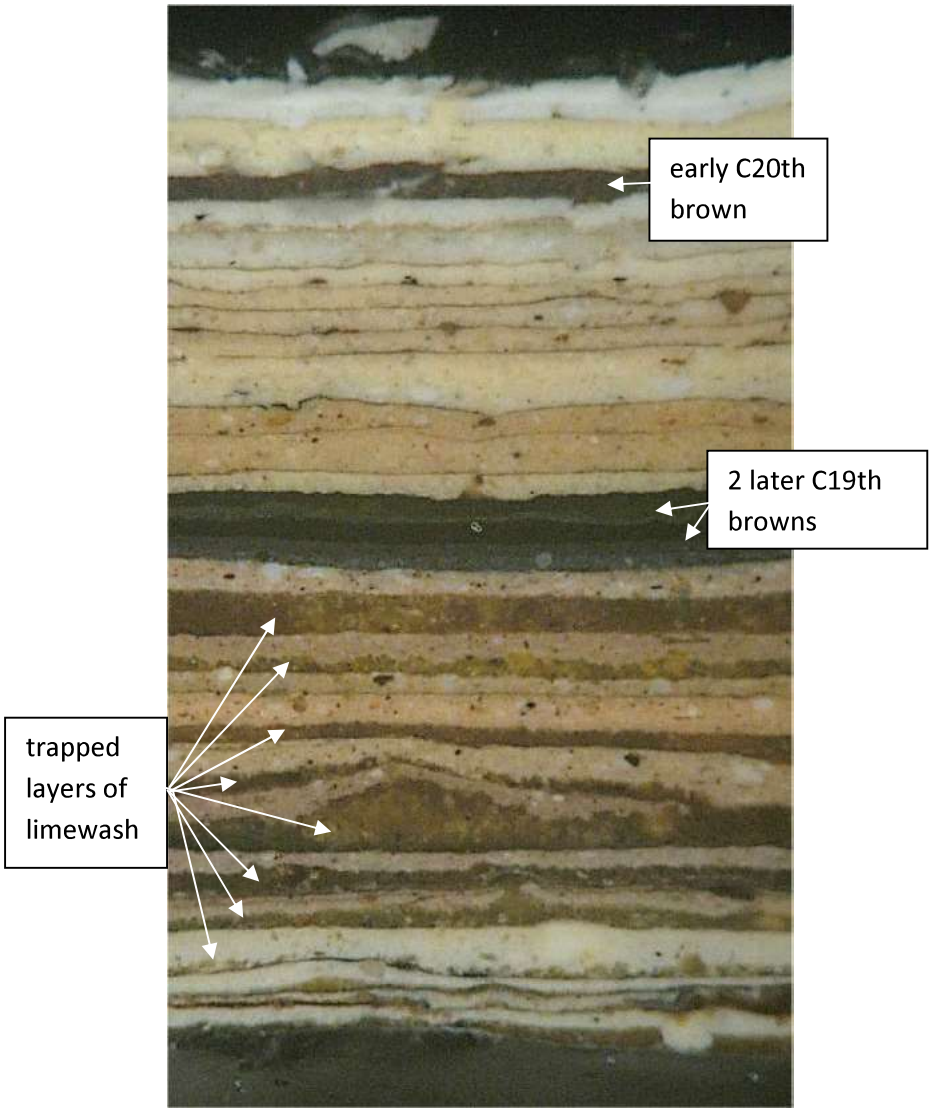
Showing that apart from once in the early C20th, the cornice has always been painted the same cream and pale stone colours as the front of the building



SAMPLE A10
Lion Street, south – side of door architrave

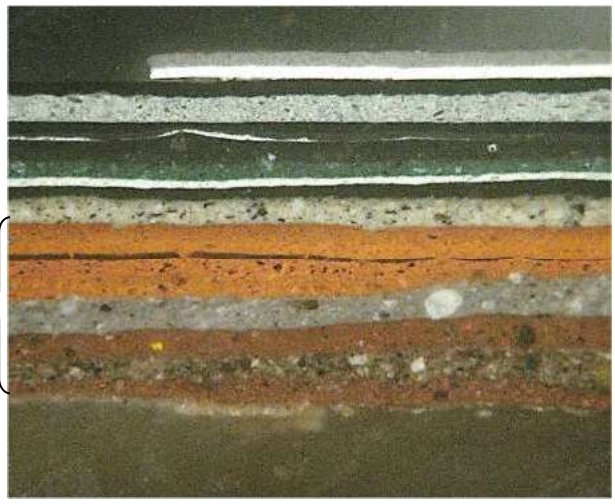
The door architrave has mostly been painted cream or stone-colour.

The oil paints used for the architrave have trapped layers of limewash used for the rendered walls in the earlier C19th

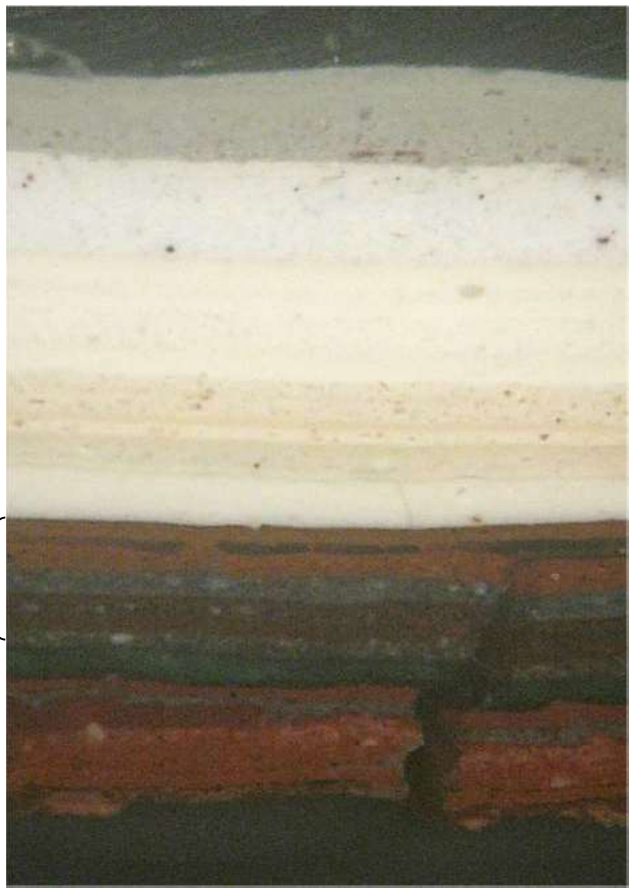


SAMPLE A9
Fictive plinth

Nineteenth-century layers are missing, and the sequence starts with early C20th brown schemes



SAMPLE A13
Lion Street, north – wall



same browns as used on plinth [see above]

5 C19th browns and a dark green

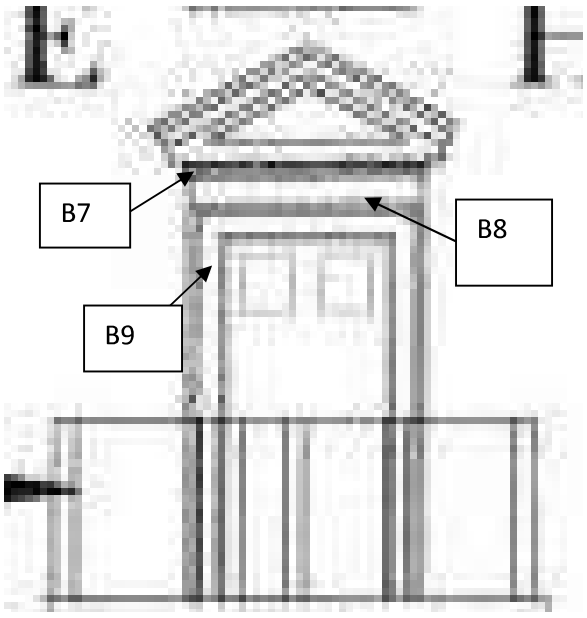
Main building – High Street elevation

Dormer window, east end

B1 moulding above window
B2 remains of render on west side of dormer

Second floor central window & door

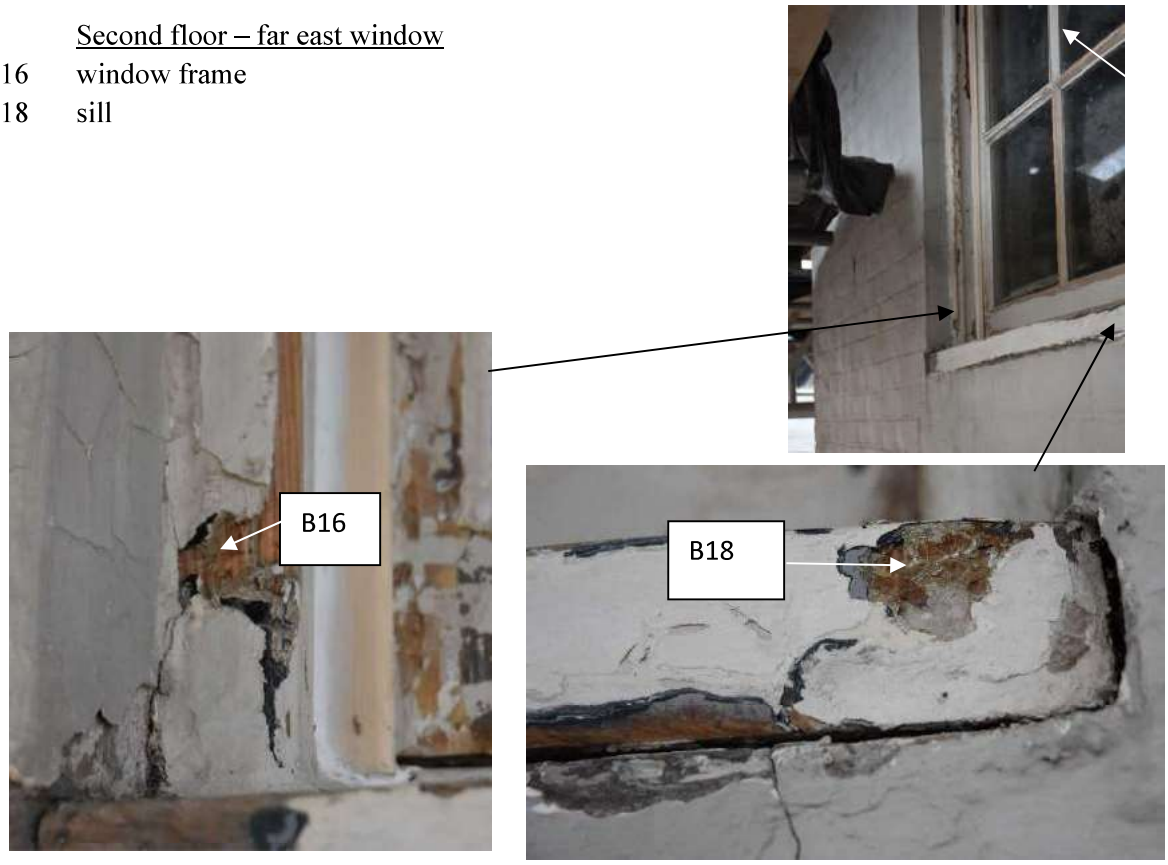
B3+17 cleaned area of wall
B4 uncleaned area of wall
B5 window frame
B6 pediment
B7 dentil below pediment
B8 swag
B9 door architrave



Second floor – far east window

B16 window frame

B18 sill



'HOTEL' sign

B10 letter 'O' – red layers up to dark brown

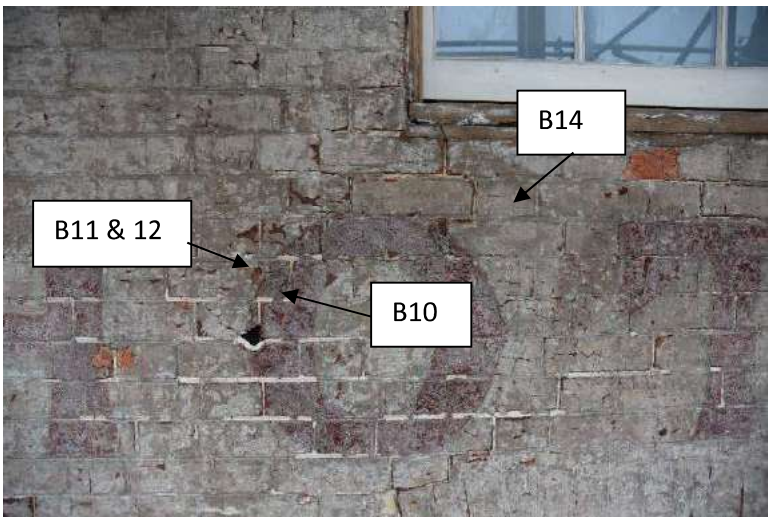
B11 letter 'O' – green layers

B12 letter 'O' – layers over green

B13 letter 'E' – uncleaned area [not shown]

B14 cleaned background

B15 uncleaned background, left of letters [not shown]



First floor level

B22 Above window

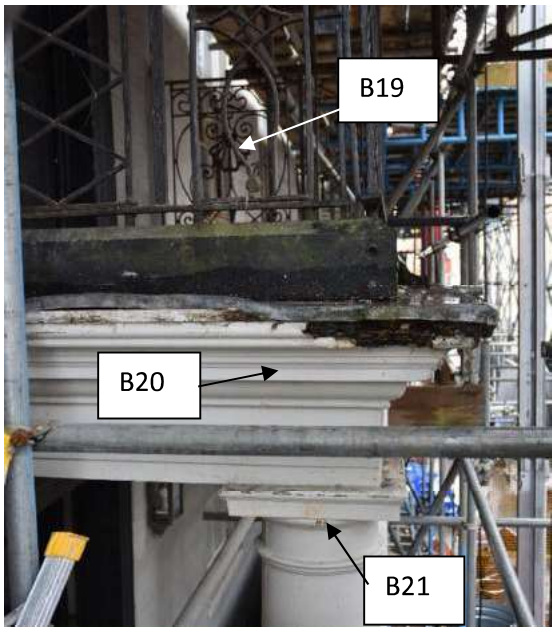
B23 Between windows

Porch & Balcony

B19 railings

B20 porch cornice

B21 column capital



Ground floor

B24 door case

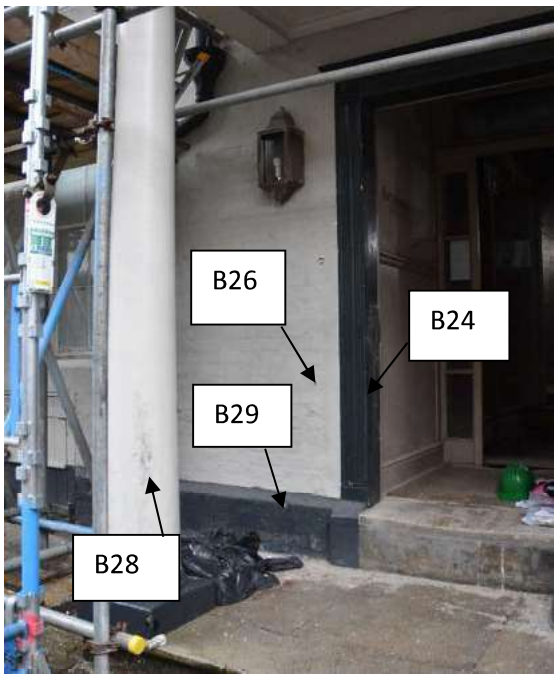
B25 door [not shown]

B26 wall to east of door

B27 plinth at east end [not shown]

B28 porch column

B29 plinth to left of door



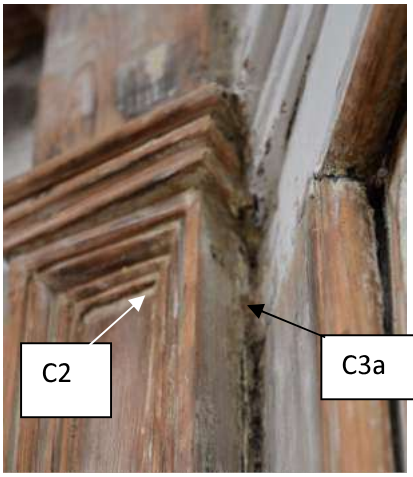
Ballroom Extension

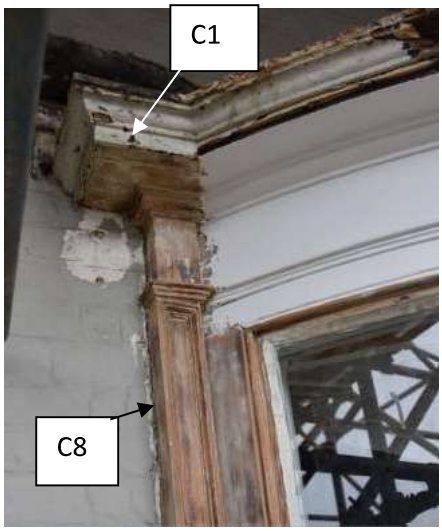
First floor - East bay window

C1 remains on top moulding
C2 remains on pilaster
C3a angle of pilaster and frame
C8 angle of window and wall

West bay window

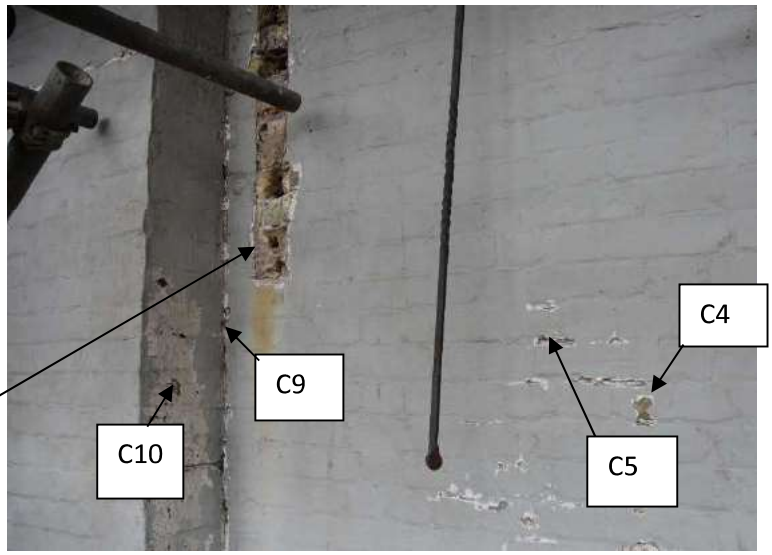
C3b same as C3a

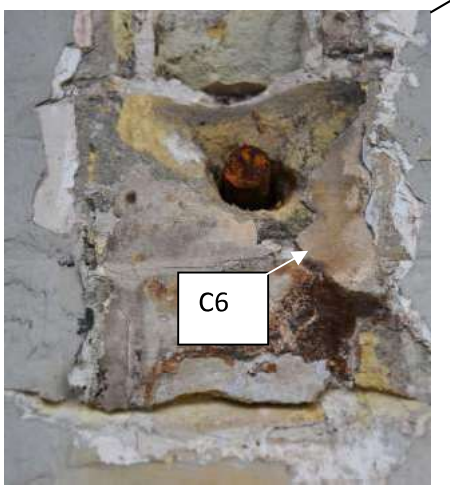




East end of Ballroom extension

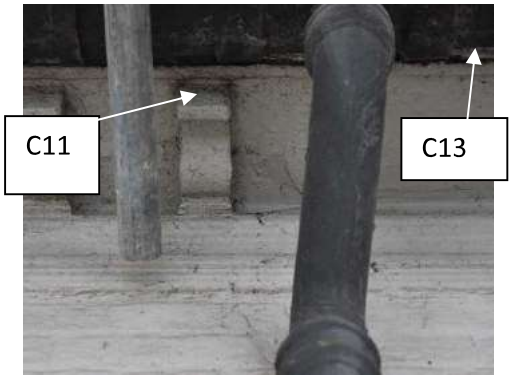
C4 layers on brick
C5 layers on mortar
C6 pink revealed where fitting removed
C9 angle between buildings
C10 return of main building





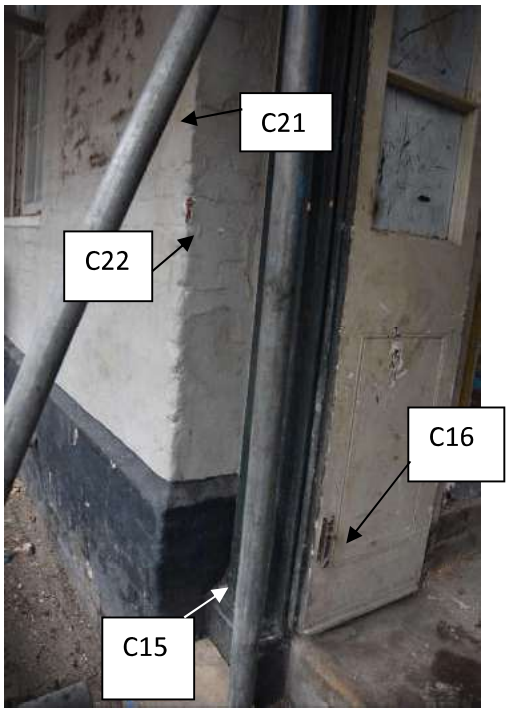
Cornice

C11 iron gutter fitting [not shown]
C12 modillion
C13 gutter fascia board



Ground floor – east end of Ballroom

C15 door case
C16 door
C21 13th brick above plinth
C22 9th brick above plinth

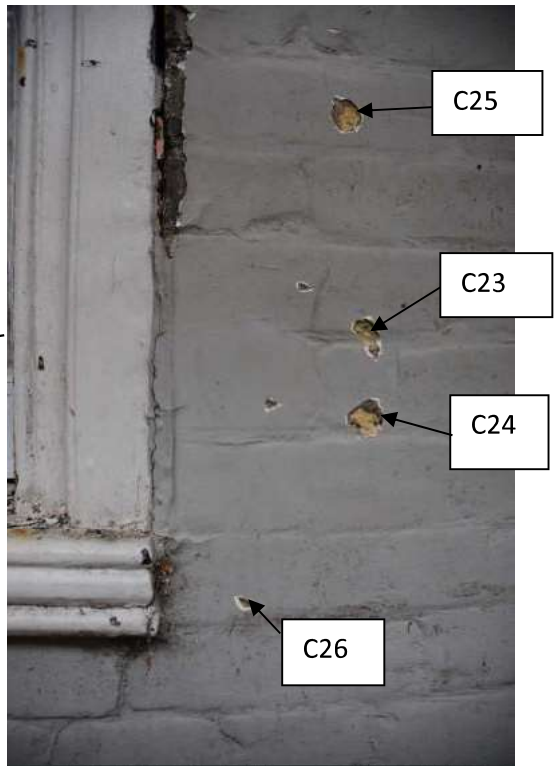


To west of Ballroom entrance door

C18 fictive plinth on right
C19 6th brick up from painted plinth
C20 12th brick up from painted plinth

Wall to right of east window on Ballroom extension

C23 4th brick up from sill
C24 3rd brick up from sill
C25 6th brick up from sill
C26 brick below sill level

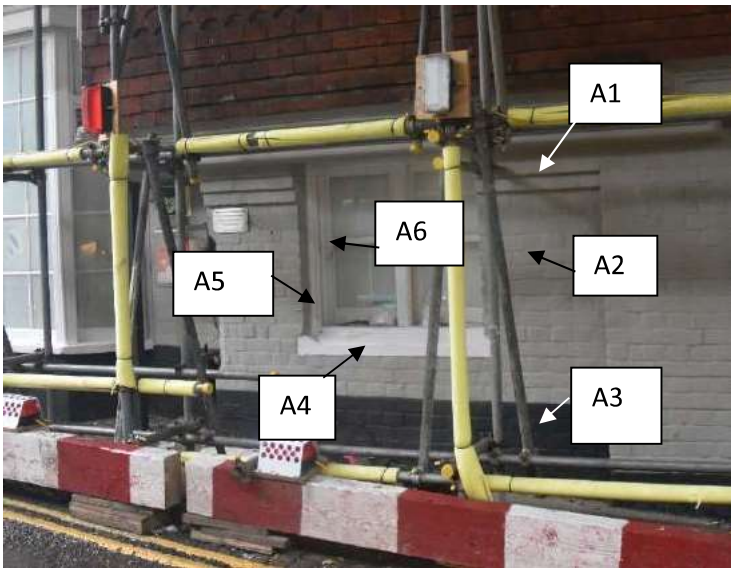


LION STREET

North end

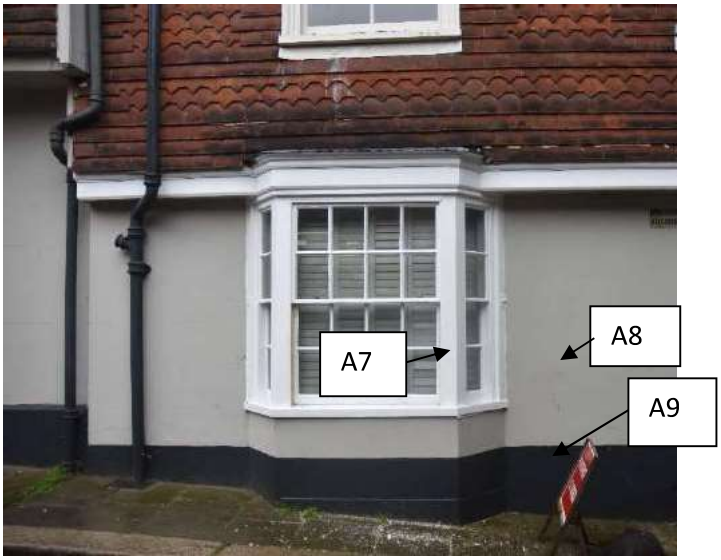
A1 moulded cornice
A2 paint on tiles
A3 fictive 'plinth'

A4 window sill
A5 window frame
A6 window sash



Second bay window from north end

A7 window frame
A8 rendered wall
A9 fictive plinth

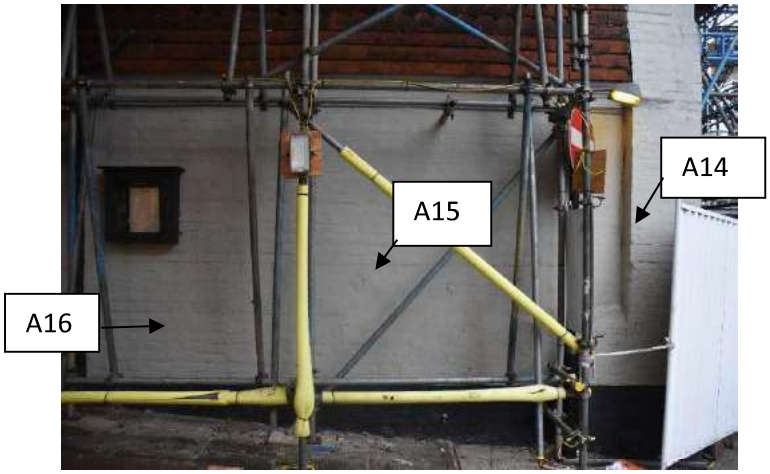


Door at south end

A10 architrave
A11 door

North end of Lion Street elevation

A14 projecting end of wall
A15 paint on ?tiles
A16 paint on ?bricks



Examination procedure

The fragments were mounted in cold-setting polyester resin, then cut and polished as cross-sections. The layers were compared under high magnification. Paint from key layers was dispersed on glass sliders and the pigments identified by polarised light microscopy. A chemical test for lead was carried out on representative cross-sections.

All Windows:
All Doors:
All Facias:
All rain water goods:

RAL7013

Walls: KEIM 9125

Plinth: KEIM match to RAL7013
Portico:

Walls: KEIM 9122

Plinth: KEIM match to RAL7013

Walls: KEIM 9285

Walls KEIM 9125

The George Inn

External Paint Colours
High Street
Red Tones - Grey woodwork

No. P_01

Scale 1:125 @ A3

Revision 02

Revision date 30-10-2020

James Stevens

Dimentions to be checked on site. Do not scale directly from drawings. Any discrepancy in date is to be acknoledges imediatly with the design team

All Windows:
All Doors:
All Facias:
All rain water goods: RAL7013

Walls: KEIM 9122

Walls: KEIM 9285

Walls: KEIM 9125

Plinth:
Portico: KEIM match to RAL7013

The George Inn

Lion Street
External Paint Colours

No. P_02

Scale 1:125 @ A3

Revision 02

Revision date 30-10-2020

James Stevens

Dimentions to be checked on site. Do not scale directly from drawings. Any discrepancy in date is to be acknowledges imediatly with the design team

THERMATECH® INFORMATION BROCHURE

THERMATECH®

CONTENTS

INTRODUCING THE THERMATECH® RANGE

ThermaTech® is a modular system designed for safety, usability and ease of transit. Smart, compact and at the forefront at cutting edge efficiency, the ThermaTech® is the perfect solution to your restoration needs.

ThermaTech® is a modular range of super-heated water cleaning equipment, producing a liquid spray at 150°C. It is highly effective at melting and removing many paints, surface treatments, chewing gum, wax, oil/bitumen and organic matter from a wide range of substrates, often without the addition of chemicals.

The ThermaTech® is ideally suited for large scale, external and internal projects. It is built in 110v, 120v or 230v, with dual voltage module options. Or self-contained from a power source by use of the diesel pump module. Designed specifically for reliability using high quality, recyclable materials, the ThermaTech® is able to reduce its reliance on chemicals and boost the performance of milder agents.

By using high efficiency motors and minimal water, it yields positive results for COSHH and REACH in safety and environmental risk assessments.

Click on the image above see a demonstrational video and explanation

SPOTLIGHT ON THE ADVANTAGES OF THE THERMATECH® RANGE

Comparing the ThermaTech® and other super-heated water systems

We are sometimes asked about the difference between a ThermaTech® and other machines in the industry. These machines use super-heated water to remove a range of coatings and soilings from different substrates. The ThermaTech® offers many advantages over other systems – and not just in terms of site safety, reliability and portability, since it also exceeds their performance. The ThermaTech® range of equipment is protected under two fully granted patents.

WIDE RANGE OF WATER PRESSURE SETTINGS

While the standard pressure of the 110v ThermaTech® is adjustable from 20 to 140 bar, it can be used with pressure-reducing guns to attain pressures lower than 20 bar for small-scale, gentle cleaning of the most delicate substrates; and the optional 230v pump can reach 160 bar at 9.5 litres per minute.

Other types of system can only reach a maximum pressure of 100 bar (even with smaller nozzles). So ThermaTech® has approximately 50% more performance in terms of pressure, as well as in terms of water volume from the pump.

Both the Standard and INOX ThermaTech® can support two operators working simultaneously from one pump and boiler for localised masonry cleaning. The use of a splitter after the burner will share the water flow to two standard nozzles. Each operator can expect 50-60 bar, at temperatures of 125-150°C, depending on model.

DIGITAL TEMPERATURE CONTROL

ThermaTech®'s temperature control is tightly regulated, helping to ensure an even spray shape, and temperature is fully adjustable up to 150°C according to the required applications. The boiler temperature is controlled by a digital thermostat, which checks temperature ten times a second, giving a precise output. This keeps the super-heated jet 'in focus' and prevents overheating or undercooling. The digital thermostat increases fuel efficiency, as it is frequently 'topping up' the heat. It doesn't have to 'catch up' with a major temperature drop and then waste fuel in an overheating episode.

Other systems are controlled by an analogue thermostat, which relies on expansion of glycerin in a probe to operate a switch at the end of a small copper pipe. This has a delay, which can cause the super-heated jet to become out-of-focus steam vapour. On cooling down, the burner may not cut the heating back in before the temperature gets as low as 120°C.

HIGH PERFORMANCE WATER FLOW RATE

ThermaTech®'s standard 110v electric pump can achieve water flow rates of up to 9 litres per minute at 140 bar (this is user-variable from approx. 3 litres per minute upwards). Others are limited to a flow rate in the range of 3-6 litres per minute, some achieving 6 litres per minute only at a pressure of 100 bar maximum.

CHOICE OF NOZZLES AND SPRAY ANGLES

Thanks to ThermaTech®'s extra 50% performance, its standard-type nozzle is angled at 40 degrees, allowing for a faster rate of work at a similar intensity, with the 50% wider spray pattern giving a more even gentle clean. Others are limited to a 25 degree angle or less (this is like comparing a narrow-tip pen with a broad-tip pen, the broader tip giving faster, more even results).

PORTABILITY AND EASE OF ASSEMBLY

ThermaTech® is modular by design. Its pump and fuel tank/jerrycan can easily be separated from the other components of the machine to keep the weight of the parts manageable when it is being transported. The boiler unit can be loaded and unloaded easily by one person. Two castor wheels take half the weight of the boiler on the vehicle bed while loading is in progress. The boiler remains on four wheels even when it is on its back. The boiler unit is on four pneumatic wheels, which are of a quick-release design for easy change or repair of tyres, or if the boiler is to be skid-mounted.

HIGH-QUALITY HOSE

ThermaTech® uses high-pressure twin wire hoses assembled by Restorative Techniques. Each hose uses a skive-type ferrule - this ensures a 'no rubber' contact within the crimp that could otherwise fail once heat is applied. Every hose assembled has a unique I.D. tag. This gives traceability for testing purposes as well as asset monitoring for owners. Hoses are clearly marked blue to signify 'cold', and red to signify 'hot'. Construction of an 8mm (5/16") bore reduces the hose surface area, and increases water velocity; both of these properties reduce heat loss. This hose is made to order for Restorative Techniques at several kilometres at a time.

BUILD QUALITY OF COUPLINGS

On ThermaTech®, all the high-pressure couplings are m22 hand-turn threads in brass. These are guaranteed against corrosion from descaling and have no internal moving parts. Alternatives are quick-release couplings that employ bearings for latching. These can seize, and the joint can then fail under pressure.

BUILD QUALITY OF PUMP

ThermaTech® exceeds the most up-to-date electrical safety standards. All the electrics for ThermaTech® pump are within a fully sealed watertight box, including the capacitors. The use of IP67 plugs and connectors is standard to protect from water ingress. The pump uses a higher-current contactor for switching the motor load, which is much more reliable than a rocker-switch. The pump unit also has over-current and under-voltage protection. Due to the performance of the pump unit, we can attach rotary surface cleaners to the machine for large paving cleaning.

Because the cold pump unit has a second outlet, it can be used for ‘priming’ when pulling water from a barrel or tank. The ThermaTech® additionally supports the connection of a second boiler through this outlet to run two operators off separate boilers. The second pump connection can also be useful for ‘dumping’ the water pressure when disconnecting the machine, so that the operator does not have to go back to the gun.

BUILD QUALITY OF FRAME

In ThermaTech®, all frame tubes have 1.5mm-thick walls, and all panel work is in 1.5mm stainless steel. Its very strong construction allows for many lifting and tie-down points.

FUEL FILTRATION PERFORMANCE AND MONITORING

ThermaTech®’s fuel system comprises 5-stage filtration to eliminate breakdowns caused by dirty fuel. A fuel filter condition gauge has ‘good’ and ‘change’ clearly visible on the control panel.

SUMMARY

The ThermaTech® system is designed specifically to meet or exceed the requirements for performance, portability, reliability and safety of professionals working in masonry conservation, while remaining competitive on cost.

When the ThermaTech® was being developed, many ‘off the shelf’ components did not meet requirements. Restorative Techniques approached specialist manufacturers to produce many of these parts to their own design, all being sourced within the European area. The only components sourced from outside the EU are the pneumatic wheels.

KEY TECHNICAL DETAILS OF THE THERMATECH® RANGE

- IP67 rating on pump controls and electronics, exceeding current regulations.
- Pump units have secondary outlets allowing for: operatives to depressurise the system from the base unit (as opposed to depressurising from the trigger); easy priming when running from a static water supply (i.e. a barrel or bowser); and even two boiler units to be run in tandem from one pump.
- Ground-up design incorporates environmentally responsible manufacturing processes with very little non-recyclable waste produced.
- 24v controls exceed current regulations and provide a safer working environment.
- Five-stage contamination separation in the fuel system ensures good, clean fuel supply, achieving best possible boiler efficiency.
- All switches have ‘under-volt’ and ‘over-current’ protection, which protects against the effects of improper power supply and overloading.
- A visual gauge on the control panel allows operatives to gain an indication of the condition of the fuel filter, meaning routine maintenance can be carried out before it causes a problem.
- ThermaTech® utilises a particular angle of nozzle (40 degree), where most systems make use of 25 degree angled nozzles, that as well as being narrower in scope, will potentially provide slower and reduced work rates (and therefore increase labour costs), plus there is an increased risk of substrate damage.

THE THERMATECH® RANGE: A PINNACLE OF USER-FRIENDLY DESIGN

Designed for one person to load into and out of most vehicles safely. Can be transported in multiple positions.

Digital primary temperature control achieves more accurate temperatures, with less fluctuation, providing better efficiency.

Removable fuel tank with lockable pick-up device minimises risk of serious fuel spillage on site.

Colour-coded high-pressure hoses aid quick set-up times and improve safety awareness. Cold hoses are blue; hot hoses are red.

Numerous in-built safety features to keep machine, operatives and public safe.

Designed to be run on various fuel types* (or a mixture thereof) without adjustment to the fuel delivery system.

*Red or White Diesel, EN14214 Grade Bio-Fuels and 28-second.

We have always found Jamie and others in the Restorative Techniques office extremely helpful in the support and guidance they offer and a pleasure to work with.

EMMA NORRIS,
HUMPHRIES & JONES

This was the perfect piece of equipment for this delicate job. We knew we wouldn't have to go back to re-do the job after using the ThermaTech®.

LEE LABAS,
LABAS CONSTRUCTION

CLICK FOR FULL CASE STUDY >>

THE THERMATECH® STANDARD MODEL

The ThermaTech® Standard model is the machine of choice in the historic building and structures industry, and in certain commercial or industrial cleaning projects. It has been developed to meet a demand for cleaning and coating removal on sensitive substrates. The Standard Model has all the features previously mentioned in 'Introducing the ThermaTech® Range'.

The ThermaTech® Standard Model is supplied with the following:

- 1 x ThemaTech® 'Standard' Boiler (main module on the 4 wheels)
- 1 x ThermaTech® 110/230V Electric Pump (Electric Pump unit to hang onto main module)
- 1 x 20 Litre Steel Jerrycan in Silver
- 1 x 20 Metre High Pressure, Super-heated Rated, Twin Wired, Water Hose (red)
- 1 x 10 Metre High Pressure, Super-heated Rated, Twin Wired, Water Hose (red)
- 1 x Gun/Trigger
- 2 x Lances; 1 Short Lance Fitted with HP Nozzle & 1 Long Lance Fitted with HP
- 1 x 25 Metre IP67 Electric Cable*
- 5 Litre Descaler

* Type of voltage dependant on choice of pump i.e; 1x 25 Metre IP67 Electric Cable, Yellow, 6mm² for 110v OR, 1x 25 Metre IP67 Electric Cable, Blue, 4mm² for 230v

- The Standard model has a 50% higher volume/ pressure output than other machines in its class. This enables the use of 40 degree spray angle nozzles as standard. Offering a controlled, faster rate of work.
- It is highly fuel efficient, a 20 litre jerrycan will last 3.5-4 hours at full flow/temperature. Up to 6 hours at reduced flow/temperature.
- Fitted with both digital and analogue temperature controls.
- Steel heater coil as standard, rated to 200 bar pressure.
- Full temperature of 150°C is maintained up to 80-90 bar pressure. (Higher pressures up to 140 bar will reduce total working temperature).
- All-steel construction burner unit offers good strength to-weight ratio.
- Pump performance will run rotary surface cleaners. The burner will maintain the maximum rated temperature of 120°C of the surface cleaner.
- 2-operator setup will offer 50-55 bar to each operator at ~125°C.
- Digital temperature control has only a 2°C hysteresis. This delivers a smooth temperature at the nozzle, keeping the water jet ‘in focus’.

Click on the image above see a demonstrational video and explanation

CASE STUDY: MONUMENT CLEANING WITH LABAS CONSTRUCTION

Labas Construction is a Vancouver, British Columbia, based master-craft masonry restoration company. Built on a family foundation of over 35 years in the industry, Labas Construction offers masonry restoration and monument cleaning servicing Western Canada. The jobsite is the oldest cemetery in Vancouver, it dates back to 1886. Labas Construction was contracted to carry out the cleaning of a war memorial monument constructed in 1926. The monument is cherished and very popular among visitors who come to see it and take pictures of it.

THE PROBLEM

The client was concerned about several issues with this monument. They didn't want the marble to be damaged in the cleaning. They were also concerned about removing the lead lettering. There was a red wax that was poured on the monument, most important was that the cleaning actually removes the wax. Since this was a significant monument they wanted to preserve it the best they could by not damaging the stone.

THE SOLUTION

For this job we used the ThermaTech® unit with the standard nozzle, high heat of 150°C and low pressure. This combination cleaned off the wax without damaging the monument and getting it back to its original state.

THE OUTCOME

The client was so impressed with the results that he was lost for words. The difference before and after was outstanding. Not only did the ThermaTech® clean the monument, but it preserved the marble, didn't damage the lead lettering and completely removed the red wax.

THE THERMATECH® INOX MODEL

The latest Heater Module known as 'INOX' has been developed to meet a demand for higher performance, particularly for paint removal and large scale cleaning. It also incorporates a number of other innovations that aren't available on the standard system.

- The INOX has a 50% higher heat output than the ThermaTech® standard system. This enables it to reach full temperature (150°C) at full pressure if required. The standard system is limited to 80-90 bar at full temperature or around 125°C at 140 bar.
- Extra heat output allows two operators simultaneously to work at reduced pressure but full temperature, for light or sensitive cleaning.
- The INOX heater module is fitted with an hour meter.
- INOX incorporates voltage control apparatus for high flexibility when running from the pump/generator option. The INOX is compact, fitting within the same outer frame as the standard model and is the same weight.
- The INOX coil has a maximum working pressure rating of 250 bar. The standard ThermaTech® model is 200 bar.
- INOX has the thermostat controller programmed for even more accurate temperatures to be set and maintained (the standard model is already by far the best in its class).
- The INOX burner unit has stainless steel inner and outer casings. The burner cone, electrodes and other items are of heavier gauge construction. However, the heat exchanger coil is shorter (and lighter) enabling the unit to remain at the same weight. The shorter coil (and greater heat output) enables much faster warming-up and shutting down times.
- It is highly efficient, used at the same temperature and flow settings, the INOX offers lower fuel consumption.

The INOX heater module is built in 24v as standard. Coupled to the ThermaTech® pump/generator, the complete system is 24v and so does not require PAT testing. This offers much safer electrical operation than mains power.

The 24v INOX can be fitted with a ‘drop-on’ transformer, enabling it to be run directly from a mains power supply.

INOX is also fitted with the combination of features that gave the standard ThermaTech® its original patent; modular arrangement, jerrycan fuel tank, 4 detachable wheels, electronic temperature control, static water priming etc.

Click on the image above see a demonstrational video and explanation

THERMATECH® INOX ELECTRIC PUMP MODEL

The ThermaTech® INOX, Electric Pump system is supplied with the following:

- 1 x ThermaTech® INOX Boiler*
- 1 x ThermaTech® 110v/230v INOX Electric Pump (Electric Pump unit, to hang onto main module)
- 1 x 20 Litre Stainless Steel Silver Jerrycan
- 1 x 20 Metre High Pressure, Super-heated Rated, Twin Wired, Water Hose (red)
- 1 x 10 Metre High Pressure, Super-heated Rated, Twin Wired, Water Hose (red)
- 1 x Gun/Trigger
- 2 x Lances; 1 Short Lance Fitted with HP Nozzle & 1 Long Lance Fitted with HP Nozzle
- 1 x 25 Metre IP67 Electric
- 5 Litre Descaler

* (main module on the 4 wheels) & Drop in Transformer 110v/230v - 24v fitted (inside stainless side panel)

** Type of voltage dependent on choice of pump, i.e.; 1 x 25 Metre IP67 Electric Cable, Yellow, 6mm² for 110v OR, 1 x 25 Metre IP67 Electric Cable, Blue, 4mm² for 230v.

Although the Memorial still suffers from the same problems, cleaning is now needed less often than before, and the ThermaTech® has been specified for all future maintenance.

**DBR LONDON LTD,
ROYAL ARTILLERY MEMORIAL**

CLICK FOR FULL CASE STUDY >>

The appearance of the church is much improved and the interior environment is showing the benefit of removing the non-breathable paint from masonry.

**AVV SOLUTIONS,
PRIVATE ESTATE PROJECT**

CLICK FOR FULL CASE STUDY >>

We were very impressed with the outcome as was the client. They were excited to have the look of their original brick back on the house.

**LEE LABAS,
LABAS CONSTRUCTION**

CLICK FOR FULL CASE STUDY >>

THERMATECH® DIESEL POWERED PUMP/GENERATOR

The ThermaTech® diesel powered pump/generator is a complete innovation in the restoration field. Invented and developed by Restorative Techniques, it has been designed with reliability and performance in mind, without the need for compromise with regards to size and weight. The revolutionary design and features of this unit are protected by a new patent (the second patent granted to the ThermaTech® range of equipment).

The compact diesel engine drives the pump direct, which cuts out the reliance on a vee belt driving a high powered pump. The engine also drives a generator to provide more than 500 watts of power for the boiler from a 16A socket.

When combined with the new INOX model of ThermaTech® boiler, the system will run at an incredible 170 bar, 9.5 litres per minute, with the power to still continuously maintain 150°C. This performance capability means that the system is able to function at the same level of efficiently,

ADVANTAGES OVER ELECTRIC PUMP RUNNING ON GENERATOR:

- Just one unit for water and electricity
- No petrol needed, as the system runs completely on diesel
- There's a large weight saving, as there is no longer a need for combining a 5kva generator and electric pump
- Up to 170 bar working pressure at 9.5 litres per minute (electric 140 bar @ 9 litres per minute)
- Extremely compact! It can hang on boiler or be placed on floor as own unit. A wheel kit is also available for portability
- Low volt outputs for spotlighting or for the charging of personal equipment such as cameras, phones etc
- Less than 1 litre per hour fuel consumption; even at maximum output

THERMATECH® INOX DIESEL GENERATOR & PUMP MODEL - WITH ELECTRIC START & PULL CORD

1 x ThermaTech® INOX Boiler (main module on the 4 wheels)

1 x ThermaTech® INOX Compact Power Unit, Electric Start - Combined Pump/Generator Unit

1 x 20 Litre Stainless Steel Silver Jerrycan

1 x 20 Metre High Pressure, Super-heated Rated, Twin Wired, Water Hose (red)

1 x 10 Metre High Pressure, Super-heated Rated, Twin Wired, Water Hose (red)

1 x Gun/Trigger

2 x Lances; 1 Short Lance Fitted with HP Nozzle & 1 Long Lance Fitted with HP Nozzle

5 Litre Descaler

* Diesel powered pump/generator module, to hang onto main module and power complete system. (For when off-grid).


THERMA-TECH

ACCESSORIES

The ThermaTech® range of machinery will support many accessories to help optimise productivity with least impact.
Many of these attachments are an ideal solution to help carry out other special tasks, whilst potentially reducing fatigue for the operator.

SUCTION HOSE KIT

This kit comprises of a 4m long 19mm bore hose, wire reinforced for suction. One end has a weighted filter foot with non return valve, the other end is a suction type GEKA claw connection. Claw is included for the pump fitting.

SUCTION HOSE EXTENSION

This is a 4 metre long 19mm bore hose, wire reinforced for suction. Both ends are GEKA suction type claw fittings. This extends the suction hose kit by a further 4 metres. Not to be used for vertical suction as the 4m limit will be exceeded.

BREAK TANK

This is a Blue Barrel converted for use as a water reservoir. If your site water supply cannot quite keep up with the consumption required by the ThermaTech® (up to 9.5 litres per minute), then this tank will build up a reserve of water for longer run time without having to stop. Automatic ‘shut off’ internally by use of a float valve. Input via standard hosepipe connection. Output via GEKA claw fitting (a double claw suction hose is required between tank and ThermaTech® pump).

IN-LINE LOW PRESSURE FILTER

If the water supply may be contaminated with particles, the small filter on the pump inlet may become overwhelmed with debris, causing frequent cleaning of the filter. This in-line cartridge filter clips to the pumps inlet and increases the filtration capacity.

IN-LINE HIGH PRESSURE FILTER

For use on the end of the trigger/gun. This filter catches any particles of debris such as limescale deposits that may be too large to fit through a nozzle tip. Highly recommended to be used with the rotary surface cleaners (smaller aperture nozzles are at a greater risk of blocking). To clean out the filter, simply backwash by connecting it to the ThermaTech® pump's secondary outlet. This is not an alternative to regular descaling of the ThermaTech® system.

GEKA CLAW

Claw fitting for connection of suction hoses to the ThermaTech® pump.

HOSELOCK FITTING

Hosepipe fitting for connection of 'Standard' quick release hosepipe to the ThermaTech® pump.

¾” FILTER WASHER/ STRAINER

This filter must always be fitted in the pump inlet connection.

EP80/90 GEAR OIL

Oil for use in the head of the ThermaTech® pump unit. 400ml is required per oil change. For use after 50 hours of use from new and then annually.

EXTENSION CABLE

25 metre extension lead made from Arctic cable. Both ends are watertight IP67 connections.

- 4mm 2 Arctic Blue, 16 amp connections. For 230v applications
- 6mm 2 Arctic Yellow, 32 amp connections. For 110/120v applications

5KVA TRANSFORMER (3.6KVA CONTINUOS) 230V INPUT, 110V OUTPUT

IP67 16 amp connector in, 1 x 32 amp & 2 x 16 amp sockets output.
Requires power adaptor for plugging directly into a domestic 230v socket.

POWER ADAPTOR

This Adaptor converts a standard wall plug to a 16 amp connector.

- UK Standard Plug
- European 'Schuko' plug
- Other worldwide options available on request

IN-LINE RCD (RESIDUAL CURRENT DEVICE)

A safety device for use on 230v equipment. 16 amp male plug and female connector to fit in-line of power supply. 30mA trip in <30mS.

STAINLESS STEEL DRIP TRAY

Drip tray designed to fit between wheels under the ThermaTech® boiler and jerrycan. In the event of damage to the jerrycan the tray holds >150% of the jerrycan capacity. Often a site requirement.

20L DESCALER

A 9% solution of Hydrochloric acid. For use at removing limescale deposits from super-heated systems. Any hard water passing through a form of heater will deposit scale, this needs regular attention before blockages occur.

20L JERRYCAN

- Mild Steel coated in silver paint
- Stainless Steel in polished finish
- Spouts also available for fuelling of other equipment

CHIMNEY DUCT ADAPTOR

Stainless Steel constructed adaptor for converting the rectangular exhaust into 5” round for ducting of exhaust fumes. Applications such as van mounted units, behind scaffold sheeting or any location inadequately ventilated. 5” flexible flue can be separately sourced.

- INOX model only
- ‘Standard’ model does not require an adaptor. Due to the oval exhaust, the flexible flue can be pipe clipped direct

2 OPERATOR SET-UP

For connecting 2 operators to work simultaneously from 1 ThermaTech®. This kit comprises - high pressure ‘Y’ splitter, 1 x 10 metre high pressure red hose, 1 x 20 metre high pressure red hose, Gun/Trigger, 300mm short bent lance (standard 40 degree nozzle fitted), 600mm long straight lance (standard 40 degree nozzle fitted)

For information on performance output with this set-up, please see product information for each ThermaTech® model.

HIGH PRESSURE RED HOSE
400 BAR WORKING PRESSURE, 155°C TWIN WIRE, 5/16” (8MM) BORE

- 10 metre hose with M22 Male x Female ends
- 20 metre hose with M22 Male x Female ends

HIGH PRESSURE HOSE REELER

A stainless steel reeler for the red high pressure hose. It has been designed to be self-standing, or hang on the side panel of the ThermaTech®. It includes 30 metres of red high pressure hose. Longer capacity can be fitted (up to 50 metres) however the weight will significantly increase and care has to be taken to spool the hose in neatly. The high pressure swivel is also stainless steel and rated to rotate at the full temperature and pressure.

'STANDARD' GUN/TRIGGER

This trigger has on/off control of water flow. Safety lock on handle for accidental operation. Patented low trigger force technology reduces fatigue to the operator when using this gun for hours at a time.

'PRESSURE REDUCING' GUN/TRIGGER

This trigger is the same as the 'Standard' for on/off control of water flow, but also incorporates a pressure reducer/flow restrictor. The operator can make adjustments to the nozzle pressure whilst working. Care needs to be taken to the original setting of the pump pressure as to not overload the supply (Information sheet included).

'DETAIL' GUN/TRIGGER

Designed for small scale, intricate work. Nozzle Is fitted directly in the end of a short tube with a 25 degree nozzle spray angle as standard. This trigger is the same as the 'Standard' for on/off control of water flow, but also incorporates a pressure reducer/flow restrictor. The operator can make adjustments to the nozzle pressure whilst working. Care needs to be taken to the original setting of the pump pressure as to not overload the supply (Information sheet included).

‘STUMPY NOZZLE’

Nozzle fitted direct to connector. This reduces the working distance of the lance to 25mm. Often used in abseil work.
Standard 40 degree nozzle fitted unless other angle is requested.

SHORT LANCE

All lances are fitted with 40 degree nozzles unless specified otherwise.

- 300mm lance straight
- 300mm Lance with 15 degree bend

LONG LANCE

All lances are fitted with 40 degree nozzles unless specified otherwise.

- 600mm lance straight
- 600mm Lance with 15 degree bend

‘SPINNER/TURBO’ LANCE

A pencil jet of water exiting a rotating ceramic ball creating an intense, moving spray. This nozzle is suitable for cleaning or coating removal that requires more ‘mechanical’ force. Examples include but not limited to - heavy mud or moss from paving, loose or flaky paint from a solid substrate, barnacles from boat hulls etc. Only rated at 120°C due to the moving parts.
Not suitable for heritage work.

'CUSTOM' LANCE

Please contact us with your requirements. Options are:

- Any length pipe up to 2 metres
- Any bend angle up to 180°
- Swivelling head option
- Any nozzle type, angle or aperture fitted
- Sliding side handle option

LANCE EXTENSION

Lance pipe with M22 male and M22 female end with lockable sliding handle.

- 1 metre long
- 1.5 metre long
- 2 metre long
- Other sizes up to 2 metre on request

ROTARY SURFACE CLEANERS

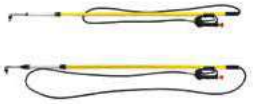
These type cleaners consist of a Stainless Steel enclosure with a skirt, mounted on wheels.
Within the enclosure are 2 nozzles either end of a rotating spray bar. These surface cleaners cover very large ground in a short time but are limited to 120°C due to the rotating parts. Only suitable for cleaning (not paint stripping). These units can be available with vacuum ports for use with the ThermaVac™ unit on request. Each unit is supplied with nozzles fitted, and a High Pressure Filter attached.

- 300mm Enclosure Mounted on 300mm Lance (Wall cleaning)
- 420mm Enclosure Mounted on 600mm Lance (floor/ paving cleaning)
- Roof Cleaner- 520mm Enclosure Mounted on 4 height adjustable wheels. Track Width can be adjusted to the tile contour/roof corrugations. Lowered and raised by hose from ridge line.

GEOTEXTILE MEMBRANE

A sheet material used in the separation of solids from water. Ideal for catching debris, grease or paint flakes in the water run-off. Water percolates through the membrane, leaving behind the deposits. Can be dried out, brushed off and re-used. Sold in metre lengths at 2.1 metres wide.

TELESCOPIC POLE



Fibreglass/Aluminium telescopic pole that will extend either single (to 3.8 metres), or double (5.4 metres).
The trigger is mounted to the pole and connects to the head via a 1/4” high pressure hose rated at 150°C. The outlet has a swivelling head to set an angle of + or - 130 degrees for use with soffits, fascia’s and gutters etc. It’s supplied with a ‘stumpy’ nozzle, but the pole outlet is standard M22 Female for use with all lance accessories.

- Single telescopic pole 2.3- 3.8 metres
- Double telescopic pole 2.3- 5.6 metres

Recommended accessories for telescopic pole:

- Shoulder strap

- Wheel kit, for maintaining set nozzle distance to surface effortlessly

CASE STUDY: THE CENOTAPH, WHITEHALL, LONDON - DBR (LONDON)

The Cenotaph is a tall stone war memorial on Whitehall, London. Built in 1919-20 from Portland Stone to the design of Edwin Lutyens, it features carved stone wreaths on its sides, and serves as the main national memorial of the United Kingdom commemorating soldiers who perished in the First World War. Each year on Remembrance Sunday, a memorial service and parade is held at the Cenotaph, with the Queen and senior politicians and members of the armed forces in attendance.

THE PROBLEM

Cleaning of the Cenotaph has to be regularly carried out, and it needs to be given an extra clean as part of the general preparations for the annual Remembrance Day Ceremony. This must be done to exacting standards while preserving the integrity of the stone.

THE SOLUTION

The ThermaTech® equipment from Restorative Techniques was used by skilled and experienced personnel from DBR (London) Limited to clean off accumulated road grime and atmospheric pollutants. Super-heated steam was delivered by a lance, to leave the stonework in an exemplary state. It is fortunate that there is generous space on both sides of the Cenotaph on which to site the cleaning vehicle and the ThermaTech® equipment.

THE OUTCOME

The Cenotaph is now in a presentable state, as befits such an important event, thanks to the cleaning work successfully carried out by DBR using the ThermaTech®. The expertly cleaned stonework, together with the special ceremonial flags, is ready to take part in the National Remembrance Ceremony for all to see with pride.

THERMATECH®
ABRASIVE ATTACHMENT

THERMATECH® OPTIONAL ABRASIVE ATTACHMENT

The ability to combine the use of a super-heated water system, with an adjustable and effective abrasive flow, is now viable and available through an optional abrasive attachment for ThermaTech® systems.

The ThermaTech® will have limited success with NON-Temperature responsive coatings (such as cements/ lime based paints, carbon sulphation, lime efflorescence etc).

The coatings or deposits that remain brittle at 150°C will yield to the application of abrasive, giving a 'mechanical' advantage. The abrasive attachment kit fits to the end of a ThermaTech® gun and can be used cold, up to 100°C temperature. The Ceramic and Stainless Steel nozzle provides a gentle diffuse mixture of water/ steam and abrasive. The abrasive pick-up straw should be pushed into a moisture resistant bag/ container of abrasive media. The connecting tube between abrasive and nozzle is 4 metres long and has an in-line abrasive flow controller.

Compatible with all Jos/Vortech abrasives (except Calcite, Recycled Glass 0-0.2).
A reduction of water pressure and increase of water temperature reduces the intensity of clean for small, localised areas.

- Complete kit (includes head, lance, HP filter, hose and pick-up straw)
- Replacement ceramic abrasive nozzle
- Replacement water jets (set of 3)

This innovative and ground-breaking combination is actually able to create a pressurised mixture of hot water and abrasive medium, whereas in the past, super-heated and steam systems would have had limited success with NON-Temperature responsive coatings (such as cements/lime-based paints, carbon sulphation, lime efflorescence etc).

Coatings or deposits that remain brittle at 150°C can however often yield to the application of abrasive, giving a 'mechanical' advantage and this combination of ThermaTech® with this attachment will now provide even more distinct advantages over the many other commercially available super-heated and steam systems.

This abrasive attachment kit is specifically designed to connect the ThermaTech® gun and can be used up to 100°C temperature.

Click on the image above see a demonstrational video and explanation

THERMATECH®'S ABRASIVE ATTACHMENT: THE FACTS

- The ceramic and stainless-steel nozzle assembly provides a gentle diffuse mixture of water/steam, air and abrasive.
- The abrasive pick-up straw should be pushed into a moisture resistant bag / container of abrasive media.
- The connecting tube between abrasive bag and nozzle is 4 metres long and has an in-line abrasive flow controller.
- A backpack arrangement for the operator is yet another option that can be added to the abrasive attachment.
- Compatible with all Jos/Vortech abrasives (except Calcite, Recycled Glass 0-0.2).
- A reduction of water pressure and an increase of water temperature reduces the intensity of clean for small, localised areas.
- The choice of abrasive is determined by the thickness, flexibility, and hardness of the deposit or coating, and the comparative resilience of the corresponding substrate.
- A range of abrasives are supplied by Restorative Techniques suitable for use with this attachment, each type of abrasive will vary in size, hardness (Mohs), particle shape and density.

THERMATECH®'S ABRASIVE ATTACHMENT: KEY TECHNICAL DETAILS

Ceramic and stainless-steel nozzle assembly provides a gentle diffuse mixture of water / steam, air and abrasive

Abrasive pick-up straw should be pushed into a moisture resistant bag/ container of abrasive media

The connecting tube between abrasive bag and nozzle is 4 metres long and has an in-line abrasive flow controller

Compatible with all Jos/Vortech abrasives (except Calcite, Recycled Glass 0-0.2)

USER FRIENDLY DESIGN

Super-heated water system with adjustable and effective abrasive flow

Creates a pressurised mixture of hot water and abrasive medium

Works in conjunction with your existing ThermaTech® machine

Can be used at temperatures up to 100°C

THERMATECH® OPTIONAL VACUUM RECOVERY UNIT - THERMAVAC™

This system has been specifically designed for use with the ThermaTech® system. It enables the superheated water to be applied to the surface within an enclosure and for the waste water and residue generated to be drawn away from the substrate.

The solid is separated from liquid within the vacuum unit and a pump contained within periodically transfers the waste water to storage vessels for later transfer/treatment or to the foul drain as appropriate.

FEATURES AND SPECIFICATION

The system has been designed to enable full temperature (up to150°C) to be used

Maximum pressure is adjusted using the control on the ThermaTech® pump but a secondary control enables a reduced pressure to be selected by the operator at the recovery head

The performance of one standard ThermaTech® and one ThermaVac™ unit permits the simultaneous use of two recovery heads if required

The standard recovery head has a contact area of approximately 120x120 mm

The standard ThermaVac™ unit is 110v, requires 2.2kw to operate and is fitted with a 32a plug

The pump can be left unplugged and a cap fitted to the water outlet if it is required to keep the water within the unit

The waste air outlet is fitted with a screw port. This permits a ventilation pipe to be fitted and directed either to a window opening or to a condenser to minimise condensation in the working area.

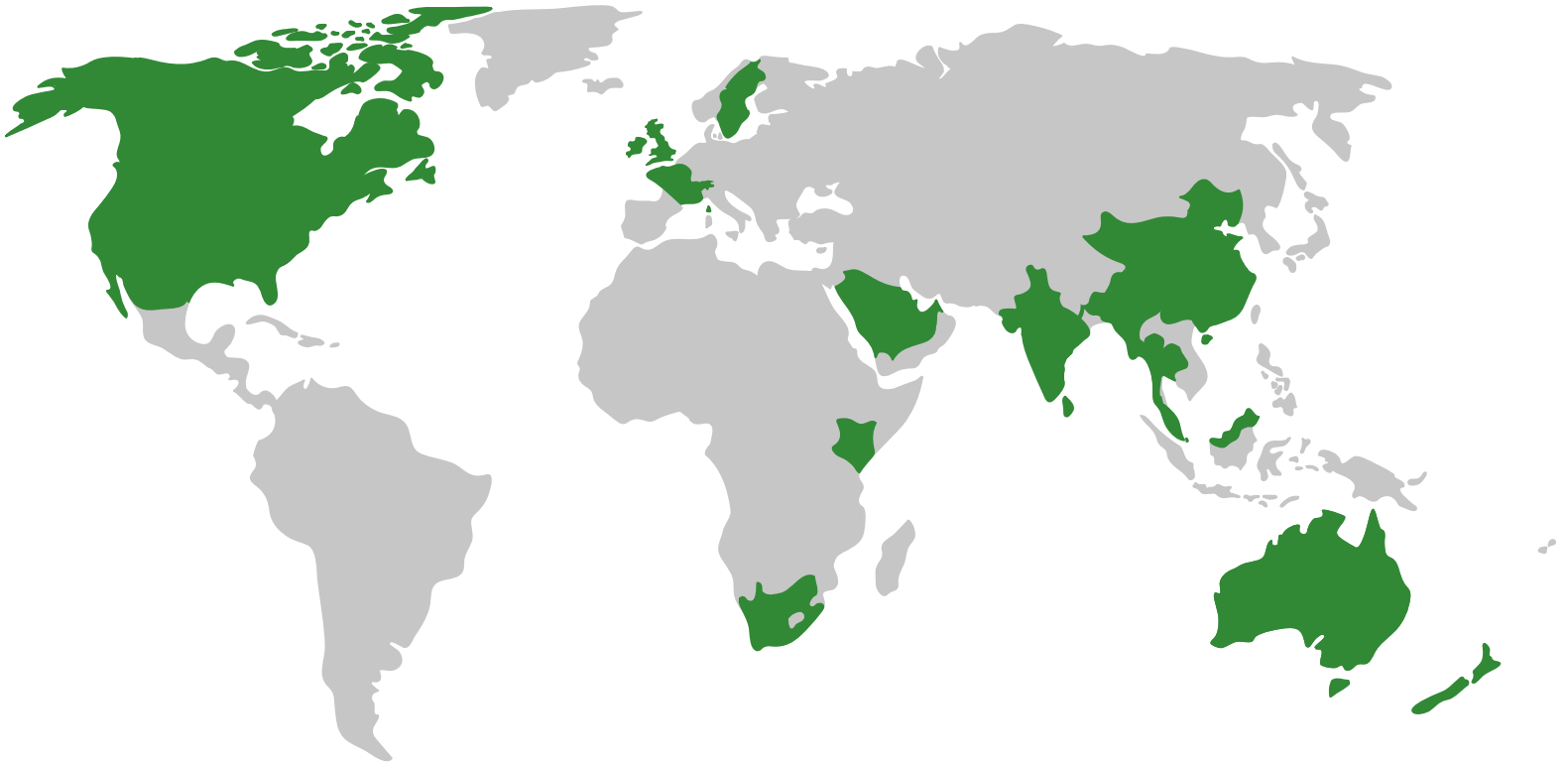
Typical water consumption of one head is likely to be around 3 litres per minute (50 mls per second)

The recovery heads are fitted with a trigger enabling the water to turned on or off instantly

With the trigger released, the recovery head can continue to be used as a vacuum tool enabling immediate recovery of any excess spray.

Click on the image opposite to see a demonstrational video and explanation

THERMATECH® ON TOUR



As well as being a popular choice for clients in the UK, ThermaTech® also has a strong international presence having been utilised in countries such as China, Canada, France, Australia, South Africa, New Zealand and the USA, to name just a few.

ABOUT US

WHO ARE RESTORATIVE TECHNIQUES?

Restorative Techniques, based in the UK, is now established as a leading supplier of reliable goods and services both to the home market and for worldwide export. We are a specialist company with a wide range of in-house technical skills, including professional expertise of materials and substrates, with a reputation that is well regarded and respected for supplying safe, appropriate and effective techniques and solutions for historic restoration and conservation projects.

WHY CHOOSE US?

What distinguishes us from many other suppliers, is that as a company we can directly draw upon approximately 100 years of experience, skills and knowledge of supplying to the historic building environment.

We are led by Jamie Fairchild, who alone brings over three decades of professional experience of technical knowledge of substrates and materials and whose expertise is often sought and in demand by many academic and research institutes, highly respected 'governing' organisations and architectural practices.

Our products are now being regularly specified and are in daily use for many landmark and notable structures and projects around the world.
We employ dedicated and experienced individuals, who all work hard and care about providing a first-class service to our customers, focussing on supporting projects and all those associated with undertaking, or commissioning them. We invest time and assist specifiers and help our customers succeed, by delivering quality products, innovative solutions, in a cost effective and environmentally responsible manner, with minimal intervention and impact to substrates. We have a core technical group with backgrounds and engineering skills from design, mechanical, manufacturing and programming skills, that enables us to continue to innovate and will help us successfully achieve our core mission, of improving standards across the globe.

CONTACT US

For more information, to arrange a demonstration or to hire or purchase a ThermaTech®, please get in touch

Email info@restorativetechniques.co.uk

Call 01454 417 831

Go to www.restorative-products.com

Visit our **vimeo page** to see videos of our products in action

FIND US ON SOCIAL MEDIA

RESTORATIVE TECHNIQUES

PRACTICAL SOLUTIONS - TECHNICAL EXPERTISE & SUPPORT

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TECHNICAL DATA SHEET

KEIM UNIVERSAL RENDER FINE

(KEIM UNIVERSALPUTZ FEIN)

1. PRODUCT DESCRIPTION

KEIM Universal Render Fine is a renovation and thin layer exterior wall render, based on lime and silicates with fibre reinforcement, for use on all mineral substrates, both exterior and interior.

2. FIELD OF APPLICATION

Renovation and repair of sound existing renders, sound existing paint coats and for filling of cracks. Suitable for interior and exterior use.

KEIM Universal Render Fine can be used as a base coat for subsequent decoration using KEIM Mineral Paints.

3. PRODUCT PROPERTIES

Binder based on pozzolan with calcite aggregates, light aggregates and fibre reinforcement, water repellent.

Grain size: 0 – 0.6mm
Bulk density: 1.2g/cm^3

Material characteristics
Water absorption co-efficient:
w<0.5kg/m^2.h$^{0.5}$
Diffusion resistance value:
μ= 8
Comprehensive strength
approx. 3.5-7.5N/mm^2
Thermal conductivity, λ10, dry:
≤0.83W/(mK) for P = 50%
≤0.93W/(mK) for P = 90%

4. APPLICATION INSTRUCTIONS

Substrate preparation
Test substrate for load carrying capacity. Remove loose parts and old coats mechanically or with a water pressure jet. Use KEIM Universal Render as a first layer for rough textured existing render or uneven substrates.

Application
Mix in the ratio of 1kg KEIM Universal Render Fine to 0.27 - 0.29 litres of clean cold water (approximately 5.4 - 5.85 litres per 20kg bag) using a mechanical stirrer or plaster mixing machine/sprayer, e.g. Putzmeister or similar.

Do not over mix material, or re-mix material that has already set.

Apply to pre-wetted surfaces in layers from 4mm minimum to 8mm maximum. For subsequent application do not scratch up applied coat and leave for a minimum period of 12 hours before reapplication. Total thickness of render must be a minimum of 6mm.

KEIM Glassfibre Reinforcing Mesh may be incorporated if required by pressing into newly applied KEIM Universal Render Fine. When incorporating mesh, apply a first layer of KEIM Universal Render Fine, flatten the fabric (with an overlap of 10cm) and apply the second layer of KEIM Universal Render Fine.

Finish off using a float appropriate to the required surface finish (i.e. sponge faced float such as KEIM Hydro Sponge Float).

Application conditions
Ambient and substrate temperature above 5°C and below 30°C. Do not apply in direct sunlight or onto sun-heated surfaces, nor if it is raining or if there is an immediate likelihood of rain.

Setting Time
1 day per 1mm render layer thickness.

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Subsequent Finishing
KEIM Universal Render Fine is suitable for decoration with all exterior and interior KEIM Mineral Paint systems after a minimum period of 15 days.

Consumption
Approximately 1.1kg/m² per 1mm render layer thickness.

The stated consumption values are for guidance and depend on the nature of the substrate and the application method. Exact consumption values can only be determined by trials on the substrate.

Cleaning of tools
Clean immediately after use with water.

5. PACKAGING

20kg sacks

6. STORAGE

Shelf life is approx. 12 months if kept dry, cool, but frost-free in tightly closed containers. Protect from moisture.

7. DISPOSAL

EC Waste Code No. 17 01 01.

After contact with water and after hardening the product can be disposed of as building rubble.

8. SAFETY INSTRUCTIONS

Provide appropriate protection for surfaces which are not to be coated (e.g. glass, ceramics, natural stone, etc.) Protect the eyes and skin from splashes. Keep out of reach of children.

Please, refer to the EC Material Safety Data Sheet

The stated values and properties are the result of extensive development work and practical experience. Our recommendations for application, whether given verbally or in writing, are intended to provide assistance in the selection of our products and do not establish a contractual relationship. In particular, they do not release those purchasing and applying our products from the duty of establishing for themselves, with due care, the suitability of our products for the intended application. Standard building industry practices must be complied with. We retain the right to make modifications to improve the products or their application. This edition supersedes all earlier editions.

KEIM MINERAL PAINTS LTD
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sales@KEIMpaints.co.uk

Version 05/2018

TECHNICAL DATA SHEET

KEIM SOLDALIT® ME

1. PRODUCT DESCRIPTION

KEIM Soldalit ME is a sol silicate photocatalytic exterior mineral paint.

KEIM Soldalit ME is a highly specialised mineral paint system based on a binding agent combination of silica sol and potassium silicate, for use on exterior surfaces. This combination allows the application of mineral coatings not only onto mineral, but also on a variety of previously painted surfaces directly without the use of any stabilising agents.

Offers water repellency, vapour permeability and forms a chemical crystalline bond with the substrate. KEIM Soldalit ME is made using pure inorganic mineral fillers, earth oxide colour pigments, potassium silicate and silica sol binders.

Photocatalytic paint uses light energy to neutralise pollution, the catalyst is not used up in the reaction and will continue to react for the life of the paint. The reaction converts Nitrogen Oxides and other harmful pollutants including formaldehyde and acetaldehyde into harmless nitrates.

2. FIELD OF APPLICATION

For all mineral, absorbent surfaces, in particular suitable for restoration coatings on repaired and stripped surfaces, suitable for application onto previously painted surfaces.

3. PRODUCT PROPERTIES

Binder: combination of silica sol and water glass (sol-silicate)

- Multipurpose application
- Photocatalytic action
- Reduces toxic gases (e.g. NO_x, VOCs) and organic pollutants
- UV and acid resistant, anti-static
- High weathering resistance
- Alkaline
- Non-flammable
- Lightfast
- Mineral matt
- Water vapour permeable, microporous
- Non-film forming
- Highly water repellent
- No solvents and plasticisers added
- Resists algal and fungal growth

Material characteristics
Specific Weight: approx. 1.6g/cm³
pH Value: approx. 11
Colour fastness: A1

According to Din EN 1062-1
Water vapour diffusion density:
V ≥ 2000g/m²d)
Diffusion-equivalent air layer thickness:
s_d ≤ 0.01m
Water permeability rate (24 h):
w < 0.1kg/(m² $h^{0.5}$)
Gloss at 85°: 1.5

Colour shades
White and in accordance with the KEIM Exclusiv and KEIM Avantgarde swatches, with specials available. No monochrome shades available.

4. APPLICATION INSTRUCTIONS

Substrate preparation
All loose, flaking and unstable material must be identified and then thoroughly removed, all surfaces must be thoroughly washed down with clean cold water to remove all surface dirt and dust. When all surfaces are clean, sound, wind dry, dust free and free from all surface contaminants, decoration using KEIM Mineral Paints may proceed.

Highly absorbent or friable substrates should be treated with KEIM Soldalit Fixativ.

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Application
KEIM Soldalit ME should be applied as a two coat undiluted system. KEIM Soldalit ME can be applied by brush, roller, or air-less spray with a minimum period of 12 hours between coats.

Application conditions
Ambient and substrate temperature above 5°C and below 30°C. Do not apply in direct sunlight or onto sun-heated surfaces, nor if it is raining or if there is an immediate likelihood of rain.

Consumption
Approx. 0.45kg/m² KEIM Soldalit ME for two coats.

Consumption rates are offered for guideline purposes only and are quoted for smooth rendered surfaces. Actual rates are the responsibility of the applicator. Project specifications should be referred to for specific rates.

Cleaning of tools
Clean immediately after use with water

5. PACKAGING

5 kg and 25 kg containers

6. STORAGE

Approx. 12 months, if kept cool but frost free in tightly closed containers.

7. DISPOSAL

EC Waste Code No. 08 01 12

Any residues must be emptied out of containers before recycling.

8. SAFETY INSTRUCTIONS

Cover surfaces which are not to be painted, in particular glass, natural stone, ceramics etc. Protect the eyes and skin from splashes. Keep out of reach of children.

Please, refer to the EC Material Safety Data Sheet

The stated values and properties are the result of extensive development work and practical experience. Our recommendations for application, whether given verbally or in writing, are intended to provide assistance in the selection of our products and do not establish a contractual relationship. In particular, they do not release those purchasing and applying our products from the duty of establishing for themselves, with due care, the suitability of our products for the intended application. Standard building industry practices must be complied with. We retain the right to make modifications to improve the products or their application. This edition supersedes all earlier editions.

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