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site investigation • building pathology

SPECIFICATION FOR RENDER REPAIR

Hotham Park Clock Tower

FOR



PROJECT REFERENCE: 16.9073

October 2017

CONSTRUCTIVE EVALUATION
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1.0) INTRODUCTION

1.1) Hotham Park House including the clock tower is a grade II* listed (**ENGLISH HERITAGE BUILDING ID: 297588**) brick built structure located within public gardens in Bognor Regis (**OS GRID COORDINATES: 494049, 99410**). The house was built circa 1793.

1.2) At the North-west corner of the house is the clock tower built in 4 sections, each set back within the lower. Clock face on the North and South sides of the top section and cupola containing a bell over supported on 8 columns with weather vane surmounting it.

1.3) The clock is of particular interest to horologists being a rare example of its type and age still functioning within its original setting. Protection of the clock and its workings is therefore a particularly important consideration during the works.

1.4) External elevations are rendered in historic "Roman cement" stucco (above internal ground floor level- concrete render below internal ground floor level) and painted over. It is presumed that render repair patches have been completed historically in various materials including concrete and these are to be replaced. The interior is predominantly exposed brickwork (painted to the top floor) with fixed vertical ladder access from ground to top floor. Intermediate floors and roof are exposed timber boards on timber joists.

1.5) The interior brickwork exhibits various quantities of salt crystallisation with a significant number of brick faces (and lime pointing mortar) de-laminating and dusting. Sample analysis confirms the presence of building salts (predominantly sodium and calcium sulphate with significant potassium and magnesium chloride and sulphate) at concentration levels significantly above that sufficient to cause material damage by cryptoeffluoresence. Analysis also revealed significant lead levels within paint samples.

1.6) Whilst it is understood that the existing render may not be ideal from a building physics perspective, it does have historic significance and therefore its disturbance and replacement will be kept to a minimum. Our current understanding is that the existing render is breathable and relies upon the waterproofing quality of the powdered clay constituent and the skin forming properties of the lead paint to prevent rainwater ingress. This would seem a reasonable methodology however once the external skin

is broken, rainwater will find its way in and can only escape through the internal face of the brickwork walls (or remain and saturate the masonry) resulting in movement and concentration of naturally occurring salts and the propagation and growth of salt crystals within the masonry. Ideally the render would be removed in its entirety and a more breathable, softer and flexible render be applied following suitable period of time (potentially many years) for the brickwork walls to properly dry out however we believe the removal of skin-forming decorative coatings and localised repairs should be sufficient to enable the walls to breathe again which should result in a decrease in the rate of internal salt crystal growth as water vapour will be able to escape from both sides of the wall. Indeed, we expect general external air movement to result in evaporation and subsequent migration of interstitial moisture towards the exterior. Re-decoration will be completed using non skin-forming coatings.

1.7) This project involves the removal of lead-containing paint coating (recently over-coated with Dulux Weathershield), repairs to render faces including skim coat to all, re-decoration, stiff brush cleaning to internal walls, timber treatment to all internal woodwork, minor repairs to lead including provision of new flashing to fascia and collars to columns, application of pitch/ bitumen sealant to columns, minor repairs (as may be necessary) and decoration to timber columns, window frames and glazing. The full extent of works will only become clear upon removal of decorative coatings.

1.8) Works will be completed from fully sheeted and roofed independent scaffold in order to provide the optimum environment for the repairs.

1.9) Due to its listed status, recording of repairs undertaken is an important consideration and the works will be subject to ongoing survey, measurement and scrutiny from the client and conservation officer throughout the project duration.

1.10) The adjacent house (owned by the client) is in multiple occupation and must be protected from the works. There is also a municipal toilet block adjacent to though detached from the tower.

1.11) It is proposed that works will commence in 2018 leaving sufficient time for return of tenders, site visits and familiarisation, scaffold design considerations, sub-contract price enquiries, site accommodation and resource planning, liaison with specialist material suppliers, H&S File/ CDM considerations, client enquiries including services provision, welfare and the like.

5.0) The Works

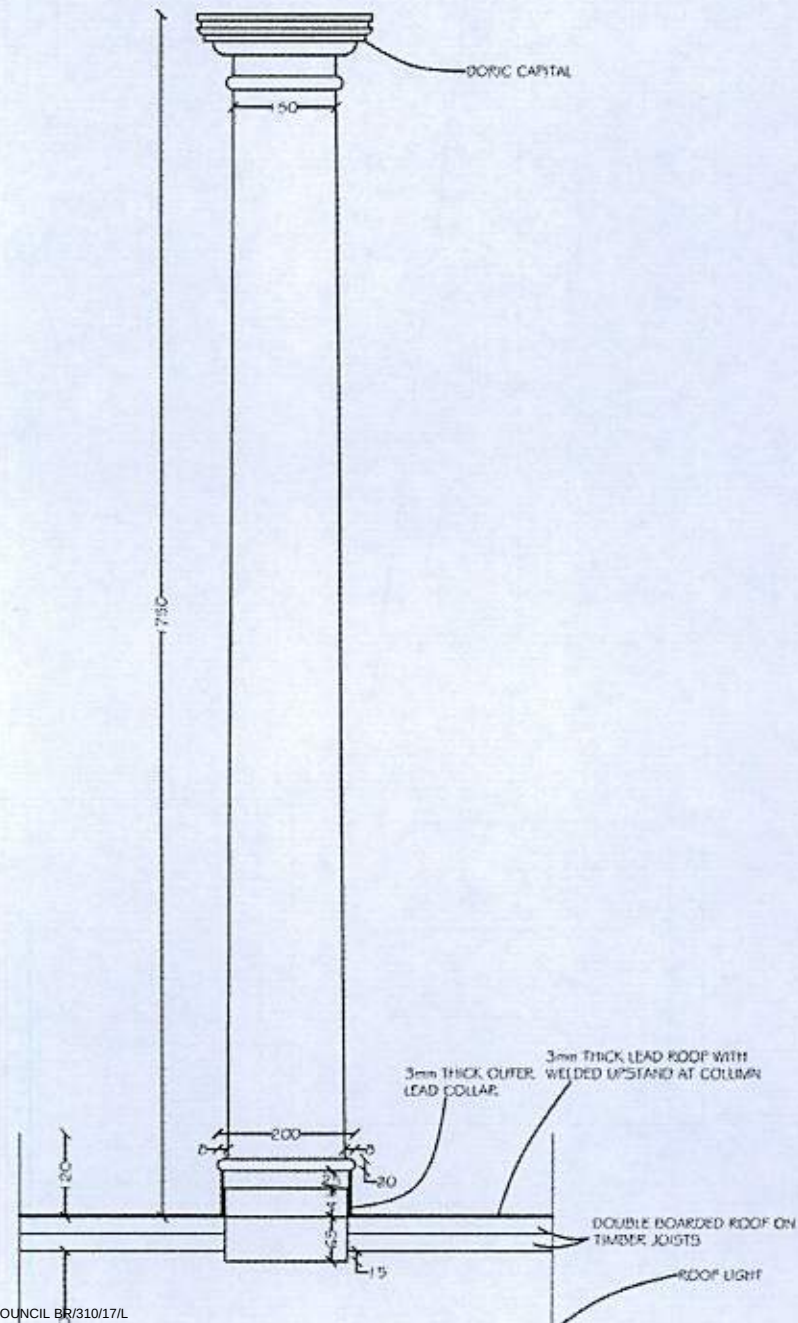
ref	Requirement	Number	Unit	£	p
5.1	The cost associated with compliance of preliminaries is presumed to be included within the following schedule of rates	n/a	n/a	n/a	n/a
5.2	Establish site boundary (fully sheeted Herras fencing) to public area. Access to public convenience to be kept open for duration of the project. Site boundary to enclose tower access door in order to prevent unwarranted access. Maintain the same Remove on completion	1 Week 1	No. No. No.		
5.3	Establish suitable accommodation within site boundary. Buildings and the like to be placed upon timber bearers in order to prevent excessive damage to grassed areas. The client does not require accommodation/ office space. Maintain the same Remove on completion NOTE: client approves use of adjacent toilet facilities	1 Week 1	No. No No		
5.4	Allow for provision of temporary services (water and electricity). Maintain the same Remove on completion NOTE: mains gas will not be permitted on site. It is presumed that telecommunications and the like will be via mobile phone and no fixed line will be provided unless specifically required by the contractor (contractor to advise of special requirement) NOTE: waste water associated with the works must be disposed of off-site and not put down drains.	1 Week 1	No No No		
5.5	Erect independent fully sheeted and roofed scaffold to enclose entire tower structure including domed roof. Include for provision, maintenance and removal of alarm and electric material hoist. Maintain the same Remove on completion NOTE: Note position of adjacent buildings, fences and concrete roof to South elevation at ground level which MUST NOT be borne upon. Due to the listed nature of the structure putlogs will not be permitted. Restraint at high level may be completed around timber fascia although poles will need to be removed later to enable fixing of additional lead flashing to fascia.	1 Week 1	No No No		
TOTAL TO COLLECTION					

ref	Requirement	Number	Unit	£	p
5.6	Allow to permit access for client or consultant to complete survey of adjacent roof including access to roof.	1	n/a		
5.7	Install 6mm ply boarding to protect lead flat roof. NOTE: no steel shod boots permitted on lead roof.	1	No.		
5.8	Protect clock faces with at least 250 micron thick polythene sheet. Ensure sheet is sufficiently fixed to protect the whole face for the project duration	2	No.		
5.9	Detach lighting conductor and set aside for re-use NOTE: conductor currently not attached at flat roof level to cupola.	1	No		
5.10	Remove paint from cupola supporting columns, allow 1 week for timber to dry. Assess requirement for timber repairs. Rub down cupola soffit and Re-decorate with good quality white exterior gloss paint- contractor to propose paint type for agreement. Re-decorate columns including 2no undercoats and 2no coats of good quality white exterior gloss paint. Paint to be brought down over lead collar repair to form weatherproof seal.- dwg 16.9073.1 for detail	8 Est. 4.5 8	No m ² No.		
5.11	Carefully remove outer lead collars from base of cupola supporting columns so as not to disturb inner lead upstand collars. See drawing 16.9073.1 Remove silicon sealant beads. Leave open for 1 week to dry and client inspection. Allow to flood coat of pitch/ bitumen sealant over top of inner upstand collar. Material to be drawn up to fully fill column rebate (approx. 8mm wide) Attach new code 7 lead outer collars with copper flat head nails to match existing. Ensure bitumen seal is complete before decoration as in 4.10	8 8	No No.		
5.12	Thoroughly remove paint from rendered surfaces to leave suitably clean to receive new render coat. NOTE: contractor to submit suitable methodology to remove lead containing paint. Method cannot involve dust or fume generation.	196	m ²		
TOTAL TO COLLECTION					

ref	Requirement	Number	Unit	£	p
5.13	Complete tap hammer survey of exposed render walls and mark up de-bonded areas.	196	m ²		
5.14	Allow for inspection, measurement and recording by client/consultant.	1	No.		
5.15	Allow to cut out and remove defective render to expose brickwork- typically 25 to 40mm thick 100mm either side of "hollow sounding" cracking, isolated lengths typically 0.5-2m. Sides should be square cut in readiness for render repair. Cost to include for brushing out dust and flushing with minimal water to provide clean surface to receive repair. NOTE: Minimum quantity of historic material to be removed following measurement and agreement with client/consultant. Non-hollow minor cracks can be rendered over.	Est 200 100 50 10	m m m m		
5.16	Allow to cut out and remove "hollow sounding" defective render/ concrete repair render to expose brickwork, isolated patches of unknown number and size . Cost to include for brushing out dust and flushing with minimal water to provide clean surface to receive repair. NOTE: Minimum quantity of historic material to be removed following measurement and agreement with client/consultant. Non-hollow minor defects can be rendered over.	10 1	m ² m ²		
5.17	Allow for inspection, measurement and recording by client/consultant.	1	No.		
5.18	Reinstate render to match existing profiles in isolated patches as 4.15, 4.16 using <i>Lime Green</i> coarse Roman Stucco. Material manufacturers details below: Coates Kilns, Stretton Road, Much Wenlock Shropshire, TF13 6DG Tel: 01952 728611 www.lime-green.co.uk NOTE: Repairs to be completed strictly in accordance with material manufacturer's instructions and largely in accordance with guidance contained within BSEN 13914, including dubbing out, spatterdash, base, undercoats and final coat. In particular, separating membrane and plastic reinforcing mesh to be used to reinforce cracking to brickwork substrate prior to render application. Contractor to submit proposal for material prior to commencing repair.	50 10 1	m ² m ² m ²		
TOTAL TO COLLECTION					

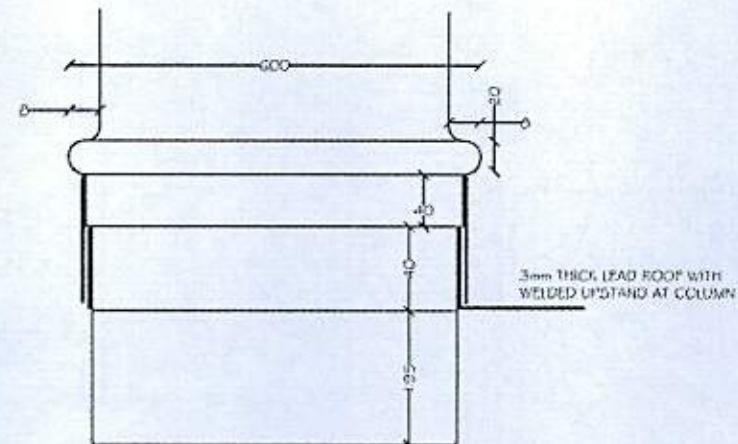
ref	Requirement	Number	Unit	£	p
5.19	Complete final/ top coat, 5mm thick render to all exposed surfaces, using <i>Lime Green fine</i> Roman Stucco. Material manufacturer's details as 4.18. Feather down to concrete base	190	m ²		
	Allow to incise false ashlar joint detail (2mm x 2mm) in pattern to match original (TBC by measurement by client/ consultant)	190	m ²		
5.20	Allow suitable time for render to dry (typically 1 week) before re-decoration with Beeckosil (colour code TBC by client) Allow for 1no preparatory etching coat and water flush, 1 coat of fixative and 2no coats of Beeckosil in strict accordance with the manufacturers recommendations. Material suppliers details below: Cornish Lime Ltd, Brims Park, Old Callywith Road, Bodmin, Cornwall, PL31 2DZ Tel: 01208 79779	190	m ²		
	Complete painting to concrete base, 2no coats using Sandtex fine textured masonry paint. Colour TBC	6	m ²		
5.21	Remove paint coatings from timber window frames to expose bare timber	2	no		
5.22	Allow for inspection, measurement and recording by client/ consultant.	1	No.		
5.23	Allow provisional sum for resin/ scarf repairs to timber frames. Sum to be confirmed by contractor following paint removal and to be commenced upon instruction by client/ consultant	n/a	n/a	3000	00
5.24	Allow provisional sum for minor repairs to glazing and putty. Sum to be confirmed by contractor following paint removal and prior to work commencement.	n/a	n/a	500	00
5.25	Re-decorate frames including 2no undercoats and 2no coats of good quality white exterior gloss paint.	2	no		
5.26	Supply and install 150mm wide code 5 lead sheet to fascia board. Lead to be tucked up behind existing lead and protrude 50mm beyond bottom of timber fascia	12	m		
Internal Works to run concurrent with external works					
5.27	Wrap clock mechanism in at least 250 micron thick polythene and tape to ensure continued protection for duration of works	1	No.		
5.28	Carefully remove internal timber window boxing to expose frames Set aside for re-use or disposal.	20	m		
TOTAL TO COLLECTION					

ref	Requirement	Number	Unit	£	p
5.29	Remove paint coatings from timber window frames to expose bare timber	2	No.		
5.30	Allow for inspection, measurement and recording by client/ consultant.	1	No.		
5.31	Provisional sum 5.23 includes for internal repairs following inspection.	2	no	n/a	n/a
5.32	Provisional sum 5.24 includes for internal repairs following inspection.	1	No.	n/a	n/a
5.33	Re-decorate frames including 2no undercoats and 2no coats of good quality white gloss paint.	27	m ²		
5.34	Decorate and replace boxing if required following client review	2	No.		
5.35	Complete timber treatment to all exposed timbers (3no floors, roof) to protect against woodworm and fungal attack	27	m ²		
5.36	Remove paint from top floor brickwork by non-mechanical means. NOTE: Contractor to submit proposed methodology for approval.	33	m ²		
5.37	Brush down all internal wall surfaces using a stiff brush (non-metallic) to remove all loose mortar, brick dust and debris, salt crystals and the like. Dust and debris to be bagged up and removed from site	225	m ²		
5.38	Remove remaining dust & debris from floors by vacuum cleaner	24	m ²		
5.39	Re-attach and connect lightning conductor. Include supply and fit 10m length 25mm x 6mm sheathed copper conductor from cupola to flat roof connector, suitably fixed and hidden from view.	1 10	No. m		
5.40	Remove protective coating to clock mechanism and clock faces	1	No.		
5.41	Allow for inspection, Snagging measurement and recording by client/ consultant.	1	No.		
5.42	Hand-over/ post-contract meeting, sign-off	1	No.		
5.43	Remove scaffolding, site accommodation, fencing, temporary services and the like (already priced)	n/a	n/a	n/a	n/a
5.44	Allow for repairs of damaged grass areas- damaged turf to be removed/ levels built up and re-turfed	10	m ²		
TOTAL TO COLLECTION					



COLUMN BASE DETAIL

outer lead collar and silicon sealant heads to be removed.
 Bitumen sealant to be applied to cover top edge of inner lead upstand and be brought up to underside of 8mm rebate.
 New code 7 lead collar, to be installed to replace existing ensuring top of collar sits within rebate and that bitumen completely seals between top of lead and timber column.
 New glass panework to extend over bitumen if compatible



NOTES

1. To relocate from this drawing use figure dimensions only.
2. All dimensions must be checked on site prior to commencement of work.
3. Where applicable this drawing is to be read in conjunction with other associated drawings.
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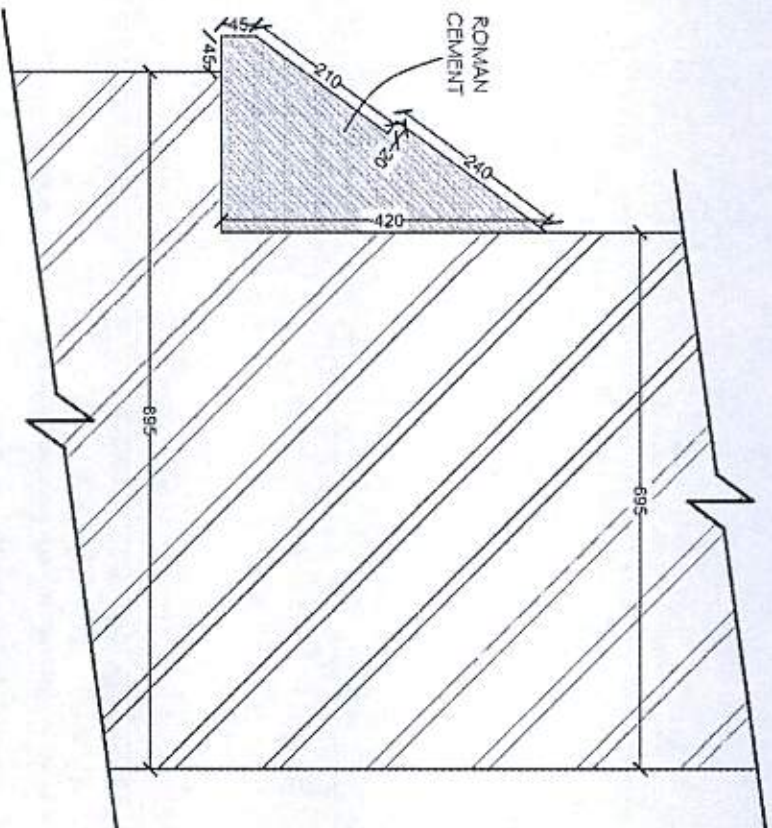
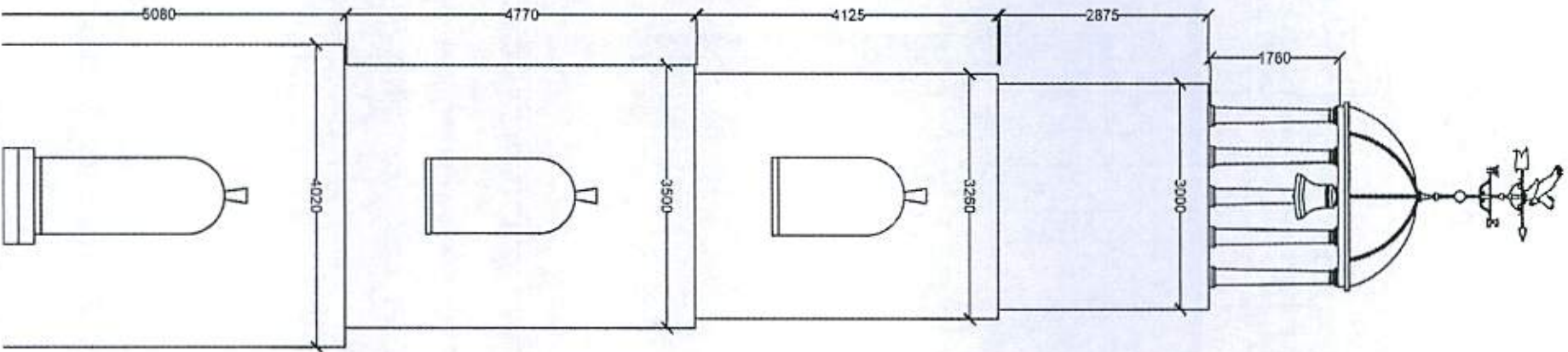
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Client: Arun District Council

Project: Heston Park

Drawing: Column Detail SCALE: 1/15

WEST ELEVATION



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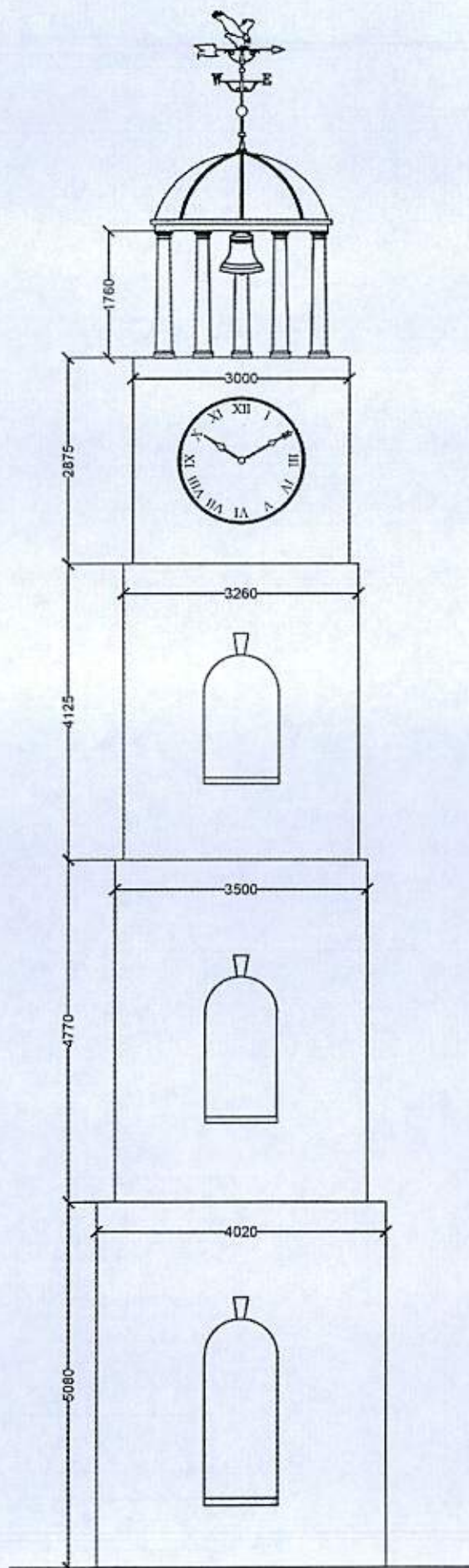
Client
 ARUN DISTRICT COUNCIL

Project
 HOTAHAM CLOCK TOWER
 BODINOR REIS

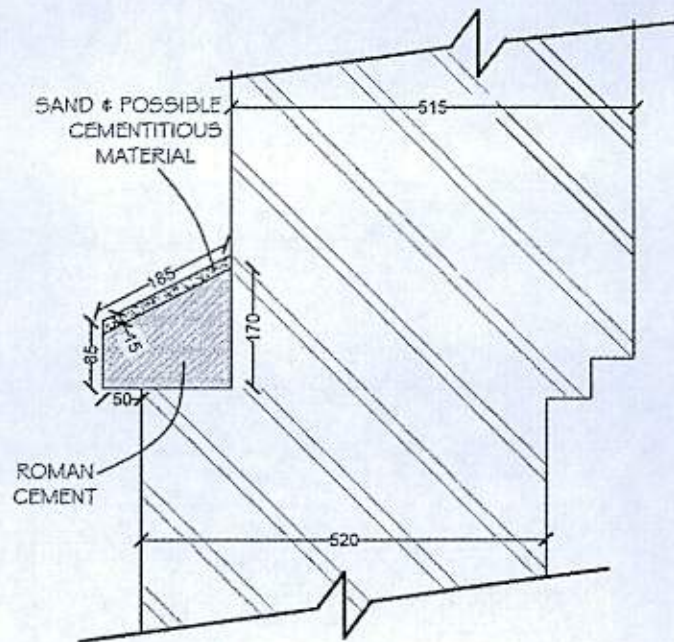
Drawing
 West Elevation
 Scale
 1:10

Date **Drawn** **Checked**

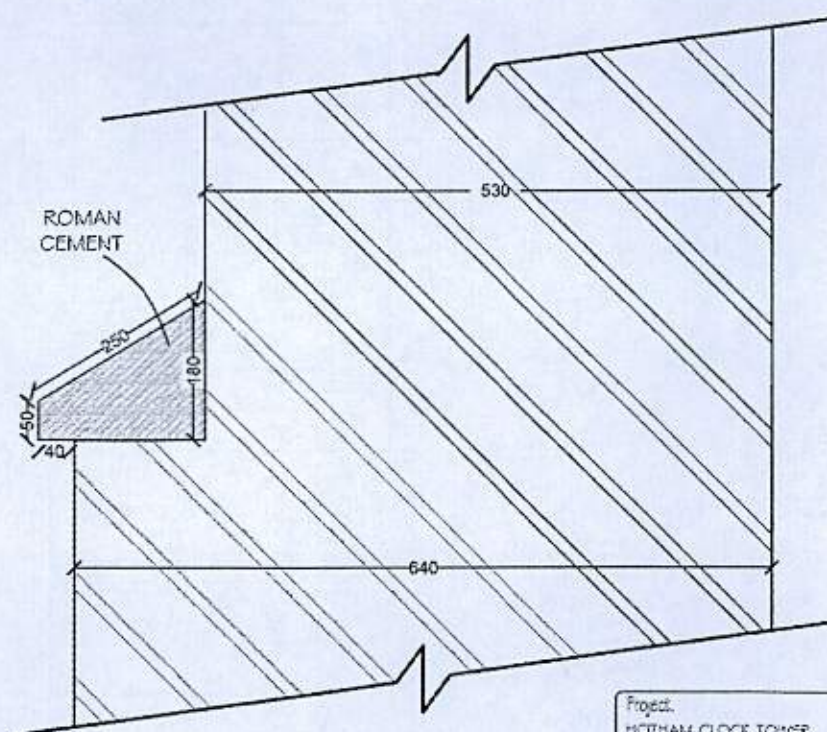
NORTH ELEVATION



INDICATIVE LIFT SECTION DETAIL THIRD FLOOR -



INDICATIVE LIFT SECTION DETAIL SECOND FLOOR



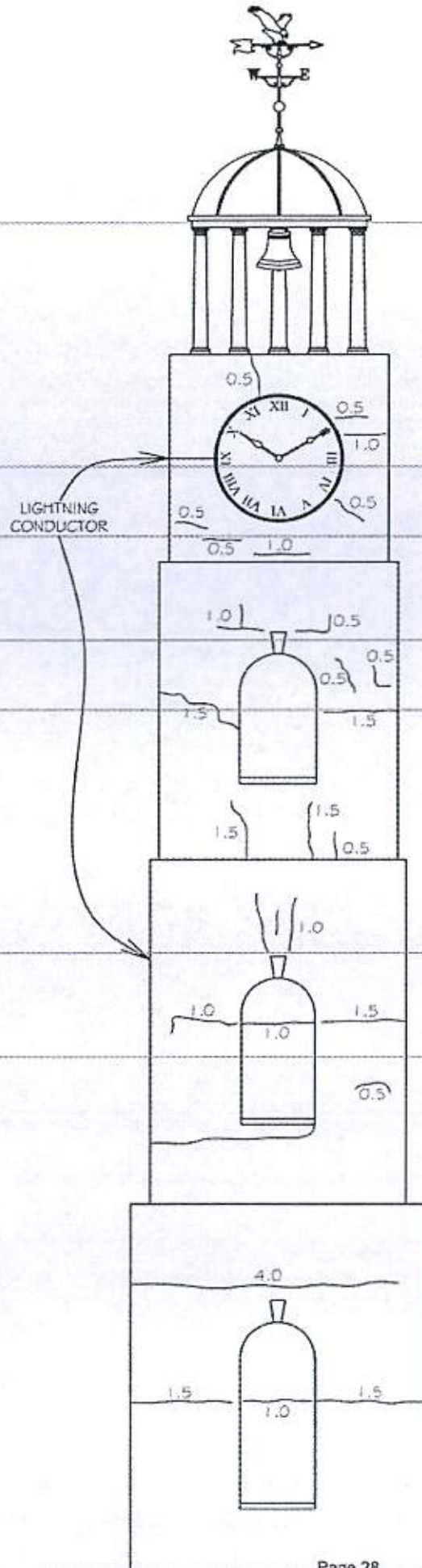
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Project:
MITHAM CLOCK TOWER
BOGNOR REGIS

Drawing: North elevation
Scale: NT5

Date: Drawn: checked:

NORTH ELEVATION



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Client: ARUN

Project: KOTHAM PARK CLOCK TOWER

Drawing: NORTH ELEVATION Scale: 1/75

Date: NOV 16 Drawn: D.Y. checked: 12/9/2015
 Drawing number: 12.90773.3 rev: 0/01

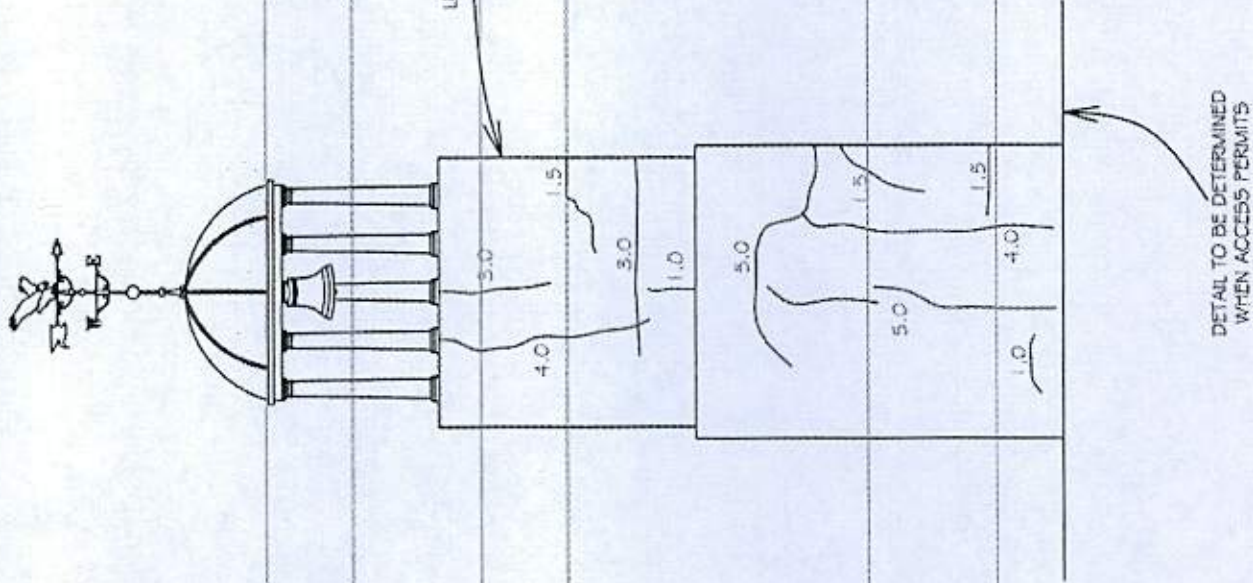
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EAST ELEVATION



Rev	001	Proposed	Check
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Client

ARUN

Project

ROTHAM PARK CLOCK TOWER

Drawing

EAST ELEVATION

Scale

NIS

Sheet No:

16

Drawn By

02/2016

Drawn by

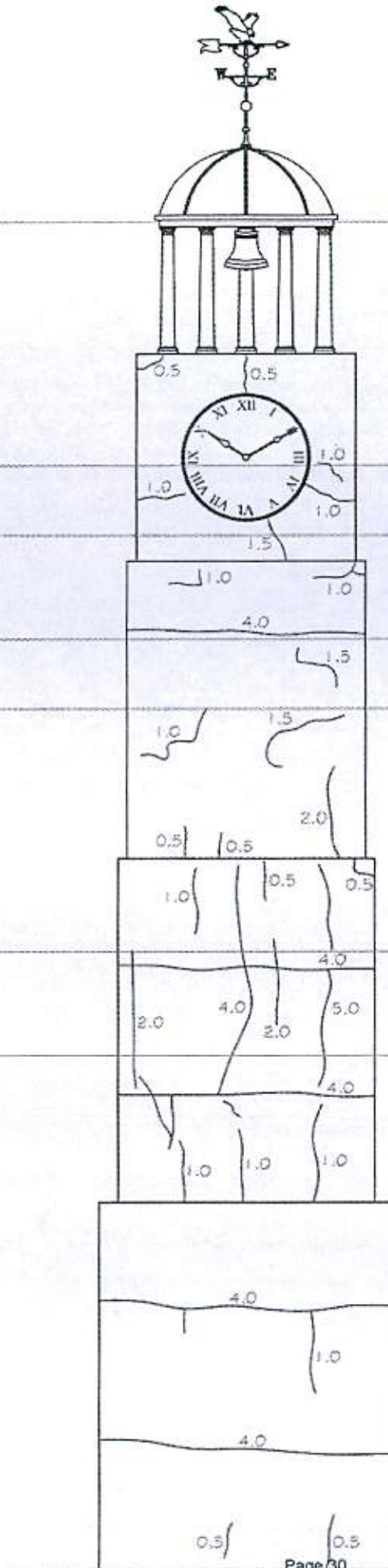
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SOUTH ELEVATION

NOTES

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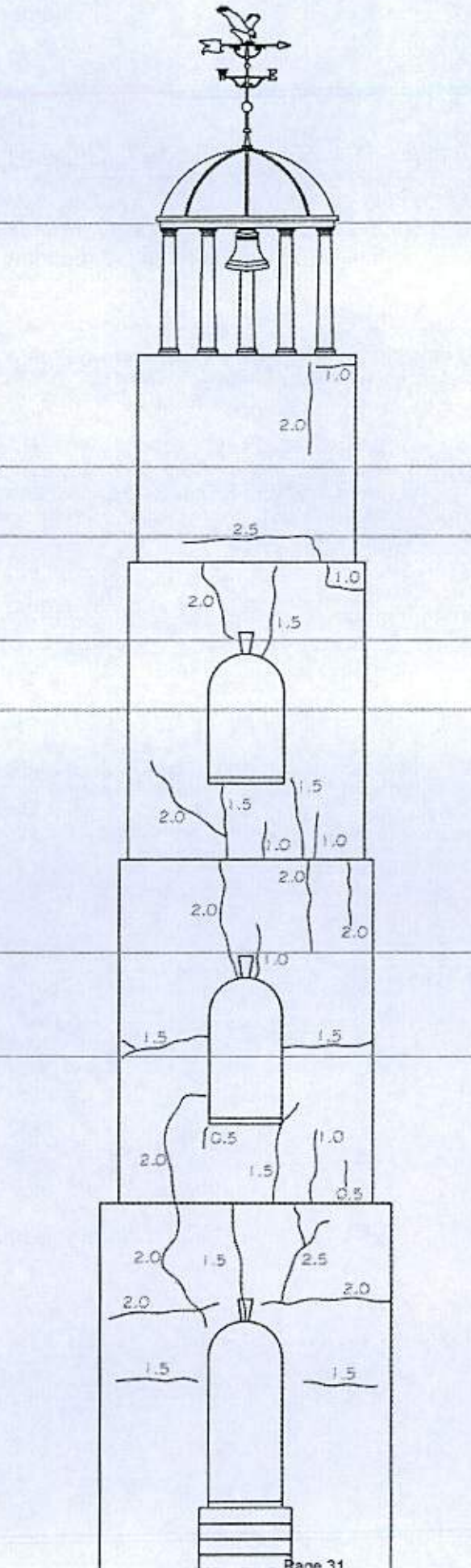
Client: ARUN

Project: HOTHAM PARK CLOCK TOWER

Drawing: SOUTH ELEVATION scale: NTS

date: 16/10/16 drawn: D.Y. checked:
 drawing number: 12.9.073.5 revision:

WEST ELEVATION



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with many years of experience
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Client:	ARUN
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Project:	NORTHAM PARK CLOCK TOWER
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Drawing:	WEST ELEVATION	scale:	NTS
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date: 10/16	drawn: D.Y.	checked:
drawn/scriber:	12.9/073.4	revision:



Beeckosil Fine

BEECK ASF®
Active Silicate Formulation

Extremely durable active silicate paint based on pure water glass for maximum silicification activity. Extremely water vapour permeable, and weather and UV resistant

Ready-to-use one-pack silicate system for façades, as described in VOB/C DIN 18363 2.4.1. Ideal for mineral substrates such as lime and cement renders or plasters, concrete, brick and calcium silicate masonry. With a classic mineral profile and timeless aesthetic quality. Can be used for both conservation of listed buildings and for contemporary architecture.

1. Product Properties

Beeckosil Fine is a solvent free one-pack silicate system with BEECK ASF® Active Silicate Formulation and contains silicifiable potassium water glass as a binder. Silicification, the chemical reaction between mineral substrate, pigments and potassium water glass does not produce a surface film, but instead a microporous inseparable unit of substrate and coating. Optimum silicification also produces ideal building physics properties. Maximum colourfastness A1 in accordance with BFS Information Sheet No. 26 thanks to its pure mineral pigmentation!

1.1. Composition

- Pure mineral potassium water glass
- Alkali-resistant mineral pigments: lightfast and of natural origin
- Organic content < 5% (VOB/C DIN 18363 2.4.1.)
- Solvent free

1.2. Technical properties

1.2.1. Overview

- Use on façades
- BEECK ASF® Active Silicate Formulation ■
- Outstandingly long lives and value retention ■
- Extremely water vapour permeable, ideal building physics properties
- Capillary-active, sorbable, and moisture regulating
- Free from thermoplasticity ■
- Aesthetic matt
- Maximum colour stability in all shades
- Nonflammable
- Free from solvents, biocides and preservatives ■
- Natural alkalinity helps to prevent algae and mould

Parameter	Value	Conformity	1.2.2. Important building physics characteristics*
Density 20°C:	1.50 kg / litre		
pH value 20°C:	11		
Dynamic viscosity 20°C:	4,500 mPas		
W ₂₄ value:	< 0.08 kg / (m ² h ^{1/2})		
s _d value (H ₂ O):	< 0.02 m		
Colourfastness**:	Class A1	BFS Information Sheet No. 26	
Grain size:	fine	EN 13300	
Gloss level at 85°:	dull matt	EN ISO 2813	* applicable to White
Flammability class:	A2 nonflammable	EN 13501-1, DIN 4102	** applicable to tinted
VOC content (max.):	4 g / L	ChemVOCFarbV, Cat. A / c	1.2.3. Colour ■ White and

Off-White and ready-mixed in the 200 mixed colours of the BEECK Mineral Paint Colour Chart.

■ Colour groups: I – IV ■ Tintable and full colour coatings with BEECK Full Colour Silicate Paints.

2. Use

2.1. Substrate requirements ■ Can be used on porous, absorbent to water-repellent mineral, silicifiable substrates.

Page 1/4

- The substrate must be clean, dry, firm and stable and must be free from efflorescent and separating substances.
- Test new render for drying and strength. ■ Carefully make good chipped surface, cracks and misses with the same type of material and the same texture. ■ Use render to repair cracked substrates. Completely precoat the whole surface, where hairline cracks and minor structural defects exist, using BEECK Quartz Filler or Beeckosil Coarse.
- Gently clean pressure-sensitive surfaces. ■ Prepare and re-treat algae infested façades with BEECK Fungicide according to the factory specifications. ■ Ensure uniform substrates and careful application on visually high-quality surfaces and in glancing light.

2.2. Brief information on the standard system ■ Double coat with Beeckosil, White or tinted. ■ Primer and possible intermediate coat, optionally with Beeckosil Fine or Coarse, same colour topcoat with Beeckosil Fine. ■ Optimally adjust and thin Beeckosil Fine with BEECK Fixative to the substrate and use. ■ Use BEECK Silane Primer, BEECK Quartz Filler and/or BEECK Bonding Coat Fine / Coarse to apply a primer coat to critical surfaces if required. ■ Optional subsequent long-term preservation with BEECK Silicone Plus, see Auxiliary Products.

2.3. Substrate and preparatory treatment ■ Lime render (PI/CSII), lime-cement render (PII), cement render (PIII):

Examine drying and strength of render. Use BEECK Etching Fluid to remove sinter skin on solid render, or grind off. Do not etch thin coat renders and composite systems (for example, ETICS). Prime absorbent render with BEECK Fixative, thinned with 2 parts water. Mix 1 part BEECK Fixative and 5 parts water and use to flow coat renders with surface sanding, but which are still firm, several times until saturated.

Beeckosil Fine

BEECK ASF®
Active Silicate Formulation

■ Concrete, fibrated cement:

Use high pressure cleaner and formwork release oil remover to clean concrete pore-deep and to remove any residual release agent, and then rinse with plenty of clean water. Prime with BEECK Fixative, thinned with 2 parts water. Use BEECK Quartz Filler to coat the whole surface of made good areas. Prime fibrated cement with BEECK Silane Primer and BEECK Bonding Coat Fine / Coarse, try out on a test area.

■ Natural stone, brick, calcium silicate masonry, aerated concrete:

Clean thoroughly, check for moisture damage and efflorescence (e.g. salt edges, iron salts) and make good defective joints and bricks. Preset absorbent substrates with BEECK Fixative, thinned with 2 parts water. Flow coat weakly efflorescent substrates and aerated concrete with BEECK Silane Primer. Use BEECK Quartz Filler as required. ■ **Existing coats, synthetic resin render, external thermal insulation composite systems (ETICS):**

Thoroughly clean old mineral coatings, brush off. Remove cracked, less adherent and film-forming old coats as pore-deep as possible. Check remaining coats for adhesion, firmness and intactness. Clean firmly adhering, matt coatings and renders. Use BEECK Fungicide according to the factory specifications to prepare and re-treat surfaces infested with algae. Prime absorbent, chalking and crumbling surfaces with BEECK Fixative, thinned with 2 parts water. Highly adherent, white primer coating with BEECK Bonding Coat Fine / Coarse. In case of hairline cracks or minor structural defects, precoat the whole surface of the façade with BEECK Quartz Filler or Beeckosil Coarse, try out on a test area first. Use only light colours with lightness value (LV) > 40 on external thermal insulation composite systems (ETICS).

■ **Unsuitable substrates** are horizontal, weathered, less stable, efflorescent surfaces and non-alkali-resistant substrates such as air-lime renders/plasters, wood-based materials (MDF, OSB), clay or loam, gypsum and plastics as well as nonfirm and old plastoeastic coatings.

■ **Defective substrates** require a differentiated approach. Apply a renovation render to damp, salt contaminated surfaces and base areas, and treat the whole surface with BEECK Quartz Filler.

2.4. Application instructions

2.4.1. General information

Check substrate suitability as required (see 2.1 and 2.3). Pay particular attention to the absorbency, strength and texture of the respective substrate. Try out on a test area before using on high quality and critical surfaces. Ensure that the product is used by qualified persons only.

- Carefully cover surfaces which are not to be treated – especially glass, ceramics, window sills, expansion joints, lacquer and anodic coatings – and protect them from splashes.
- Provide personal protective equipment. ■ Only use containers from the same production batch to coat self-contained areas.

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■ Ensure an even substrate, a sufficient number of qualified workers and a smooth, uninterrupted coating process for tinted and full coloured coats.

■ Stir Beeckosil Fine thoroughly with a powered mixing paddle before use. ■ Add BEECK Fixative to Beeckosil Fine to make it optimally coatable. ■ Do not use in wet conditions, if there is a risk of frost, on hot surfaces or in the blazing sun.

■ Minimum application temperature: +8°C ■ Drying time: at least 12 hours per coat ■ Protect fresh coats against rain and the blazing sun; hang up scaffolding sheeting in front of the surface worked on.

2.4.2. Application

With roller, brush or using an airless spraying method. Apply to self-contained areas with an absolutely thin coating, no overlapping and uniformly in one continuous pass as a cross coat.

■ Application with roller or brush:

- Rollers and brushes with a uniform coating pattern are suitable.
- Avoid roller edges, ridges, overlapping and overcoating coats that have already begun to dry, especially in scaffold working areas.
- Cut-in edges smoothly and seamlessly, wet-on-wet, together with the main area.
- As a brushed surface, use a BEECK Mineral Paint Brush to distribute without brushing in any particular direction.
- Coats

Beeckosil Fine

BEECK ASF®
Active Silicate Formulation

1. **Primer coat:** Thin primer and possible intermediate coat depending on substrate and method with 10 % - 20 % BEECK Fixative.
2. **Topcoat:** After at least 12 hours, unthinned or improve coatability with no more than 5 % BEECK Fixative.

☒ **Spraying method (airless):**

- Nozzle: 0.79 mm / 0.031 inch
- Always sieve the product before use.
- Apply uniformly and as a thin coat, then use a brush or roller to uniformly lay-off.

2.5. Auxiliary products

- ☒ BEECK Etching Fluid for removing sinter layers on solid new plaster: Thin BEECK Etching Fluid with 3 parts water and apply with a brush. After a few minutes, clean with plenty of water. Do not etch thin coat renders or composite material (ETICS).
- ☒ BEECK Fungicide against algae infestation. Apply thickly, allow to take effect at least overnight, and then clean the façade with high pressure hot water. To protect against reinfestation, after cleaning and drying, saturate the building material with BEECK Fungicide and do not wash off. Try out on a test area of a weathered surface to determine the effectiveness.
- ☒ BEECK Fixative, Primer and Thinner.
- ☒ BEECK Silane Primer reduces moisture transport and salt efflorescence on critical substrates.
- ☒ BEECK Bonding Coat Fine / Coarse (0.4 mm), as white primer coat with excellent adhesion on surfaces such as synthetic resin render or old film-forming coating.
- ☒ BEECK Quartz Filler P, fibre-reinforced powdery slurry additive for primer and / or intermediate coats. Mix 4 kg BEECK Quartz Filler P with a 12.5 L (15 L) bucket of Beeckosil Fine and thin with around 2 kg BEECK Fixative. If higher filling power is required, 8 kg BEECK Quartz Filler P and around 3 kg BEECK Fixative can also be added. Apply smoothly and seamlessly using a BEECK Mineral Paint Brush. Same colour topcoat with Beeckosil Fine.
- ☒ BEECK Quartz Filler, fibre reinforced, slurry priming coat for covering hairline cracks, made good render and minor structural defects. Apply over whole surface with the brush. BEECK Quartz Filler can also be mixed 1:1 with Beeckosil Fine as a coarse-grained primer or intermediate coat. Same colour topcoat with Beeckosil Fine.
- ☒ Beeckosil Coarse, as primer coat with texture grain (0.4 mm). Same colour topcoat with Beeckosil Fine.
- ☒ BEECK Silicone Plus, long-term preservation for representative façades, screen walls and noise barriers. Extends renovation intervals and protects against moisture damage, contamination and building material corrosion. Apply thick flow coat of BEECK Silicone Plus to fresh silicate coatings after at least 10 days.

3. Application Rate and Container Sizes

The application rate, i.e. the quantity required for smooth, normally absorbent substrates is approx. 0.12 L Beeckosil Fine per m² and pass. Try out on a test area on site to determine substrate-related application rate differences. *Container sizes:* 5 L / 12.5 L / 15 L

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4. Cleaning

Thoroughly clean equipment, tools and soiled clothing with water immediately after use.

5. Storage

Stored cool and frost-free in the original container, Beeckosil Fine can be kept for at least 12 months.

6. Safety Instructions

☒ Comply with the EC Safety Data Sheet. The product is alkaline. Avoid contact with skin and eyes. Wear safety glasses or goggles/face protection. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Carefully cover the area surrounding the surfaces to be coated, wash off splashes immediately with water. Keep out of the reach of children. Do not breathe vapour, spray and dust. Dispose of in accordance with the legal regulations. ☒ Waste code (EWC code): 080112

7. Declaration

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specific substrate on which it is to be used. Subject to change without notice as part of our product development. Additives for tinting, thinning, etc. are not permitted. Check the colours before use. This information sheet automatically becomes invalid when a new edition is issued. The information in the current version of the EU Safety Data Sheets is binding for classification according to the Hazardous Substances Regulations, disposal, etc.

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Acidic concentrate for removing sinter skin on new mineral render

Aqueous acidic concentrate for etching lime sinter layers on new lime and lime-cement renderings on façades. Also for cleaning weathered mineral renders and silicate coatings. Can also be used on interior surfaces if good ventilation is provided. Generally only suitable on solid, firm render or plaster coats with a minimum thickness of 5 mm, not for external thermal insulation composite systems (ETICS), synthetic resin renders/plasters and gypsum. For commercial use only.

1. Product Properties

BEECK Etching Fluid reliably removes sinter skin, a vitreous glossy high-tension and impermeable accumulation of binder on the surface of felled and floated lime and lime-cement renders. An unremoved sinter skin is a substrate defect according to VOB/C and poses the risk of stress-induced spalling, for example during driving rain. The gas-tight sinter layer also disrupts the carbonation and recrystallisation of "healthy" lime renders and plasters. They become worn and crumbly underneath the glass-hard layer. Creating a stress-free, porous and firm, surface zone is particularly important for pore deep, permanent



Etching Fluid

silicification of active silicate paints such as BEECK Pure Crystalline and BEECKOSIL. At the same time, a uniformly absorbent homogeneous surface is created by the etching, which makes it possible to apply smooth, seamless and stain-free mineral coatings. The acid neutralises within a few minutes on the highly alkaline substrate. Rinsing with water is therefore not for neutralisation purposes, but instead to remove exposed textural and aggregate particles on the surface of the render. Especially in interior areas, these can also be removed from the plaster with a stiff broom before coating.

1.1. Composition

- Aqueous acidic solution of fluorosilic acids (pure mineral acids)
- Solvent free ■ Organic content 0 %

1.2. Technical properties

1.2.1. Overview

- For use on interior surfaces and on façades ■ Water thinnable: Concentrate, to be thinned with 3 – 5 parts water.
- Suitable for solid lime and lime-cement render or plaster ■ Reliably removes lime sinter layers
- Creates a substrate to VOB/C requirements and suitable for painting
- Optimum silicification of subsequent silicate coatings
- Reduces absorbency and the staining ■ Pure mineral acid and neutralisation products
 - The neutralisation products are water insoluble and are efflorescence-free
 - If used properly, the neutralisation is complete and the rinsing water is acid-free. ■ Nonflammable
- Free from solvents, biocides and preservatives

1.2.2. Important building physics characteristics*

Parameter	Value	Conformity
Density 20°C:	1.20 kg / L	
pH value 20°C:	1 (unthinned)	
Viscosity:	comparable with water	
VOC content (max.):	0 g / L	ChemVOCFarbV (Regulations limiting VOC emissions of paints and lacquers) * applicable to White The VOC Decopaint Directive does not apply to cleaning agents.

1.2.3. Colour ■ Colourless or tinted Pink.

2. Use

2.1. Substrate requirements

- The substrate must be water-wettable, clean, dry, firm and stable as well as free from efflorescent and separable substances.

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- Use high-pressure cleaner to remove coarse dirt deposits, crusts, loose old paint coats and friable renders and plasters before etching. ■ Prepare and re-treat algae infested façades with BEECK Fungicide according to the factory specifications.

2.2. Substrates and preparatory treatment ■ Solid lime plaster (PI/CSII), lime-cement plaster (PII) with water-wettable surface:

Minimum thickness of the solid top render/plaster coat: 5 mm If in doubt, try out etching fluid on a test area first. Thin BEECK Etching Fluid with 3 parts water for use on façades and with 5 parts water for use on interior surfaces and on critical substrates. Allow fresh lime resin or plaster (PI/CSII) and lime-cement resin or plaster (PII) to cure and dry for 3 days at least before etching. Fresh renders and plasters continue to set by carbonization after the sinter skin has been removed. If the render or plaster is left for a lengthy period (several weeks or months) before painting, it may be necessary to recoat it with etching fluid if visible secondary sintering has occurred. Do not preset or apply silicate coatings until the whole render or plaster surface is sufficiently firm, dry and stable. Due to minimum strength requirements, wait at least 4 – 6 weeks



Etching Fluid

before etching pure non-hydraulic and hydraulic lime renders or plasters (PI/CSI); examine and then try out on a test area first. Alternatively, the sinter skin can also be removed mechanically by using a gentle blasting method or manually using a brass wire brush.

■ **Existing mineral render or plaster (PI-PIII) with weathered, chalking mineral coating:**

Clean the façade with a high pressure cleaner to remove coarse deposits, crusts and lightly adhering pieces of render, plaster and coating. Then etch the façade with BEECK Etching Fluid, thinned with 5 parts water, and rinse with clean water. Also etch areas of new render, plaster and render and plaster repairs.

■ **Unsuitable substrates** are lightweight, scratched and insulating renders, synthetic resin renders, thin-coat renders, composite materials, especially external thermal insulation composite systems (ETICS), and gypsum and natural stone. If in doubt, try out the etching on a test area. Thin BEECK Etching Fluid with 5 parts water before using on critical substrates.

■ **Defective substrates** require a differentiated approach, examine and try out on a test area first.

2.3. Application instructions

2.3.1. General information

Check substrate suitability as required (see 2.1 and 2.2). Pay particular attention here to the absorbency, strength and texture of the respective substrate. Examine high quality and critical surfaces and try out on a test area first. Ensure that the product is used by qualified persons only.

■ Hazardous substance requiring labelling, for commercial users only. ■ Note and follow official instructions regarding façade cleaning, collection and discharge of wastewater. If necessary, obtain permits. ■ Carefully cover surfaces which are not to be treated – especially glass, ceramics, window sills, expansion joints, lacquer and anodic coatings – and protect them from splashes. Watch out for drifting splashes caused by the wind. Enclose the façade if necessary. ■ Provide personal protective equipment (wear protective clothing, protective gloves, safety glasses or goggles / face protection). Deploy instructed, competent personnel only.

■ Do not use in enclosed spaces, basements, shafts or manholes. Ensure sufficient fresh air exchange when working indoors.

■ Do not use in wet conditions, if there is a risk of frost, on hot surfaces or in the blazing sun.

■ Application temperature: +3°C to +25°C ■ Do not let the acid dry out, rinse after 10 – 15 minutes.

■ Subsequent coats and presetting: after the whole substrate area has dried, at least 8 - 12 hours depending on the weather conditions.

2.3.2. Application ■ *With acid-proof ceiling brush:*

- For use on façades, thin BEECK Etching Fluid with 3 parts water (stir in 1 part BEECK Etching Fluid into 3 parts water); thin with 5 parts water for use on interior surfaces and on critical substrates.

- Apply by brushing onto the render or plaster uniformly. Avoid runs and sags in the dry render or plaster. Prewetted critical surfaces with a water hose.

- Etch façades from the bottom upwards. Do not let the acid drain into the ground or onto adjacent areas.

- A reaction can be recognized by effervescence on contact with the surface of the building material.

- Application time of the acid around 10 – 15 minutes.

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- After the reaction has finished, recognisable by the receding effervescence, rinse with plenty of clean water (high pressure cleaner or garden hose; if used on interior surfaces, use a stiff broom to sweep off loose plaster particles)

- Also etch and rinse areas of new render or plaster and local making good of render or plaster. Do not let the acid run onto intact surfaces.

3. Application Rate and Container Sizes

The application rate, i.e. the quantity required is around 0.02 L BEECK Etching Fluid per m², this corresponds to around 0.08 – 0.10 L thinned solution.

Try out on a test area to determine substrate-related application rate differences. *Container sizes: 5 L / 10 L*

4. Cleaning

Thoroughly clean equipment, tools and soiled clothing with water immediately after use.



Etching Fluid

5. Storage

Stored cool and frost-free in the original container, BEECK Etching Fluid can be kept for at least 24 months. Close open containers airtight and use up the contents as soon as possible. Store in the original container in a well-ventilated, secured location with acid-proof fitout and a spillage tray. Never pour into non acid-proof containers.

6. Safety Instructions

☞ Comply with the EC Safety Data Sheet. **C - Corrosive!** Causes burns. Harmful by inhalation, in contact with skin and if swallowed. Risk of serious damage to eyes. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show this label where possible). Carefully cover the area surrounding the surfaces to be coated, wash off splashes immediately with water. Do not breathe vapour, spray and dust. This product is for commercial use only. Keep out of the reach of children. Consult the relevant authorities to ensure proper, safe disposal of any wastewater produced. Do not release into the environment. Dispose of in accordance with the legal regulations. ☞ Waste code (EWC code): 140603

7. Declaration

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Primer, thinner and binder for BEECK Silicate Paints, e.g. BEECK Pure Crystalline Finish, pure silicate paint to VOB/C DIN 18363 2.4.1. Free from organic content

Potassium water glass without organic content, effective as a binder and thinning additive as well as for priming and stabilising porous, mineral substrates. Suitable for lime and cement plaster and render, brick, concrete and natural stone. For decades, BEECK silicate coatings have stood for maximum durability and timeless, mineral matt aesthetics. Suitable for representative listed buildings and structures as well as for contemporary, healthy and sustainable architecture.

1. Product Properties

BEECK Fixative is silicification active potassium water glass as a binder. Silicification, the chemical reaction between substrate, pigments and potassium water glass, produces uniform inseparable bonding with the mineral substrate. Water glass coats are capillary-active and drive quickly after it has rained. As there are no adhesive, thermoplastic synthetic resin



Fixative

components involved, façades remain clean longer. The high natural alkalinity of the potassium water glass counteract dirt, mould and algae growth. This enables non-toxic, ecologically compatible coats on substrates critical with regard to building physics properties, for example, listed buildings. The matt, cheerful character of the mineral coating with its deep light and the pure mineral, lightfast pigmentation enhances any building for decades. Pure silicate coatings are not only unsurpassed with regard to durability and easy renovation, but are also economical.

1.1. Composition

■ Pure mineral potassium water glass ■ Organic content 0 % (VOB/C DIN 18363 2.4.1.)

■ Water thinnable
 ■ Solvent free

1.2. Technical properties

1.2.1. Overview

■ For use on interior surfaces and façades ■ Maximum silicification activity
 ■ Ideal building physics properties, as extremely capillary-active, sorbable and non-vapour retarding
 ■ Unsurpassed durability, UV and weathering resistant ■ Mineral pigment incorporation through silicification ■ Resistant to alkaline solutions, acids, organic solvents ■ Obtained from raw materials with unlimited availability

■ Integrated in natural material cycles
 ■ Nonflammable ■ Water thinnable
 ■ Free from solvents, biocides and preservatives
 ■ Pure mineral: no breeding ground for microorganisms
 ■ Natural alkalinity helps to prevent bacteria, algae and mould

1.2.2. Important building physics characteristics

Parameter	Value	Conformity
Density 20°C:	1.16 kg / L	
pH value 20°C:	11	
Dynamic viscosity 20°C:	< 500 mPas	
W ₂₄ value*:	> 1.00 kg/(m ² h ^{1/2})	
s _d value (H ₂ O)*:	< 0.01 m	
Flammability class:	A2 nonflammable	EN 13501-1, DIN 4102
VOC content (max.):	0 g / L	ChemVOCFarbV Cat. A / h

* applicable to presetting with BEECK Fixative

1.2.3. Colour ■

Colourless transparent

2. Use

2.1. Substrate requirements

■ The substrate must be mineral, water-wettable, clean, dry, firm and stable and free from efflorescent and separating substances.

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■ Test new render or plaster for drying and strength. ■ Carefully make good chipped surfaces and misses with the same type of material and the same texture. ■ Use render or plaster to repair cracked substrates. Areas with hairline cracks and minor structural defects: precoat the whole surface with BEECK Quartz Filler. ■ Clean pressure-sensitive surfaces carefully. ■ Prepare and re-treat algae infested façades with BEECK Fungicide according to the factory specifications. ■ Ensure uniform substrates and careful application on high visual quality surfaces and in glancing light. ■ Always try out the coating system on a test area of critical and visually high-quality surfaces on site, especially if using tinted coatings. ■ On low wettability, water-repellent and synthetic-resin modified surfaces such as ETICS or organosilicate coatings: Use BEECK MBA-Fixative instead of BEECK Fixative; contains wetting-facilitating additives.



Fixative

2.2. Brief information on the standard system ■ See 2.4. Application instructions for the corresponding areas of use of BEECK Fixative.

2.3. Substrate and preparatory treatment

■ **Lime plaster and render (Pl/CSII), lime-cement plaster and render (PII), cement plaster and render (PIII), porous and absorbent, with no or only low water repellency:**

Test render or plaster for drying and strength. Use BEECK Etching Fluid to remove sinter skin on solid plaster or render, or grind off. Do not etch thin coat plasters or renders and composite systems. Prime absorbent plaster or render with BEECK Fixative, thinned with 2 parts water. To prepare plasters and renders whose surface is sanding, but which are still firm: repeatedly flow coat with 1 part BEECK Fixative and 5 parts water until saturated. In case of hairline cracks and structural defects, use BEECK Quartz Filler according to the factory specifications. Allow air-lime plasters and renders to carbonate sufficiently before coating and always try out on a test area on site due to the required minimum strength.

■ **Concrete, fair-faced concrete:**

Use a high-pressure cleaner and formwork release oil remover to clean concrete pore-deep and to remove any residual release agent, then rinse with plenty of clean water. Clean thoroughly in interior areas too; try out first by wetting a test area with sprayed on water! Preset with BEECK Fixative, thinned with 2 parts water. Alternatively, for glazing technique on fair-faced concrete: BEECK MBA-Fixative.

■ **Brick, calcium silicate masonry, natural stone:**

Clean substrate properly. Check for efflorescence (e.g. salt edges, iron salts), moisture damage and absorbency. Make good defective joints and bricks. Preset with BEECK Fixative, thinned with 2 parts water. Do not use on glaze, clinker, ceramic and non-porous natural stone, e.g. granite.

■ **Existing silicate and lime-based coatings:**

Check firmness, clean surface thoroughly with high-pressure cleaner and / or brush down. Preset with BEECK Fixative, thinned with 2 parts water. Strip or blast clean surface to remove film-forming existing coatings.

■ **Unsuitable substrates** are horizontal, weathered, less stable, efflorescent and non alkali-resistant substrates such as wood-based materials (MDF, OSB), clay or loam, gypsum and plastics as well as existing, non-firm, film-forming and plastoelastic coatings or glazed, non-porous substrate.

■ **Defective substrates** require a differentiated approach. Apply renovation plaster or render on damp, salt contaminated surfaces and base areas, then apply a priming coat of BEECK Quartz Filler to the whole surface.

2.4. Application instructions

2.4.1. General information

Check substrate suitability as required (see 2.1 and 2.3). Pay particular attention to the absorbency, strength and texture of the respective substrate. Try out on a test area before using on high quality and critical surfaces. Ensure that the product is used by qualified persons only.

■ Carefully cover surfaces which are not to be treated – especially glass, ceramics, window sills, expansion joints, lacquer and anodic coatings – and protect them from splashes. ■ Especially if using tinted coatings: Always use containers of product from the same production batch to paint self-contained areas.

■ Ensure sufficient qualified workers and a smooth, uninterrupted coating process.

■ Do not use in wet conditions, if there is a risk of frost, on hot surfaces or in the blazing sun.

■ Minimum application temperature: +8°C ■ Drying time: at least 12 hours per coat ■ Protect fresh coats from rain and the blazing sun. Hang up scaffolding sheeting in front of the surface worked on.

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■ **Primer for absorbent, water-wettable, mineral substrates:**

- Thin 1 part BEECK Fixative with 2 parts water.
- Apply thickly with BEECK Mineral Paint Brush until saturated.
- Carefully spread out surplus coating in less absorbent areas.

■ **Stabilisation of crumbling, but nonetheless essentially firm, mineral building materials:**

- Thin 1 part BEECK Fixative with 5 parts water.
- Flow coat substrate wet-on-wet several times until saturated.
- Carefully spread out surplus in less absorbent areas and on saturated substrates.

Fixative

2.4.2. Application

■ *Binder for BEECK Pure Crystalline Finish:*

Preparation:

- Add 25 kg (8 kg, 4 kg) BEECK Powdered Pigment to 30 kg (10 kg, 5 kg) BEECK Fixative, stir thoroughly. - Soak for at least 2 hours, ideally over night.
- Stir occasionally.
- Close container airtight during breaks.

Application with BEECK Mineral Paint Brush:

- Avoid applying to areas that have started to dry. Cut-in edges smoothly and seamlessly, wet-on-wet, together with the main area. On self-contained areas: Apply quickly in one continuous pass, seamlessly, with no overlapping and uniformly.

Coats

1 *Primer coat:* Depending on the weather and substrate, thin with additional BEECK Fixative until coatable, approx. 3 kg for a batch of 25 kg / 30 kg.

2. *Topcoat:* After at least 12 hours, if necessary, thin with a small amount of BEECK Fixative for optimally smooth coat-ability.

Please refer to the BEECK Pure Crystalline Finish technical data sheet.

■ *For glazed application with BEECK Pure Crystalline Finish:*

Check glaze thickness, technique and substrate suitability on test area on site. Use BEECK MBA-Fixative instead of BEECK Fixative on substrates with low wettability and on BEECK Quartz Filler. **Preparation:**

- Thin 1 kg BEECK Fixative with 1 kg water, add approx. 200 g – 500 g BEECK Powdered Pigment, depending on the required colour strength.
- Stir thoroughly and soak for at least 2 hours, ideally over night.
- Stir occasionally.
- Close container airtight during breaks.

Use:

- Apply watercolour-like in 2 – 3 glaze coats using the BEECK Mineral Paint Brush or BEECK Oval Brush. - Apply thin coats, smoothly and seamlessly and without overlapping.
- Drying time: at least 8 hours per glaze coat

Long-term preservation with BEECK Silicone Plus recommended for:

- Representative façades and buildings without a roof overhang as well as on noise barriers with high exposure to dirt and rain. Due to silicification, wait at least 10 days before applying BEECK Silicone Plus on the silicate glaze.

■ *Thinner for one-pack BEECK Silicate Paints, e.g. Beeekosil or BEECK Quartz Paint:*

- Admixture quantities depend on the substrate, weather and work method. -
- Please refer to the relevant technical data sheet.

2.5. Auxiliary products ■ BEECK MBA-Fixative, special fixative for low wettability, water-repellent substrates and silicate glazing technique, e.g. on BEECK Quartz Filler, external thermal insulation composite systems (ETICS) and fair-faced concrete.

3. Application Rate and Container Sizes

The application rate, i.e. the quantity required to preset smooth, normally absorbent substrates is approx. 0.04 kg BEECK Fixative per m². Try out on a test area on site to determine substrate-related application rate differences. *Container sizes:* 1 kg / 5 kg / 10 kg / 30 kg

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4. Cleaning

Thoroughly clean equipment, tools and soiled clothing with water immediately after use.

5. Storage

Stored cool and frost-free, BEECK Fixative can be kept for at least 18 months. Soaked with BEECK Powdered Pigment, close container airtight and use within 20 days.



Fixative

6. Safety Instructions

■ Comply with the EC Safety Data Sheet. The product is alkaline. Avoid contact with skin and eyes. Wear safety glasses or goggles/face protection. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Carefully cover the area surrounding the surfaces to be coated, wash off splashes immediately with water. Keep out of the reach of children. Do not breathe vapour, spray and dust. Dispose of in accordance with the legal regulations. ■ Waste code (EWC code): 080112

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BEECK MINERAL PAINTS

ABRIEFUSERSGUIDETO THESYSTEM&ITSAPPLICATION

What are Mineral Paints

BEECK Mineral Paints have been around for more than 100 years, they are technically superb coatings in terms of durability, your health, the environment, and building protection, they are not 'Paints' in the modern context and as a true mineral paint are only suited to a render that has not yet been painted. They are mineral based coatings formulated with a binder of potassium silicate (waterglass), with inorganic, alkaline-resistant pigments. They are fully inorganic (containing no organic solvents), nonoffgassing, also being alkaline they inhibit microbiotic growth. Mineral paints offer superior quality to conventional masonry paint as they petrify; binding to any silicates within the substrate, forming a micro-crystalline structure which provides a truly breathable finish. In essence they are more a stain, that is chemically bonded to the substrate forming strong silica bonds in a process known as silicification, unlike conventional masonry paints which form a film on the surface of the wall.



Whilst application for the BEECK system is by standard methods, these materials are more demanding than conventional masonry paints, it is therefore important that the person/s carrying out the work are familiar with the principles along with some ground rules to ensure long lasting results. The complete system is based on a four-coat application using the following products.

1st COAT: BEECK ETCHING FLUID

This is an acid concentration for removing the sinterskin (the fine film/coating from the binder paste on new renders following their rubbing up; lime or cement) from new mineral based renders. The application of the Etching Fluid is very important as it does just that, it etches the surface exposing the silicates available from the aggregates used in the render, providing a more active surface for the binder (potassium silicate) to react with the Beeckosil Finish.

Processing & Application

The Etching Fluid needs to be thinned with 3 to 5 parts water, depending on the surface to be treated, applied either by brush or a spray application, once applied it should be worked into the surface using a hard brush to ensure penetration. Following application the surface will effervesce (fizz) with the acid reacting with any calcareous material in the render, the maximum exposure time should be no more than 20 minutes, it should then be rinsed off thoroughly using a hose to rinse down the surface.

Following the washing process the run off is completely inert and does not require any special considerations regarding disposal, as the Etching Fluid is inert and biodegradable. However, the Etching Fluid itself is an acidic solution of fluorosilicates in water, and Personal Protective Equipment (PPE) should always be used, and prior to use we would advise the user to refer to the manufacturers safety data sheet.

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2nd COAT: BEECK FIXATIVE

Fixative may be used as binder, thinner and primer, produced from the pure potash waterglass, it can sometimes be appropriate for solidifying crumbly, sanding mineral building materials, however, we would advise that you seek further advice prior to this use. In its function here as the 2nd coat it is a primer, used to equalize the surface to ensure a more even and uniform application of the Beeckosil Finish.

Processing & Application:

Fixative should be thinned with 2 parts water and should be applied liberally to saturation ensuring as even coverage as possible leveling out any excess primer.

3rd & 4th COAT: BEECKOSIL

Beeckosil is the decorative topcoat, a sophisticated formula yielding a Silicification-active, waterrepellent, pure waterglass based, one-component mineral paint.

Upon opening carefully stir the contents ensuring the liquid (waterglass) on the surface is thoroughly mixed back in. The manufacturer advises thin the base coat with 10 to 20% BEECK FIXATIVE, we believe 15%, as any more renders the paint too thin making application very messy. For the topcoat thin to a maximum of 5% with Fixative.

Apply crosswise sparingly, evenly and lap-free with a soft mineral paintbrush, a lambskin roller; spray gun application is possible but please consult us for further advice on this method of application. The most important advice we offer would be to treat adjacent surfaces at the same time, so that you maintain a wet edge and **avoid dry seams**. Where this is unavoidable find a suitable point or feature on the facade and finish to the best line, when the work proceeds this edge should be "cut in", it is important to avoid any lapping with the existing paint at the dry edge as this may result in a clearly visible difference in the finish. Remember these coatings act more as a stain and are readily absorbed into the substrate and such lapping of wet to dry could lead to a visibly different concentration of pigmentation.

Please bear this in mind when dealing with any subsequent repairs to surfaces painted with BEECKOSIL.

If this is a new approach to you, we would advise you try it out on a sample patch to determine the process. Where these rules are broken Mineral Paints will manifest themselves in an obvious manner that cannot be painted out with subsequent coats.

NOTE: THE ABOVE IS OFFERED FOR BASIC GUIDANCE ONLY.

FOR FURTHER DETAILED TECHNICAL INFORMATION PLEASE REFER TO THE MANUFACTURERS DATA SHEETS.

ALTERNATIVELY PLEASE FEEL FREE TO CONTACT THE CORNISH LIME COMPANY ON 01208 79779





MANUFACTURERS WEBSITE www.beeck.de

BEECK MINERAL PAINTS

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Product Data Sheet: Roman Stucco

9/09/2014

General Information

Lime green Roman Stucco is based upon Roman cement, a traditional binder invented around 200 years ago. Using this, we have created Lime Green Roman Stucco, a contemporary product that sets rapidly, with a fine texture and an innate strength which ensures it can be cut, carved and shaped with remarkable detail. It is suitable for matching historic "Roman cements" including the repair and replacement of decorative mouldings, cast elements and plain render.



Available in 25 kg bags.

Packaging

Coverage

Approximately 1.7kg per mm of thickness over 1m². One 25kg bag will cover approx. 1.45m² at 10mm thick. This does not include any allowance for wastage..

Composition

Sand/aggregate mixed with Prompt natural Roman cement, lime and retarder.

Textures available:

Coarse - for undercoats and building out at between 0-3mm; and

Fine - for finish coats and smooth.

How to Mix

Mix in drum mixers or by mixing whisk. Carefully add clean water 4.5 to 5 litres per 25kg bag. Mix for approximately 5min. Roman Stucco will rapidly set, typically within 30 – 50 mins, depending on temperature. Do not use in temperatures less than 5 °C or over 30°C.

Surface Preparation

On a clean and dry background, not water proofed. Repoint masonry as required with the correct lime mortar.

How to Apply

Adequately dampen dry or high suction surfaces beforehand, apply Lime Green Stucco Primer as a slurry to improve adhesion, while still wet, apply the Roman Stucco. Apply each coat while the previous is still damp, working "fresh on fresh" i.e. wait for the loss of workability, not the set.

Product Characteristics

Roman cements were used extensively on Georgian and Edwardian buildings for renders and cornice work. The rapid and controllable set combined with low shrinkage risk and excellent bond strength made it ideal for use in these complex structures.

Ideal for use in the conservation of old building, it is a completely natural lime based product.

- Completely natural Binder, nothing added or removed in manufacturing
- Fast setting typically 40min at 15°C

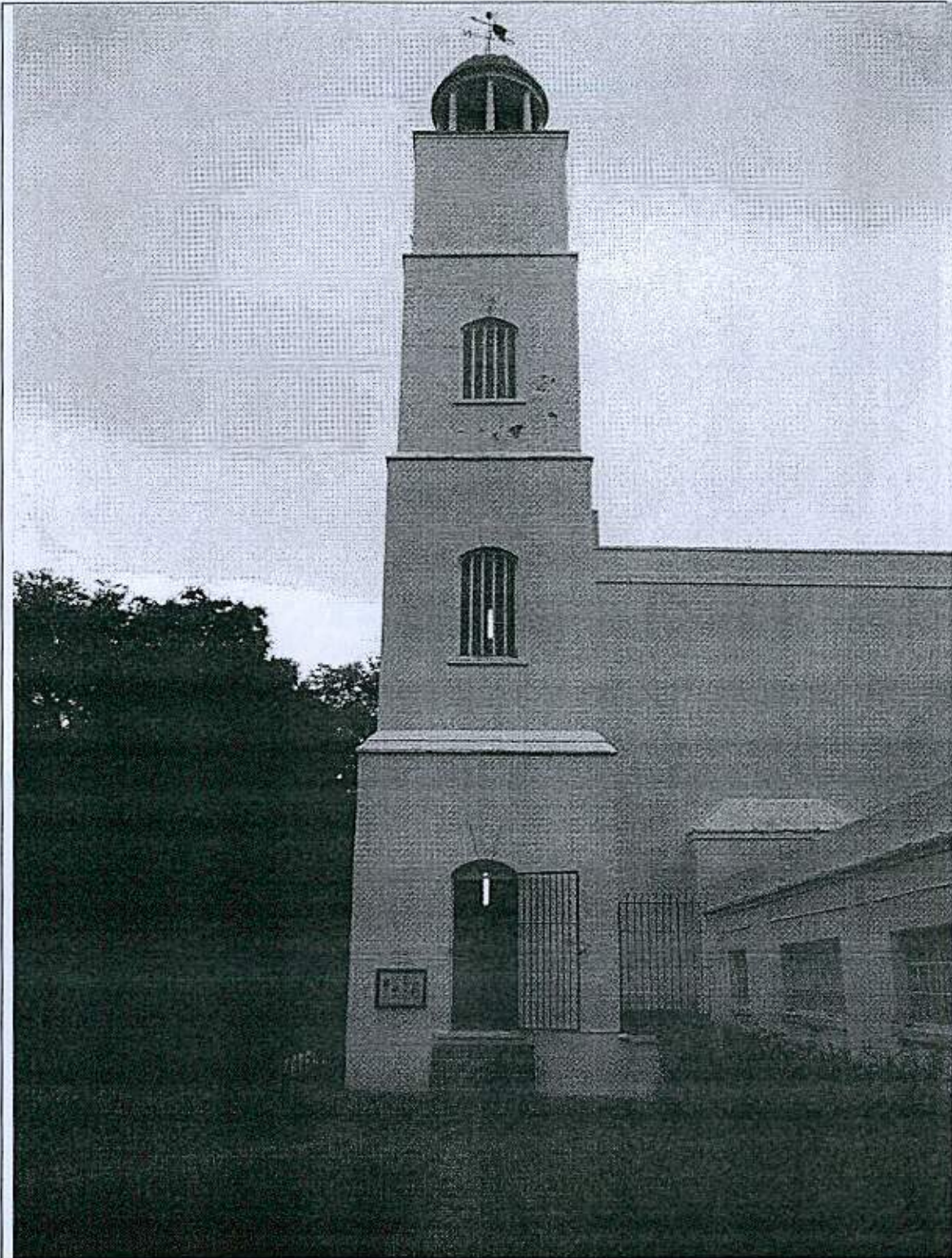
lime|green

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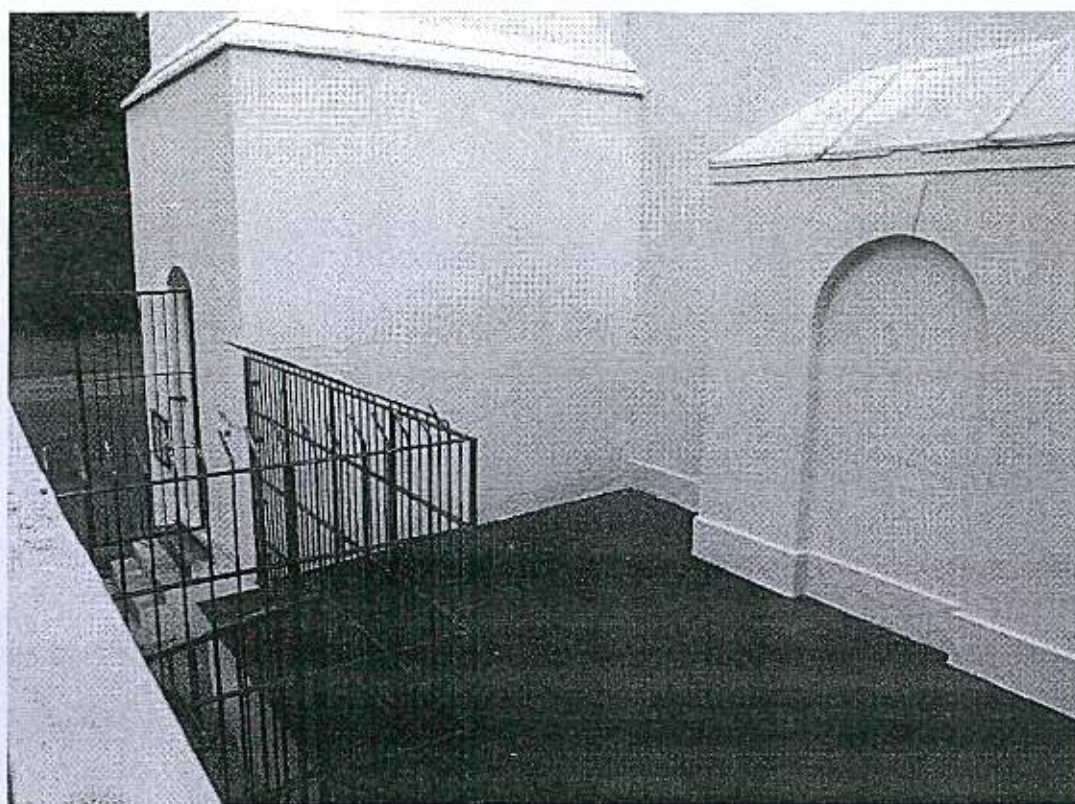
Product Data Sheet: Roman Stucco

- Low shrinkage
- Excellent bond strength cont.....
- Resistant to acids and alkalis
- Compatible with all lime products
- Render mouldings – In-situ or run work

Health and Safety	
Risk Phrases	Safety Phrases
R36/37/38 Irritating to eyes, respiratory system and skin	S22 Do not breathe dust
R66 Repeated exposure may cause skin dryness or cracking	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
R43 May cause sensitization by skin contact	S24/25 Avoid contact with skin and eyes
	S36 Wear suitable protective clothing



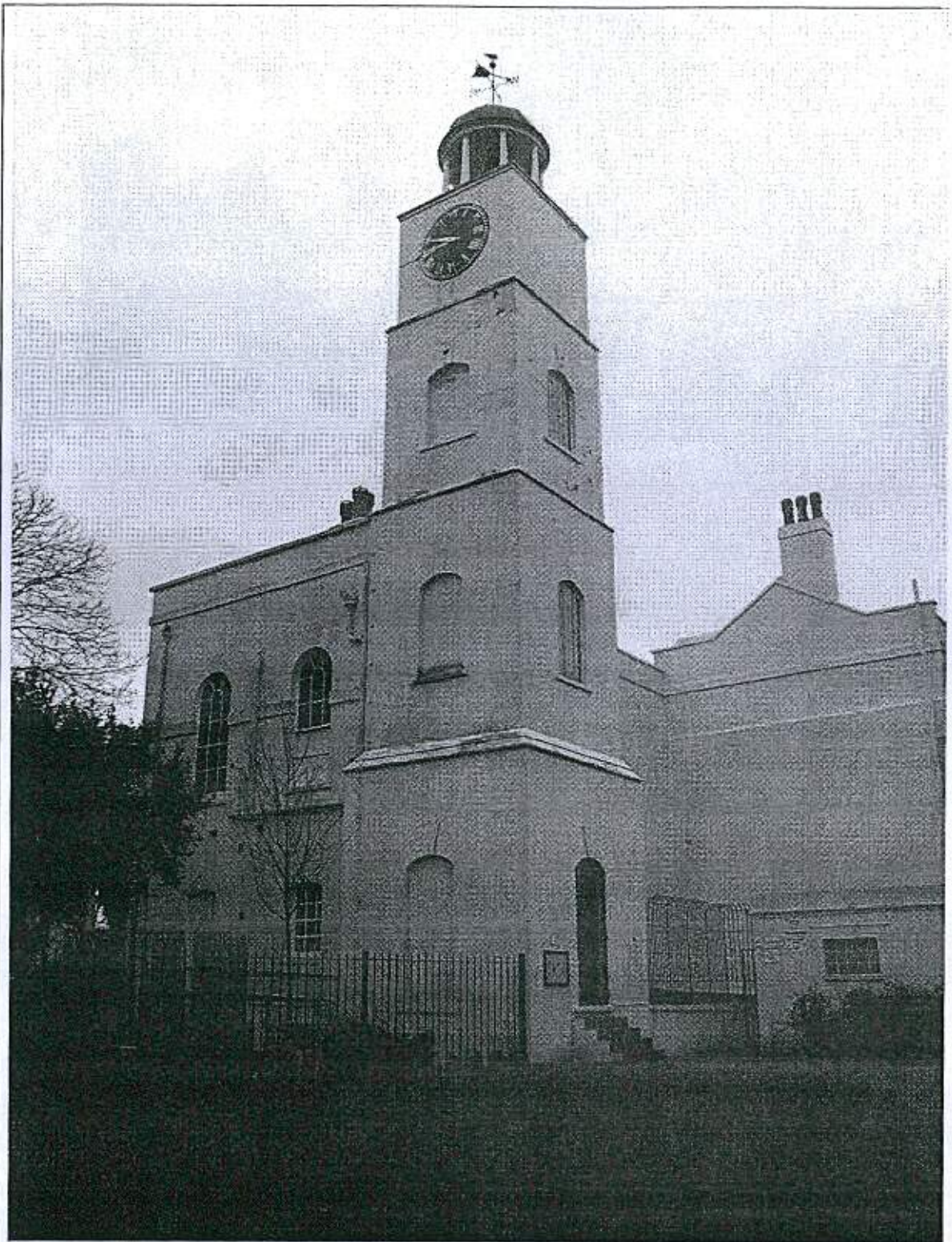
1) view from West elevation. WC block to right hand side



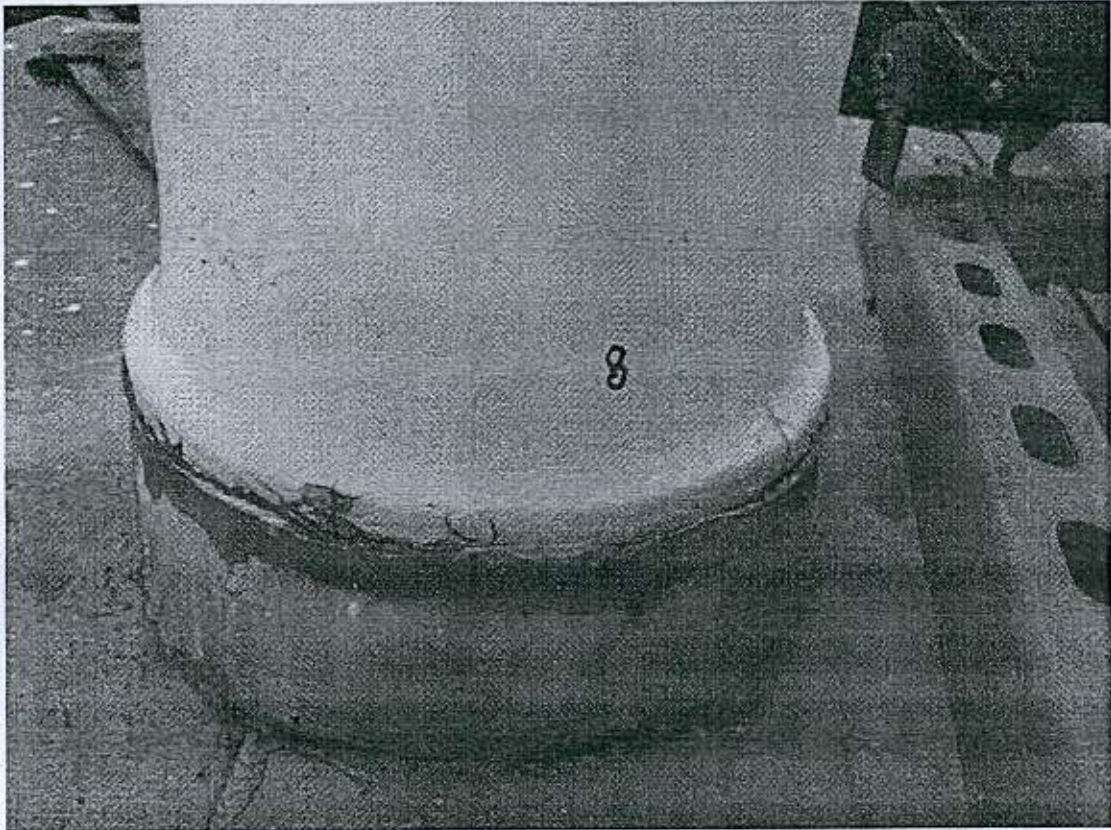
2) South side of tower showing "flat" roof to basement apartment



3) view from East



4) view showing North and West elevations



5) typical roof column



6) outer lead collar removed exposing rebate and welded upstand