

Atelier Mb Ltd

St Margarets

1907 Envelope Repairs

23-02-2023

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C40

Cleaning masonry/ concrete Refer to Repair Specification

General/ preparation

001 Methodology

1. Carry out full survey of brickwork and stonework area under consideration. Survey to be carried out by suitably skilled masonry expert. This survey should determine the characteristics of the existing stone. – and in the case of sandstone particularly, how vulnerable it is to acid attack or damage from abrasives.
2. Determine location, type, and severity of surface deposits.
3. Soiling sampling is to be undertaken to determine material if deemed necessary.
4. Determine whether such deposits risk causing physical damage/deterioration to the historical fabric if left undisturbed. Examples of such soiling include vegetation growth, general dirt deposits, animal waste.
5. Determine whether such deposits are preventing full determination of the stone condition. Examples of such soiling include vegetation growth, general dirt deposits, animal waste.
6. Where risk of further damage is considered high, and or is required to inspect the stone fabric fully - carry out cleaning methods as outlined below. Presumption towards non-invasive cleaning.
7. Staining will not be cleaned for aesthetic reasons.
8. For sandstone - site trials will be carried out utilising a low pressure heated steam system (DOFF by Stonehealth or similar approved). The intensity will only be increased if deemed necessary, and until the lowest impact solution is determined that removes the stain/crust.
9. IF this process does not sufficiently remove the soiling, consider appropriate chemical cleaning trials – such as Proteger ProShield Noir Wash.
10. Contractor must sufficiently protect internal fabric from water ingress prior to carrying out cleaning techniques. Issue proposed methodology for sign off prior to proceeding.

110 Scope of work

1. Removal of biological growths and water staining to elevations including sandstone cornices and window heads.
2. To be read in conjunction with DOFF methodology document.

120 Related repair and remedial works

1. Work to be carried out before cleaning work: Pointing to cracks and joints in masonry - as section C41 TBC

142 Removal of fittings

1. Timing: Before commencement of cleaning work.
2. Disturbance to surfaces: Minimize.
3. Items for disposal: To be agreed
4. Items to be kept for reuse: To be agreed

160 Protection

1. Additional Notes:: Provide and maintain throughout the cleaning works, effective protection and sealing to prevent:
 - Ingress of water, cleaning agents, debris and dust into the building via windows, doors, vents and other openings.
 - Damage to all components and finishes that can reasonably be protected during cleaning procedures, including lightning conductors, roof coverings, flashings, rainwater goods, glass, metal

work, services equipment, signage and pavings.

- Staining of surfaces from ferrous or other reactive metals.
- 2. **Surfaces not designated for cleaning:** Prevent damage, including marking and staining.
- 3. **Openings:** Prevent ingress of water, cleaning agents and detritus.
 - 3.1. **Vents and grilles:** Protect but do not seal up ventilation grilles, air bricks, or other ventilation openings without first seeking instructions.
- 4. **Temporary mechanical fastenings**
 - 4.1. **In masonry:** Locate in joints.
 - 4.2. **In other surfaces:** Seek instructions.
- 5. **Additional protection:**

165 PROTECTIVE MEMBRANES/BOARDS

- 1. · Use approved protective boards, sheetings, films, sealants and sealing tapes that do not stain protected materials and that can be readily removed after cleaning without damaging or staining the protected material.
- Do not use temporary fastenings into components, masonry features and fittings without approval. When fixing into masonry, locate fastenings in joints

175 Control and disposal of wash water and detritus

- 1. **Disposal:** Safely. Obtain approvals from relevant Authority.
- 2. **Control of wash water:** Collect and divert to prevent ingress and damage to building fabric and adjacent areas.
- 3. · Discharge wash water to an approved foul drainage system. Check outlets, gullies, etc. regularly to ensure that they are not blocked
- 4. **Above and below ground drainage systems:** Keep free from detritus and maintain normal operation.
 - 4.1. · Ensure that drains are clear on completion of cleaning work.

180 Cold weather

- 1. **Cleaning procedures using water:** Do not use when air temperature is at or below 5°C. Protect damp surfaces from frost.
- 2. **Chemical cleaning agents:** Do not use when surface temperatures are below those recommended by manufacturer.

190 Cleaning generally

- 1. **Operatives:** Appropriately trained and experienced for each type of cleaning work.
 - 1.1. **Evidence of training:** Submit on request.
- 2. **Control of cleaning:** Confine cleaning processes and materials to designated areas. Prevent wind drift.
- 3. **Detritus:** Remove regularly. Dispose of safely.
- 4. **Monitoring:** Frequently check results of cleaning compared to approved trial samples. If results established by trials are not achieved, seek instructions.
- 5. **Modifications to cleaning methods and materials:** Seek instructions.

210 HEALTH AND SAFETY

- 1. Take all necessary precautions to protect site operatives and the general public from health hazards associated with the materials and procedures for the cleaning method(s) used.

215 Record of cleaning works

1. **Written report:** Record cleaning methods and procedures used for each type of surface and deposit.
 - 1.1. **Content:** Relevant attributes of cleaning methods used including:
 - 1.1.1. Equipment and settings.
 - 1.1.2. Dwell times.
 - 1.1.3. Number of applications.
 - 1.1.4. Ambient temperatures.
2. **Additional documentation:** Survey before cleaning: Photogrammetric drawings of each elevation
3. **Submission:** At completion of cleaning works.

220 CONDITION OF SURFACES

1. Before commencing cleaning of each area, ensure that surfaces are in a suitable condition to be cleaned and that:
 - Walling and associated features/components are stable and that preparatory repair works are complete.
 - Fixtures and fittings have been removed.

230 Trial samples

1. **Trial sample reference:** TS 001
 - 1.1. **Surface:** Sandstone
 - 1.2. **Location/ Size:** TBA on site
 - 1.3. **Type of soiling:** Biological growths
 - 1.4. **Cleaning methods:** Super heated water (DOFF)
2. **Records:** Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.
3.
 - Provide the CA with a copy of trial sample records
 - Make arrangements to enable the CA and all other interested parties including Conservation Officers and other Heritage where listed. The CA should ascertain and take note of the agreed level of clean that all the interested parties have approved.
 - Obtain approval before commencing cleaning.

230 Trial samples Type A

1. **Trial sample reference:** TS 002
 - 1.1. **Surface:** Sandstone
 - 1.2. **Location/ Size:** TBA on site
 - 1.3. **Type of soiling:** Biological growths
 - 1.4. **Cleaning methods:** Proteger ProShield Noir Wash.
2. **Records:** Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.
3.
 - Provide the CA with a copy of trial sample records
 - Make arrangements to enable the CA and all other interested parties including Conservation Officers and other Heritage where listed. The CA should ascertain and take note of the agreed level of clean that all the interested parties have approved.
 - Obtain approval before commencing cleaning.

250 CLEANING GENERALLY

1.
 - Use operatives who are skilled Stonehealth Approved, having been trained and experienced with the equipment, materials and procedures for the type(s) of cleaning and surfaces

specified. Provide evidence of their training and experience to the CA on request.

- Confine cleaning to designated area(s)/surfaces. Do not allow cleaning agents or residues to stray onto adjacent or protected surfaces.
- Clean, collect and safely dispose of debris from scaffolding, ledges, etc. at the end of each day. Prevent debris falling to lower levels.
- Prevent marking of cleaned areas from dirt and debris splashing up from scaffold boards.

260 MONITORING

1. · Regularly monitor effects of each cleaning procedure against the degree of cleaning established by approval trial sample(s). Seek instructions immediately, wherever:
 - o Disruption to the surface occurs
 - o Anticipated level of surface cleaning is not being achieved
 - o Discolouration or stains are revealed by cleaning.
- Do not modify cleaning procedures or materials without approval from the CA

270 RECORDING CLEANING METHODS

1. · Maintain records of cleaning methods used for each area/surface. Include details of equipment type, cleaning agents, ambient temperature conditions and other variables as specified in the relevant method(s) of cleaning clauses(s)
 - On completion of cleaning, provide copies of records to the CA

280 CONTROL OF WATER

1. · Provide suitable temporary catchment boards/sheeting, gutters etc. to collect wash water and divert it to suitable discharge points. Location of catchment are(s) TBA
 - Do not let wash water build up at outlets or above levels of flashings or anywhere where there is risk of it penetrating and causing damage to the building fabric.
 - Ensure that water does not penetrate interiors and damage finishes, etc. Monitor interior of building and seek instructions when any signs of damp appear internally.

Products/ equipment

300 Compatibility of chemical products

1. **Products:** Compatible and produced by the same manufacturer.

310 BRUSHING AND SCRAPING

1. Before commencing any other methods of cleaning, remove loosely adhered deposits and heavy deposits of biological matter using suitable corrosion resistant brushes and scrapers/spatulas that do not abrade or gouge the surface. Do not use brushes with steel bristles.

312 Surface biocides

1. **Types:** Registered by the Health and Safety Executive (HSE) and listed on the HSE website under non-agricultural pesticides.
2. **Compatibility with surface:** Free from staining or other harmful effects.

321 TOOLING

1. To remove thick encrustations of dirt carbon and limescale etc. Is not permitted unless agreed in advance with CA and:
 - The work is carried out by skilled and experienced stone masons.
 - The original surface/detail is not removed unless agreed otherwise with the CA.

322 Abrasive cleaning equipment

1. **Manufacturer/ Supplier:** Not permitted.

352 Steam cleaning equipment Type A

1. Manufacturer: [Stonehealth Ltd](#)
 - 1.1. Contact details
 - 1.1.1. Address: G4/5 Draycott Business Park
Cam
Dursley
Gloucestershire
GL11 5DQ
 - 1.1.2. Telephone: [+44 \(0\)1453 540600](tel:+44(0)1453540600)
 - 1.1.3. Web: www.stonehealth.com
 - 1.1.4. Email: info@stonehealth.com
 - 1.2. Product reference: [DOFF Steam Cleaning System](#)
2. Power supply:

362 Chemical agents

1. Description: Specialist commercial grade cleaner for the removal of carbon, soot and black mould from building **façades** and elevations.
2. Manufacturer: <https://www.proshieldsolutions.com/>
 - 2.1. Product reference: Proteger ProShield Noir Wash.

380 DOFF STEAM CLEANING

1.
 - Equipment type – Stonehealth DOFF
 - Apply steam at the lowest pressure and allow when removing paint the appropriate temperature that will remove/soften/loosen deposits without abrading or disrupting the surface(s). If a paint softener is required: see also 415. If removing biological growth it may be possible to be removed at a lower temperature but to ensure that the re-growth does not occur, the full temperature of 150°C should be applied over the whole surface in order to kill off the spores. In such instances there is no need to use a chemical biocide.
 - For each area/surface, establish the optimum settings (temperature, volume and pressure), nozzle type and distance of nozzle from substrate. Keep a written record of these variables but allow an operator to vary
 - Assist removal of softened deposits with suitable corrosion resistant brushes and scrapers/spatulas that do not abrade or gouge the surface.

Application

412 Removal of loosely adhered deposits

1. Timing: Before commencement of other cleaning methods.
2. Surfaces: Prevent damage, including abrasion.

422 Biocide application

1. Preparation: Dampen dry growths
2. Surfaces: Prevent damage, including abrasion.
3. Biocide treatment: Appropriate solutions to kill growths and inhibit further growths.
 - 3.1. Dead growths: Remove.

462 Water spray cleaning (mounted nozzles)

1. Surfaces: Minimize water run-off. Prevent damage.
2. Adjustment of washing cycle and nozzle positions: Regularly to achieve optimum cleaning performance.

472 Pressurized water cleaning

1. Surfaces: Prevent damage, including abrasion.
2. Equipment settings (including nozzle type and distance from surface): Adjust regularly to achieve optimum cleaning performance for each surface.

482 Steam cleaning

1. Surfaces: Prevent damage, including abrasion.
2. Equipment settings (including nozzle type and distance from surface): Adjust regularly to achieve optimum cleaning performance for each surface.

495 Testing pH values for chemical cleaning

1. pH indicator: To distinguish pH values between 1-14.
2. Testing before cleaning
 - 2.1. Clean rinsing water, wetted surfaces and joints: Test for pH. Record as 'control' values.
3. Testing after water rinsing and neutralization
 - 3.1. Wetted surfaces and joints: Record pH values.
 - 3.2. Acceptance criteria: Seek instructions

500 Chemical cleaning

1. Surfaces: Prevent damage, including discolouration, bleaching and efflorescence.
2. Product variables (including concentrations, dwell times and number of applications): Adjust for each surface to achieve optimum cleaning performance.

For each area/surface, establish the lowest possible concentration of agent(s) and the shortest dwell times, number of applications, ambient temperatures and rinsing water temperatures.
3. Application: To wetted surfaces.

Contain chemical agents and rinsing water/sprays within each treatment area. Do not allow agents or rinsing water/sprays to contact surfaces that are either excluded from cleaning or that have already been cleaned. Prevent wind drift.

Before each application of agent, wet the surface and adjacent areas using clean water applied by low pressure spray. Test for pH of wetted surface as clause 495.

 - 3.1. Drying out: Prevent unless recommended otherwise by cleaning product manufacturer.
4. Removal of chemicals and neutralization: As recommended by product manufacturer, including rinsing with clean water.

Rinse treated surfaces thoroughly and evenly with clean water working from the bottom of each area upwards. Do not use water spray pressures that will drive cleaning agents into, or cause disruption of, the surface material and joints.

Carry out pH testing and neutralisation procedures as clauses 495.

 - 4.1. Additional treatment: Where water rinsing is insufficient to neutralize surface, apply compatible neutralizing agent.
 - 4.2. Surfaces and joints: Minimize absorption of chemicals. Prevent damage, including abrasion.

520 COMPLETION

1.
 - Obtain CA's approval of cleaning to each area/surface and before removal of temporary protection.
 - After removal of temporary protection, thoroughly clean all glazing, window frames, doors, sills and other affected surfaces.
 - Check that all gutters, hoppers, downpipes and gullies are free from obstruction and debris arising from cleaning works.
 - Give the CA 1 weeks notice before striking each stage of scaffolding, to allow for final inspections.
 - Refix the following fittings: TBC

Complete all necessary documentation, review and record final results with supportive drawings and photographs

2. Check that all gutters, hoppers, downpipes and gullies are free from obstruction and debris arising from cleaning works.

Give the CA 5 working days notice before striking each stage of scaffolding, to allow for final inspections.

Complete all necessary documentation, review and record final results with supportive drawings and photographs.

- 3.

Ω End of Section

C41

Repairing/ renovating/ conserving masonry

Generally/ preparation

001 Methodology

1. Retain as much of the original sound stone as possible.
2. Replacement or repair will not be carried out for aesthetic reasons.
3. Where replacement must be considered, this should match the existing stone in all respects and be determined following review of suitable samples on site only.
4. During cleaning and survey work as detailed in NBS CI C40, determine areas of friable/eroded stones and extent of damage.
5. Determine whether extent of damage will prevent the new lead weathering being installed in accordance with the Lead Sheet Academy guidelines.
6. Where this is found to be the case, determine whether the damaged or missing stone can be replaced using a matching stone indent or a specialist moulding repair putty. This may not be possible due to the extent, position, or likely strength of repair when the lead fixing proposals are taken into account.
7. Where replacement stonework is required, the minimal amount of fabric must be removed, and be replaced with matching stone as above. Ensure a sound structural fixing back to the main substrate is carried out in accordance with the original techniques. Where these are not suitable, any deviations must be reviewed by the CA prior to proceeding.
8. Any removal or disturbance of existing stone should be minimised and adjacent fabric protected from damage and or movement as a result. If there are any concerns with regards to the stability of the structure before or during the works, these must be reported to the CA and the works halted until an inspection and appropriate course of action can be take.
9. All bedding, repointing, and face finishing to be carried out on a like for like basis in the context of the surrounding fabric. Any deviations must be reviewed by the CA prior to proceeding.

110 Scope of work

1. **Schedule:** Localised delaminating and missing sandstone. Repair using indent of matching stone. Where repairs cannot be carried out due to the extent of damage, replacement of damaged sandstone with matching material. Repoint repaired sandstone. To be read in conjunction with drawing package and methodology
2. **Records of masonry to be repaired:** Before starting work, use measurements and photographs as appropriate to record bonding patterns, joint widths, special features, etc.
3. **Identification of masonry units to be removed, replaced or repaired:** Mark clearly, but not indelibly, on face of masonry units or parts of units to be cut out and replaced. Transcribe markings to drawings/ photographs.

120.1 REVIEWING SCOPE OF WORK

1. Provide access lighting to all areas where stone repair is to be made to enable the conservation architect and Conservation officer to make a close inspection with the stonemason.
To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of work.
2. Timing: Once scaffolding erected. At least 7 working days before starting each section of work
3. Inspect each relevant area of masonry with the CA to confirm the type and extent of the work.
Mark clearly on face any masonry units or parts of units that are to be cut out and replaced.
4. Identify each masonry unit that is to be removed, replaced or repaired with a code number cross-referenced to drawings/photographs.

5. Adequately record the characteristics of existing masonry in areas affected by repair works. Use measurements and photographs as appropriate to record bonding patterns, joint widths, special features, etc.
6. Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work

125 Removal of fittings/ fixtures

1. Items to be removed, and reinstated on completion of repair work: **TBA on site.**
 - 1.1. **Identification:** Attach labels or otherwise mark items using durable, non-permanent means, to identify location and describe refixing instructions, where applicable.
 - 1.2. **Treatment following removal:** TBC
 - 1.3. **Storage:** Protect against damage, and store until required.
 - 1.3.1. **Storage location:** On site - Submit proposals
 - 1.4. **Reinstatement:** Refit in original locations using original installation methods. Use existing fixing positions.
2. Items unsuitable or not required for reuse: TBC
 - 2.1. **Disposal:** Submit proposals
3. **Masonry fabric and surfaces:** Do not damage during removal and replacement of fittings/ fixtures.

130 Removal of plant growths from masonry

1. **Plants, root systems and associated soil/ debris:** Carefully remove from joints, voids and facework.
2. **Removal of roots:** Where growths cannot be removed completely without disturbing masonry seek instructions.
3. **Unwanted plants close to masonry:** Where removal of root system is not possible or desirable, cut through stem as close to the ground as possible. Remove bark from stump and apply herbicide paste. Leave stump to wither.

140 Record of work

1. **General:** Record work carried out to masonry clearly and accurately using written descriptions, sketches, drawings and photographs, as necessary.
2. **Specific records:** Full measured drawings of stones to be replaced. Note bond, joint size, style and texture of pointing and any special or unusual features for replication.
3. **Documentation:** Submit on completion of the work.
 - 3.1. **Number of sets:** One - Electronic, pdf format.

Workmanship generally

150 Power tools

1. **Usage for removal of mortar:** Not permitted

155 Putlog scaffolding

1. **Usage:** Not permitted

160 Protection of masonry units and masonry

1. **Masonry units:** Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.

2. **Masonry:** Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on facework. Protect using suitable nonstaining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

165 Structural stability

1. **General:** Maintain stability of masonry. Report defects, including signs of movement that are exposed or become apparent during the removal of masonry units.

170 Disturbance to retained masonry

1. **Retained masonry in the vicinity of repair works:** Disturb as little as possible.
2. **Existing retained masonry:** Do not cut or adjust to accommodate new or reused units.
3. **Retained loose masonry units and those vulnerable to movement during repair works:** Prop or wedge so as to be firmly and correctly positioned.

180 Workmanship

1. **Skill and experience of site operatives:** Appropriate for types of work on which they are employed.
 - 1.1. **Documentary evidence:** Submit on request.
 - 1.2. **OPERATIVES:** Use operatives who are skilled and experienced with the materials and procedures required for the types of repairs specified. Provide evidence of their training and previous experience to the CA on request.

185 Adverse weather

1. **General:** Do not use frozen materials or lay masonry units on frozen surfaces.
2. **Air temperature:** Do not bed masonry units or repoint:
 - 2.1. In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.
 - 2.2. In nonhydraulic lime:sand mortars in cold weather, unless approval is given.
3. **Temperature of the work:** Maintain above freezing until mortar has fully set.
4. **Rain, snow and dew:** Protect masonry by covering during precipitation, and at all times when work is not proceeding.
5. **Hot conditions and drying winds:** Prevent masonry from drying out rapidly.
6. **New mortar damaged by frost:** Rake out and replace.

190 Control samples

1. **General:** Complete an area of each of the following types of work, and arrange for inspection before proceeding with the remainder: Cleaning - see C40, stone repairs, repointing..

Materials/ production/ accessories

215 Material samples

1. **Representative samples of designated materials:** Arrange for representative samples to be delivered to site for inspection by the architect prior to placing orders.
 - 1.1. **Designated materials:** **Sandstone, mortar.**
 - 1.2. **SAND SAMPLE(S):** : Sands for bedding and pointing.
Sands for grouting.
Sands for mortar repair.
2. **Retention of samples:** Unless instructed otherwise, retain samples on-site for reference. Protect from damage and contamination.

220 Recording profiles

1. **Profiles:** Take measurements from existing masonry units, as instructed, to allow accurate matching of replacements.
2. **Recording in situ:** If there are no suitable joints to allow use of inserts, seek instructions.
3. **Drawings and templates:** Prepare as necessary. Templates must be clearly and indelibly marked to identify use and location.
Fixing details numbered to correspond to the numbers on the stones.
Method statement for installation giving due regard to H&S issues.

221 Setting Out and Drawings

1. Setting out points are to be taken from the existing building prior to carrying out repair work. Survey reference points should be taken and recorded to enable the correct placement of repairs.
2. Advise CA or any discrepancies in the alignment of existing work prior to carrying out repairs.

230 Inspection of drawings, templates, casts, etc.

1. **Timing:** Before starting production of masonry units associated with the following items:
Replacement sandstone.
2. **Period of notice (minimum):** One week

231 GUARANTEE

1. Obtain and submit written guarantee that all new stone is from the quarry and bed as specified/agreed following site samples.

232 INSPECTION OF MASONRY UNITS

1. Before dispatch to site, inspect and check units to ensure they match the material sample and comply with drawings and specification
2. Give min 1 weeks notice to allow architect to attend workshop and inspect before site delivery.

233 Transport and Material Handling

1. The contractor must ensure that the stone is carefully stacked and protected during transit to minimise risk of damage.
2. Store stone on a clean, dry, free-draining surface and prevent contact with soil.
3. Fair-faced stone is to be stored in stacks on battens, protected with non-staining materials. Protect from moisture penetration and freezing with non-staining material. Stack stone to minimise handling as pieces are selected and transferred for building in.
4. Provide adequate lifting plant to unload and handle stones into position. Have due regard for H&S/CDM regulations and submit methodology for approval prior to commencing.

240 Stone

1. **Standard:** To BS EN 771-6
2. **Supplier:** Submit proposals - ideally from the original quarry if still in operation. Stone from only one quarry bed is to be used throughout.
3. **Type:** Red Sandstone - details tbc following inspection by stone mason.
4. **Quality:** Free from vents, cracks, fissures, discolouration, or other defects that may adversely affect strength, durability or appearance. Thoroughly seasoned, dressed and worked in accordance with shop drawings prepared by the supplier.
 - 4.1. **Carving:** Stone for carving work to be selected to have a consistent grain and colour throughout. Supply sufficient quantity of stone for the carver to have ample scope.
5. **Finish:** To match existing. Free from any defects on the faces visible in the completed work that could affect the appearance of the stonework.

6. **Preparation:** Stone is to be seasoned at the time of delivery to suit the purpose for which it is to be used.
7. **Samples:** Submit samples for approval prior to commencing fabrication. The samples are to match the existing stone in colour, texture, shape, size and surface finish as closely as possible. Where a particular stone has not been specified, the stone samples should be closely related geologically to the stone to be matched.

245 Replacement stone units

1. **Sizes and profiles:** To match existing masonry. Maintain existing joint widths.
2. **Cut and Dress::** Finishes surfaces to match those of existing surrounding stones; stone bond and joint lines are maintained; meeting surfaces are compatible and free from hollows or rough surfaces; joints between stones to match existing and within stones repair joints are minimal. No mitred joints at corners. Sufficient stone is to be allowed for, to enable working to existing bed and perpend joints, in particular on quoin stones.
3. **Sinkings for fixings, joggles and lifting devices:** Accurately aligned and positioned in relation to existing masonry.
4. **Marking:** Mark each block/ dressing clearly and indelibly on a concealed face to indicate the natural bed and position in the finished work. Mark each stone before it leaves the quarry. Where it is not possible to determine the bed of the stone after extraction, the bed should be marked before quarrying and subsequently marked on each stone as cut.

250 Stone orientation

1. **Orientation of natural bed**
 - 1.1. **In plain walling:** Horizontal.
 - 1.2. **In projecting stones and copings:** Vertical and perpendicular to wall face.
 - 1.3. **In arches:** Perpendicular to line of thrust.
 - 1.4. **Quoins:** horizontal in quoin stone or end stones which are to be specially selected compact non-laminated stones.

255 Ashlar blocks/ Dressings

1. **Cutting and dressing stone:** To true and regular surfaces, free from hollow or rough areas.
 - 1.1. **Profiles and Finishes:** Generally where new stone is being installed to replace existing stonework, profiles and finishes are to match the existing.
 - 1.1.1. **Faces:** All faces to be free from hollow or rough edges. Any saw marks are to be removed from exposed faces; where necessary, this work is to be done prior to construction to ensure accurate alignment of the finished work.
 - 1.1.1.1. **In-situ:** Final dressing off to be carried out *in situ* to ensure accurate alignment with existing adjacent stones. Do not dress off existing stones to suit new.
 - 1.1.1.2. **Fixings:** Chase out mortices for joggles, dowels and cramps before delivery of stone to site.

281 Fixings

1. **Description:** For replacement stonework
2. **Type:** Submit proposals.
3. **Material:** Non-ferrous 304 grade Austenitic stainless steel to BS 8221-2
4. **Size, strength and number:** As necessary to resist loads likely to occur during the life of the building, and to prevent lateral displacement or pulling apart of the construction.

Dismantling/ rebuilding - Not Used

Replacements and insertions

330 Preparation for replacement masonry

1. **Defective material:** Carefully remove to the extent agreed to sound hard surfaces. Do not disturb, damage or mark adjacent retained masonry.
Cut out decayed stonework to accept new stones of minimum depth of 100 mm. Where necessary, stones are to be of sufficient depth to ensure that the existing pattern of joints is preserved and that carved or moulded stones are adequately bedded. In particular, quoins, jambs, copings and the like are to match existing sizes.
Ensure that no damage occurs to existing adjacent stones that are to be left *in situ*. Techniques that cause excessive vibration should be avoided.
2. **Piecing In:** Where specified, cut out decayed stonework to specified extent to accept new stone of minimum depth 75 mm and otherwise as necessary to suit the location. Joint widths are to be kept extremely fine.
3. **Propping:** Stonework is to be adequately propped during the course of the works.
4. **Existing metal fixings, frame members, etc.:** Report when exposed.
5. **Redundant metal fixings:** Removal or retention TBC on site.
6. **Recesses:** Remove projections and loose material by brushing, or vacuuming.; leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather if units are not to be placed immediately.
7. **REMOVAL OF HARD POINTING OR FILL:** Carefully cut out with chisel to reveal original joint or eroded stone surface. drill fine holes along centreline as required to loosen prior to chiselling again. Carry out localised trial and agree with architect prior to proceeding.

340 Replacement of stone

1. **Description:** Projecting cornice.
2. **Stone:** As cl 240/245
3. **Bedding depths:** Min. 100mm - to match existing
4. **Mortar:** As section Z21.
 - 4.1. **Standard:** BS EN 998-2
 - 4.2. **Mix:** TBC following site sampling - for pricing: 1:2 Quicklime:Sand
 - 4.3. **Sand source/ type:** TBC following site sampling - for pricing: lean, well graded sharp - Nostafeld sand
5. **Fixings:** Replace corroded fixings, as clause 410
6. **Joints:** To match existing
7. **Other requirements:**

350 Stone inserts

1. **Description:** As required to damaged cornice.
2. **Stone:** as cl 240/245
3. **Finish:** Flush and to match existing.
4. **Preparation and insertion:** As clause 395. Remove minimal existing stone to achieve sound hard square profiled surface - nominal 100mm if practical. Do not use power tools. Seek instructions if stone if stone left would be unstable.
5. **Mortar:** As section Z21.
 - 5.1. **Standard:** BS EN 998-2

- 5.2. **Mix:** TBC following site sampling - for pricing: 1:2 Quicklime:Sand. The final mix should be based on site sampling and be slightly softer and more porous than the stone itself. It should match the existing mortar (as identified on site) in terms of colour, texture, and strength.
- 5.3. **Sand source/ type:** TBC following site sampling - for pricing: lean, well graded sharp - Nostafeld sand
6. Fine sand to approval
7. **Fixings:** Replacement cramps, as clause 410
8. **Joints:** Very fine.
9. **Other requirements:** Stop work and notify immediately of any structural movement.
10. **Sound Loose Stones:** Before removal, record position.
Where sound single stones are loose, the stone is to be pinned followed by repacking the joints with mortar. If the joints are too fine for repacking then the joints are to be grouted to ensure that all voids around the stone are filled.
Where removal of loose sound stones is easy and repacking of joints is not practicable, groove exposed faces of concealed surfaces prior to grouting with hydraulic lime as per pointing.

385 Laying replacement masonry units

1. **Exposed faces of new material:** Keep to agreed face lines.
2. **Faces, angles and features:** Align accurately. Set out carefully to ensure satisfactory junctions with existing masonry and maintain existing joint widths.
3. **Joint surfaces:** Dampen to control suction as necessary.
4. **Laying units:** On a full bed of mortar, all joints filled.
5. **Exposed faces:** Keep clear of mortar and grout.
Turn back scaffold boards at night and during heavy rain.

390 Grouting joints

1. **Grout mix:** Nonhydraulic lime with pozzolanic admixture; mix subject to site trials
2. **Joints that cannot be fully filled with bedding mortar:** Grout thoroughly around replacement masonry units.
3. **Grouting:** Keep grout back from exposed face to allow for the depth of pointing, using an approved temporary sealing material. Prevent grout staining exposed face.

395 Installing stone inserts

1. **Pockets to receive inserts**
 - 1.1. Cut out accurately. Undercut sides of pocket where necessary to provide space for bonding material.
 - 1.2. Adjust depth so that insert stands proud of existing stone for finishing in situ.
 - 1.3. Clean out thoroughly.
2. **Inserts:** Cut to the smallest rectangular shape necessary to replace the defective area and provide a firm seating. Install accurately and securely.
 - 2.1. **Exposed faces:** Keep clear of bonding material.
3. **Existing joint widths:** Maintain. Do not bridge joints.

405 Bonded dowels

1. **Description:** If required to fix cartouche.
2. **Standard:** To BS EN 1090-1
3. **Dowels:** Steel to European Standard indicated in BS EN 1090-2 - or submit proposals.
4. **Adhesive:** Epoxy resin - submit proposals

5. **Holes for dowels:** Suitably sized and accurately aligned in masonry background and in rear of replacement/ insert stone; clean and dry.
6. **Other requirements:** Do not use adhesive to bond stones at joints unless instructed.

410 Corroded metal fixings

1. **Removal:** Cut out carefully, causing the least possible disturbance to surrounding masonry. Remove associated rust debris.
2. **Replacement:** Compatible fixings as clause 281.

420 Temporary distance pieces for joints in ashlar stonework

1. **Material:** Lead or stainless steel.
2. **Removal:** When mortar/ grout is sufficiently strong to take loading without compression.

Tooling/ dressing stone in situ - Not Used

Mortar repairs - Not Used

Crack repairs/ ties/ reinforcement

610 Mortar repair of cracks

1. **Description:** Locations TBA following close inspection.
2. **Mortar:** As section Z21.
 - 2.1. **Standard:** BS EN 998-2
 - 2.2. **Mix:** TBC following site sampling - for pricing: 1:2 Quicklime:Sand
 - 2.3. **Sand source/ type:** TBC following site sampling - for pricing: lean, well graded sharp - Nostafeld sand
3. **Preparation:** Clean out cracks to remove debris, dust and dirt. Dampen recesses, as necessary, to control suction.
4. **Applying mortar:** Press well into cracks so that they are fully filled. Ensure that mortar does not encroach upon exposed faces. Finish mortar flush with masonry face.
5. **Other requirements:** None

Grouting rubble filled cores - Not Used

Pointing/ repointing

810 Preparation for repointing

1. **Existing mortar:** Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a minimum depth of not less than 18-25mm.
 - 1.1. **Loose or friable mortar:** Seek instructions when mortar beyond specified recess depth is loose or friable and/ or if cavities are found.
2. **Raked joints:** Remove dust and debris.

820 Pointing

1. **Description:** STONework GENERALLY
2. **Preparation of joints:** Carefully brush away loose mortar Dampen joints, as necessary, to control suction, as cl 810.
3. **Mortar:** As section Z21.
 - 3.1. **Standard:** BS EN 998-2

- 3.2. **Mix:** TBC following site sampling - for pricing: 1:2 Quicklime:Sand. To be slightly softer and more porous than the stone.
- 3.3. **Sand source/ type:** TBC following site sampling. Clean, sharp and well graded. Colour and texture such that once dry the mortar matches the existing surrounding mortar.
4. **Joint profile/ finish:** To match existing
5. **Other requirements:** Non-hydraulic lime putty may be obtained from an approved supplier or prepared by the traditional method of slaking lump lime. Lime putty must comply with BS 890 and BS 6463. Hydrated non-hydraulic lime is *not* to be used unless specified. No additives of any sort shall be incorporated in the mortar.
6. **Samples:** Allow for 3 no. samples to be analysed of existing mortar prior to agreeing mixes for sample replacement mortars. Locations to be agreed with CA. These are to be presented as 'biscuit' samples on site for review by CA prior to proceeding. The contractor is to allow for blending and sieving sands from different sources, as necessary, to achieve appropriate grading, colour and texture.

840 Pointing with tools/ Irons

1. **Preparation::** Using hand tools only, rake out all loose jointing material to a depth of not less than twice the joint width. All raking/cutting shall leave a clean, square face at the back of the joint, so as to provide optimum contact with the new mortar. Carefully clean out prepared face with bristle brush and flush with clean water - avoid unnecessary saturation, and work from top to bottom. Sound pointing must be left undisturbed. Where cement mortar is to be removed - the technique is to be agreed with the CA and site trials carried out to limit damage to surrounding stone.
2. **Dampen::** Thoroughly dampen masonry prior to commencing repointing. Re-wet with hand spray as required - without leaving water to pool in prepared joint.
3. **General:** Press mortar well into joints using pointing tools/ irons that fit into the joints, so that they are fully filled. Press firmly to ensure full compaction across depth of joint. The contractor should be aware that it may be necessary for him to fabricate pointing irons to undertake the works. Begin at the top of the wall and work downwards. Avoid getting mortar on the finished faces of stonework - clean off immediately to prevent staining.
4. **Face of masonry:** Keep clear of mortar. Use suitable temporary adhesive tape on each side of joints where necessary. Finish joints neatly.

860 Brushed finish to joints

1. **Timing:** After initial mortar set has taken place remove laitance and excess fines by brushing, to give a coarse texture. Do not compact mortar.

900 Protection and cleaning

1. -Protect works from direct sun and rain, well ventilated and moist min 10 deg C for min 4 weeks until face cured.
- Turn back scaffold boards adjacent to brick faces at night and during heavy rain.
-Remove any staining immediately.
-Do not carry out works below 5deg and falling. Recommence at 3deg and rising.
-Keep daily max/min temperature records on site during October-April (and beyond should frost be forecast).
901 Completion
- Give at least one weeks notice of completion to allow inspection prior to scaffold removal.
- Remove all tools, plant and equipment and used materials and debris.

Ω End of Section

C49

Repairing/ renovating/ conserving metalwork

General

100 Scope

1. Restoration and repair of 2 no. existing metal framed windows (refs WG-01, WG-02). Extent of repair required is to be limited to that necessary to fully redecorate the frames to prevent further corrosion, and enable reglazing. Repairs for aesthetic reasons only are not to be carried out.
2. Fabrication and fitting of 1 no. new metal framed window to match above (ref WG_03)
3. Refer to drawings for further details.

105 Methodology

1. Restoration and Repair:
 - 1.1. Conservation, repair and maintenance shall be as defined in BS 7913
 - 1.2. Full photographic survey of existing frames prior to removal. Record to be issued to CA and conservation officer.
 - 1.3. Without damaging the glass, frame and surrounding masonry, carefully remove existing metal frame and enclosed glass infills. Carefully transport to workshop. Ensure adequate protection to prevent further damage to glass or metal framing. Label all items to enable reinstatement in the correct locations. Protect areas with barriers and warning tape.
 - 1.4. Carry out spark test and shaving test to determine material composition. A selection of known materials should be available for comparison. Take photographs of process.
 - 1.5. Carry out paint sampling and send to suitably qualified testing lab for confirmation of paint layers to inform specification of new coating.
2. Cleaning:
 - 2.1. Clean any loosely adhered paint from the surface. Sound well adhered coatings to be retained. Proceed on the assumption that lead content is present, and ensure necessary H&S precautions are included within methodology. Ensure at least a nominal area of existing paint layers (both internal and external face) to be retained and protected to inform future restoration works.

A targeted approach is required to localised areas of rust/damaged metalwork and/or poorly adhered surface coatings. Avoid bruising, distorting or fracturing the metal.
 - 2.2. Clean surface to remove corrosion, atmospheric soiling, and loose paint, ready to take new coatings in accordance with BS 7079:2009. Clean nominal 25mm around all damaged areas to ensure all rust is removed.

Where applicable, surfaces are to be fully cleaned of rust back to 'bright metal'. Clean as follows:
 - 2.3. Low pressure cleaning with water and brush. If this is insufficient, proceed with hand cleaning with wire brushes and abrasive papers only. Only then proceed with needle gun cleaning - carry out test clean and seek instructions prior to proceeding. Only skilled experienced operatives to be used. Any remaining corrosion within joints can be cleaned using a localised soft abrasive blasting method - submit proposals.
 - 2.4. Immediately dry surface, feather edge retained sound paint and apply a holding primer to all exposed surfaces to prevent atmospheric corrosion.
 - 2.5. Determine scope of repair work and whether dismantling of frames will be necessary - finalise scope and methodology with conservation architect and CA prior to proceeding.
 - 2.5.1. Prepare itemised repair schedule for sign off by conservation architect - temporarily marking the areas of the frame accordingly. Suitable repair techniques - see below
 - 2.6. Repairs:

- 2.6.1. Scope - Repairs as necessary to enable framing to be reassembled and successfully coated. Pitting/fractures etc to be filled to enable re-coating.
- 2.6.2. The holding primer must be entirely removed. Especially from crevices and occlusions.
- 2.6.3. Record all repair works both written and in photographic form - confirming details of methodology used.

2.7.

2.8. Apply new coating

2.9. Install frame and seal perimeter with red burnt sand mastic. Refer to clause L for glazing details.

110 Inspection

1. **Purpose:** To confirm nature and extent of repair/ renovation/ conservation work shown on drawings, and described in survey reports and schedules of work.
2. **Parties involved:** Contract administrator, conservation architect, conservation officer.
3. **Timing:** At least 10 working days before starting each section of work
4. **Instructions issued during inspection:** Confirm in writing, with drawings and schedules as required, before commencing work

140 STORAGE

1. Ensure frames are securely stored and kept clean and dry to prevent deterioration
2. Store vertically, and do not stack components. Ensure adequate support to prevent bending.
3. Protect from abrasion with padding

148 Mild Steel Repairs

1. Plating and pinning - using stainless steel 316L.
Plates shaped to the rear surface profile, drilled and tapped with countersunk screws.
Filler medium compatible with the paint system to be used to bed the mating faces together. The filler should be carefully applied to ensure no air entrapment and sufficient material deployed that excess will squeeze out on compression.
2. Pinning - penetration shall be filled with a compatible filler medium for assembly and mating cast iron faces likewise.
Surface fractures should be filled to ensure no water penetration prior to final painting.

149 Wrought Iron and Mild Steel Repairs

1. Non-metallic cold repairs - two-pack epoxy adhesives may be used to make small non structural repairs, to fit small gaps. Repairs to be weaker than the original construction - i.e. sacrificial.
 - 1.1. Two-pack epoxy adhesives may be used to make small non structural repairs, to fit small gaps.
 - 1.2. Repairs to be weaker than the original construction - i.e. sacrificial. Steel plates to be thinner than wrought iron sections due to increased strength.
 - 1.3. Holes drilled into original component to be minimised, small and staggered to minimise weakening fabric.
2. Forge Welding and brazing - contractor to submit proposals
 - 2.1. Surfaces to be joined are to be cleaned and then fluxed prior to flame heating.
Non-structural and lightly loaded repairs of wrought iron only.

151 Coating

1. Works to be carried out in accordance with ISO 12944-7 recommendations.
2. Ensure workshop is clean, dry and properly lit, heated and ventilated.

3. Method:
 - Surfaces to be coated: Clean, dust free and suitably dry. Previous coats to be adequately cured.
 - Multiple coats of same material: Use different tints to assist checking of complete coverage.
 - Penultimate coat: Colour recommended by paint manufacturer to suit top coat colour.
 - Finish required: Smooth and even, of uniform thickness and colour, free from defects.
4. STRIPE COAT
External angles, nuts, bolt heads, rough weld seams, and areas difficult to coat: Apply an additional stripe coat of primer and undercoat. This is a supplementary coat, applied to ensure adequate protection of critical areas.
5. Apply cleaner as cl151B
6. Apply primer as cl160
7. Apply top coats as cl161

200 MATERIALS

208 Metal Filling Adhesive

1. Scope: Filling holes and imperfections in wrought iron or steel to prevent water gathering.
2. Materials: www.upol.com - 2 part epoxy adhesive filler - P38 in accordance with manufacturer recommendations, or similar approved.
3. Instructions: Trial small area before wider execution

209 Adhesives

1. Supplier: <https://www.belzona.co.uk/en/products/purpose/metal-repair.aspx>
Final specification and methodology to manufacturer recommendations.

212 Mild Steel

1. Hot rolled carbon steel to EN 10111: 2008. Thickness to match existing.
2. Supplier - Submit proposals.

213 Cleaning agents

1. Manufacturer: [Johnstone's Trade Paints - a brand of PPG Industries](#)
2. Contact details
 - 2.1. Address: Huddersfield Road
Birstall
Batley
West Yorkshire
WF17 9XA
 - 2.2. Telephone: [+44 \(0\)1924 354354](tel:+441924354354)
 - 2.3. Web: <https://ppgac.co.uk/>
 - 2.4. Email: specifiers.acuk@ppg.com
3. Product reference: [Cleaner and Degreaser](#).
4. Category: Water-borne, non-hazardous.
5. Form: Liquid.
6. Capacity: 5 L.

215 Solvent-borne metal primers

1. Manufacturer: [Johnstone's Trade Paints - a brand of PPG Industries](#)
2. Contact details

- 2.1. Address: Huddersfield Road
Birstall
Batley
West Yorkshire
WF17 9XA
- 2.2. Telephone: +44 (0)1924 354354
- 2.3. Web: <https://ppgac.co.uk/>
- 2.4. Email: specifiers.acuk@ppg.com
3. Product reference: [Johnstone's Trade Quick Dry Zinc Phosphate Primer \(Performance Coatings\)](#).
4. Colour:
5. Coverage: 11 m²/L.
6. Drying time: Touch-dry in two to four hours. Recoatable after 16 hours.
7. Volume solids: 34%.
8. VOC content: High (25–50%).
9. Film thickness: Dry: 35 µm. Wet: 75 µm.
10. Application method: Brush.
11. Capacity:

217 Solvent-based finishing coats

1. Manufacturer: [Johnstone's Trade Paints - a brand of PPG Industries](#)
2. Contact details
 - 2.1. Address: Huddersfield Road
Birstall
Batley
West Yorkshire
WF17 9XA
 - 2.2. Telephone: +44 (0)1924 354354
 - 2.3. Web: <https://ppgac.co.uk/>
 - 2.4. Email: specifiers.acuk@ppg.com
3. Product reference: [Johnstone's Trade Steel & Cladding Semi-Gloss Topcoat \(Performance Coatings\)](#)
4. Composition: Silicone alkyd.
5. Sheen: Semi-gloss.
6. Colour:
7. Coverage: 10 m²/L.
8. Drying time: Touch dry in 3–4 hours.
9. Volume solids: 50%.
10. Film thickness: Dry: 50 µm; Wet: 100 µm.
11. VOC content: High (25–50%).
12. Application method: Brush or roller.
13. Capacity: 5 L.

218 Perimeter Sealant

1. Manufacturer: Wormersleys
2. Contact details

- 2.1. Address: Womersley's Ltd
Ravensthorpe Indust Est, Low Mill Lane, Ravensthorpe, West Yorkshire, WF13 3LN, United Kingdom
- 2.2. Telephone: 01924 400 651
- 2.3. Web: <https://www.womersleys.co.uk/contact-us>
- 2.4. Email: info@womersleys.co.uk
3. Product reference: Burnt Sand Mastic
4. Sealant type: Oil based.
5. Colour: Red
6. Joint width: Mastic fillets should be neat 20 - 25mm across the diagonal face
7. Preparation: Before pointing ensure that all wide gaps between the frames and the masonry are tightly packed with well haired lime mortar that has been allowed to cure and harden. Joints to remain recessed 4-5mm.
8. Method: Burnt sand mastic is a two-part product. For each litre of burnt sand add approximately 200ml of the double boiled linseed oil hardener. Add only a little at a time and mix until the mastic forms a thick putty like consistency, which comes cleanly off the mixing trowel. Let the mix stand for 15 minutes and use any excess oil which runs off plus any remaining oil as a primer, applied with a brush to the frame and adjoining masonry. Do not over oil the surface.
If the mastic mix is over wet, let it stand for longer to allow it to stiffen up and the remix vigorously. Apply the mastic whilst the primer still feels oily or tacky to touch. Working with a mastic box or a small hawk and a proprietary mastic trowel press the mastic firmly into the angle of the frame / jamb and filling from the bottom up, forming the mastic joint to a neat 45 degree angle. Keep tools wiped with an oiled cloth during the application. After forming the angle, starting from a corner, press a clean oiled mastic trowel tightly against the face of the timber frame and masonry jamb and carefully press and draw the trowel to create a neat regular fillet. Clean away any excess mastic and wipe the finished edges on completion. For mastic to sills, ensure the mastic does not bridge any drips and is left recessed behind the drip check. Mastic should not be over painted. Mastic fillets should be neat 20 - 25mm across the diagonal face

Structural repairs/ alterations - Not Used

Products

205 Sealant

1. Description: Sealant or flexible joining material as part of metal framed assembly
2. Type: Red or white lead paste from red oxide and boiled linseed oil , or High quality polysulphide mastic (Arbo or similar approved. Product should meet BS EN ISO 11600 F 25 LM / BS 4254:1983.

430 Proprietary framing anchors and cleats

1. Manufacturer: Submit proposals
2. Material/ finish: Stainless steel grade 316
3. Fasteners: To match existing.

480 Screws

1. Description: Countersunk screws to attach plates as required. Slot head.
2. Standard: As section Z20.
3. Material: Stainless steel grade 316
4. Tensile strength (minimum):
5. Finish as delivered:

6. **Accessories:** Insulate fixings from ironwork to prevent sacrificial corrosion. Nylon or PTFE sleeves or collars with stainless steel washers
7. **Notes:** Tighten by hand.

481 Ironmongery

1. Refurbish and reuse existing hinges. Where replacement required, these are to match existing. Allow for cast iron.
2. New door lock to WG-02. Final specification TBA on site. Allow for blackcast iron hinged locking bar: <https://www.castinstyle.co.uk/product.php/1116/kirkpatrick-black-iron-lockable-hinged-locking-bar-3420-3430>

Execution

600 Workmanship

1. **Skill and experience of site operatives:** Appropriate for types of work on which they are employed.
 - 1.1. **Documentary evidence:** Submit on request.

650 Dimensions generally

1. **Site dimensions:** Take as necessary before starting fabrication.
 - 1.1. **Discrepancies with drawings:** Report without delay and obtain instructions before proceeding.

Completion

910 Mechanicallyfastened joints

1. **General:** Inspect accessible bolted, coach screwed and timber pegged joints and tighten fasteners if necessary.
 - 1.1. **Timing:** On Completion and at end of Defects Liability Period or Rectification Period.

Ω End of Section

C51

Repairing/ renovating/ conserving timber

General

110 Inspection

1. **Purpose:** To confirm nature and extent of repair/ renovation/ conservation work shown on drawings, and described in survey reports and schedules of work.
2. **Parties involved:** contract administrator
3. **Timing:** At least 5 days before starting each section of work
4. **Instructions issued during inspection:** Confirm in writing, with drawings and schedules as required, before commencing work

150 Timber procurement

1. **Timber (including timber for wood-based products):** Obtained from well-managed forests and/ or plantations in accordance with:
 - 1.1. The laws governing forest management in the producer country or countries.
 - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. **Documentation:** Provide either in accordance with the chain of custody certification scheme requirements:
 - 2.1. documentary evidence (that has been or can be independently verified) regarding the provenance of all timber supplied; or
 - 2.2. evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. **Chain of Custody Certification scheme:** Forest Stewardship Council (FSC), Grown in Britain (GiB) or Programme for the Endorsement of Forest Certification (PEFC)
 - 3.1. Other evidence:

Structural repairs/ alterations - Not Used

Products

360 Softwood for joinery repairs

1. **Description:** To window frames.
2. **Species:** Slow grown redwood
3. **Quality:** Generally to BS EN 942; free from decay and insect attack (except pinhole borers).
 - 3.1. **Appearance class:** Class J20.
4. **Treatment:** to NBS section Z12 and Wood Protection Association Commodity Specification
5. **Moisture content on delivery:** 13-19%

470 Nails

1. **Description:**
2. **Standard:** As section Z20.
3. **Type:**
4. **Material:** Steel.
 - 4.1. **Strength (minimum):**
5. **Finish as delivered:** Sherardized

480 Screws

1. Description:
2. Standard: As section Z20.
3. Material: Stainless steel
4. Tensile strength (minimum):
5. Finish as delivered: Sherardized

540 Resin grout/ adhesive

1. Description: As required
2. Type: Submit proposals
3. Manufacturer: Submit proposals
 - 3.1. Product reference: Submit proposals

Execution

600 Workmanship

1. Skill and experience of site operatives: Appropriate for types of work on which they are employed.
 - 1.1. Documentary evidence: Submit on request.

610 Temporary supports/ propping

1. General: Provide adequate temporary support at each stage of repair work to prevent damage, oversteering or uncontrolled collapse of any part of the structure.
2. Bearings for temporary supports/ propping: Suitable to carry loads throughout repair operations.

620 Protection of timber and wood components before and during installation

1. Storage: Keep dry, under cover, clear of the ground and with good ventilation. Support sections/ components on regularly spaced, level bearers on a dry, firm base.
2. Handling: Do not oversteer, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.

650 Dimensions generally

1. Site dimensions: Take as necessary before starting fabrication.
 - 1.1. Discrepancies with drawings: Report without delay and obtain instructions before proceeding.

665 Cross section dimensions of non-structural softwood

1. Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1, clause 6 for sawn sections.

670 Cross section dimensions of non-structural hardwood

1. Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes: As stated in BS EN 1313-2:
 - 2.1. Clause 6 for sawn sections.
 - 2.2. Clause NA.3 for further processed sections.

680 Warping of timber

1. **Bow, spring, twist and cup:** *Not greater than the limits set down in BS 4978 or BS EN 14081-1 for softwood, or BS 5756 for hardwood.*

690 Processing treated timber

1. **Cutting and machining:** Carry out as much as possible before treatment.
2. **Extensively processed timber:** Retreat timber sawn lengthways, thickened, planed, ploughed, etc.
3. **Surfaces exposed by minor cutting and/ or drilling:** Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

710 Reuse of timber sections/ wood components

1. **Sections/ components scheduled to be removed but not reused in existing locations:** Agree extent of retention for reuse elsewhere in the works.
 - 1.1. **Treatment following removal:**
 - 1.2. **Storage:** Protect against damage, and store until required.
 - 1.2.1. **Storage location:** On site
2. **Reuse:** Adapt sections/ components, as necessary, and install in agreed locations.

740 Removal of existing decorative/ protective finish

1. **Description:** Previously painted
2. **Extent:** Remove completely back to bare wood.
3. **Method:** Paint removal using poultice - submit proposals.

750 Cleaning dirty or stained wood

1. **Generally:** Scrub with neutral pH soap and clean, warm water.
2. **Old varnish:** Remove using mixture of turpentine (not turpentine substitute) and acetone in proportions determined by experiment, followed by washing down.

780 Repair of distorted timber members

1. **Generally:** Repair to shape that member has assumed.

850 Glued joints

1. **Adhesive:** *To BS EN 301 - external grade.*
 - 1.1. **Compatibility:** Where relevant, obtain manufacturer's confirmation that adhesive is compatible with preservative/ fire-retardant treatment.
2. **Glued structural components:** Fabricated to BS 6446 in clean, controlled workshop conditions.
3. **Anticipated equilibrium moisture content of timber in service:**

860 Moisture content checking

1. **Procedure:** Check moisture content of timber sections with an approved electrical moisture meter.
2. **Test results:** Keep records of all tests. If moisture content falls outside specified range obtain instructions.

870 Moisture content testing

1. **Procedure:** Test timber sections with an electrical moisture meter with deep probes. (A meter that has been carefully calibrated against oven drying tests or otherwise guaranteed by an independent testing authority.)

2. **Test sample:** Test 5% but not less than 10 lengths of each cross-section in the centre of the length.
3. **Test results:** 90% of values obtained to be within the specified range. Provide records of all tests.

Completion

910 Mechanicallyfastened joints

1. **General:** Inspect accessible bolted, coach screwed and timber pegged joints and tighten fasteners if necessary.
 - 1.1. **Timing:** On Completion and at end of Defects Liability Period or Rectification Period.

Ω End of Section

H71

Lead sheet fully supported roof and wall coverings/ flashings

Types of leadwork

250 Weathering to

1. Description: Projecting cornices
2. Substrate: Stone
3. Sheet underlay: Building paper to BS 1521, Class A1
4. Type of lead: Rolled to BS EN 12588
 - 4.1. Thickness: 2.50 or 2.65 mm (Code 6)
5. Joints: Welts with fixing clips required.
 - 5.1. Spacing: 1.5-2m max.
6. Edge details: Weltd drip at front, min 75mm up-stand at rear with tuck in min 25mm into prepared joint, and cover flashing .
7. Fixing: stainless steel - continuous clip - TBA on site.
8. Accessories: Loose welts adjacent to movement joints. Patination oil finish.

General requirements/ preparatory work

510 Workmanship generally

1. Standard: In accordance with BS EN 14783 and BS EN 12588 and to BS 6915 and latest edition of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Training Academy.
2. Fabrication and fixing: To provide a secure, free draining and completely weathertight installation.
3. Operatives: Trained in the application of lead coverings/ flashings. Submit records of experience on request.
4. Preforming: Measure, mark, cut and form lead prior to assembly wherever possible.
5. Marking out: With pencil, chalk or crayon. Do not use scribes or other sharp instruments without approval.
6. Bossing and forming: Straight and regular bends, leaving sheets free from ripples, kinks, buckling and cracks.
7. Solder: Use only where specified.
8. Sharp metal edges: Fold under or remove as work proceeds.
9. Finished work: Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
10. Protection: Prevent staining, discolouration and damage by subsequent works.

515 Lead-welding

1. In situ lead-welding: Not permitted.

520 Lead sheet

1. Production method
 - 1.1. Rolled, to BS EN 12588, or
 - 1.2. Machine cast and BBA-certified, or

- 1.3. Sand cast, from lead free from bitumen, solder, other impurities, inclusions, laminations, cracks, air, pinholes and blowholes; to code thicknesses but with a tolerance (by weight) of $\pm 10\%$.
2. **Identification:** Labelled to show compliance with the harmonized standard (hEN) BS EN 14783, where appropriate, and detail of the thickness/ code, weight and type.

555 Layout

1. **Setting out of longitudinal and cross joints:** Submit proposals.

560 Control samples

1. **General:** Complete areas of the finished work, and obtain approval of appearance before proceeding:
2. **Size:** Submit proposals
3. **Location:** Submit proposals

610 Suitability of substrates

1. **Condition:** Dry and free of dust, debris, grease and other deleterious matter.

645 Sheet underlay Type A

1. **Manufacturer:** [Associated Lead Mills](#)
 - 1.1. **Contact details**
 - 1.1.1. **Address:** Unit B
Bingley Road
Hoddeson
EN11 0NX
 - 1.1.2. **Telephone:** +44 (0)199 2444100
 - 1.1.3. **Web:** www.associatedlead.co.uk
 - 1.1.4. **Email:** sales@leadsales.co.uk
 - 1.2. **Product reference:** [Standard A1F](#)

650 Laying sheet underlay

1. **Handling:** Prevent tears and punctures.
2. **Laying:** Butt or overlap jointed onto a dry substrate.
 - 2.1. **Fixing edges:** With copper or stainless steel staples or clout nails.
 - 2.2. Do not lay over roof edges but do turn up at abutments.
 - 2.3. **Wood core rolls:** Fixed over sheet underlay.
 - 2.4. **Protection:** Keep dry and cover with lead at the earliest opportunity.

Fixing lead

705 Head fixing lead sheet

1. **Top edge:** Secured with two rows of fixings, 25 mm and 50 mm from top edge of sheet, at 75 mm centres in each row, evenly spaced and staggered.
2. **Sheets less than 500 mm deep:** May be secured with one row of fixings, 25 mm from top edge of sheet and evenly spaced at 50 mm centres.

710 Fixings

1. **Nails to timber substrates:** Copper clout nails to BS 1202-2, or stainless steel (austenitic) clout nails to BS 1202-1.

- 1.1. Shank type: Annular ringed, helical threaded or serrated.
- 1.2. Shank diameter: Not less than 2.65 mm for light duty or 3.35 mm for heavy duty.
- 1.3. Length: Not less than 20 mm or equal to substrate thickness.
2. Screws to concrete or masonry substrates: Brass or stainless steel.
 - 2.1. Diameter: Not less than 3.35 mm.
 - 2.2. Length: Not less than 19 mm.
 - 2.3. Washers and plastic plugs: Compatible with screws and lead.
3. Screws to composite metal decks: Self tapping as recommended by the deck and lead manufacturer/ supplier for clips.

715 Clips Type A

1. Manufacturer: [Associated Lead Mills](#)
2. Contact details
 - 2.1. Address: Unit B
Bingley Road
Hoddeson
EN11 0NX
 - 2.2. Telephone: [+44 \(0\)199 2444100](tel:+44(0)1992444100)
 - 2.3. Web: www.associatedlead.co.uk
 - 2.4. Email: sales@leadsales.co.uk
3. Product reference: [Hall Clips](#)

715 Clips Type B

1. Manufacturer: [Associated Lead Mills](#)
2. Contact details
 - 2.1. Address: Unit B
Bingley Road
Hoddeson
EN11 0NX
 - 2.2. Telephone: [+44 \(0\)199 2444100](tel:+44(0)1992444100)
 - 2.3. Web: www.associatedlead.co.uk
 - 2.4. Email: sales@leadsales.co.uk
3. Product reference: [Premium Annular Ring Shank Nails, copper](#)

770 Wedge fixing into joints/ Chases

1. Joint/ chase: Rake out to a depth of not less than 25 mm.
2. Lead: Dress into joint/chase.
 - 2.1. Fixing: Lead wedges at not more than 450 mm centres, at every change of direction and with at least two for each piece of lead.
3. Sealant: Submit proposals
 - 3.1. Application: As section Z22.

Jointing lead

810 Forming details

1. Method: Bossing or lead-welding except where bossing is specifically required.
2. Lead-welded seams: Neatly and consistently formed.
 - 2.1. Seams: Do not undercut or reduce sheet thickness.

- 2.2. Filler strips: Of the same composition as the sheets being joined.
- 2.3. Butt joints: Formed to a thickness one third more than the sheets being joined.
- 2.4. Lap joints: Formed with 25 mm laps and two loadings to the edge of the overlap.
- 3. Bossing: Carried out without thinning, cutting or otherwise splitting the lead sheet.
 - 3.1. Details where bossing must be used:

860 Drips with splash laps

- 1. Underlap: Dress into rebate along top edge of drip.
 - 1.1. Fixing: One row of nails at 50 mm centres on centre line of rebate.
- 2. Overlap: Dress over drip and form a 40 mm splash lap.

862 Drips with splash laps

- 1. Underlap: Dress up full height of drip upstand.
 - 1.1. Fixing: Two rows of nails to lower level substrate, 25 mm and 50 mm from face of drip. At 75 mm centres in each row, evenly spaced and staggered. Seal over nails with a soldered or lead-welded dot.
- 2. Overlap: Dress over drip and form a 75 mm splash lap.
 - 2.1. Fixing: Lead clips, lead-welded to underlap, with not less than one per bay.

865 Drips without splash laps

- 1. Underlap: Dress into rebate along top edge of drip.
 - 1.1. Fixing: One row of nails at 50 mm centres on centre line of rebate.
- 2. Overlap: Dress over drip to just short of lower level.

880 Weltered joints

- 1. Joint allowance: 50 mm overlap and 25 mm underlap.
- 2. Copper or stainless steel clips: Fix to substrate at not more than 450 mm centres.
- 3. Overlap: Welt around underlap and clips and lightly dress down.

970 Patination oil Type A

- 1. Manufacturer: [Associated Lead Mills](#)
 - 1.1. Contact details
 - 1.1.1. Address: Unit B
Bingley Road
Huddeson
EN11 0NX
 - 1.1.2. Telephone: +44 (0)199 2444100
 - 1.1.3. Web: www.associatedlead.co.uk
 - 1.1.4. Email: sales@leadsales.co.uk
 - 1.2. Product reference: [Patination Oil](#)

Ω End of Section

L10

Windows/ rooflights/ screens/ louvres

General

110 Evidence of performance

1. **Certification:** Provide independently certified evidence that all incorporated components comply with specified performance requirements.

115 Timber procurement

1. **Timber (including timber for wood based products):** Obtained from well managed forests and/ or plantations in accordance with:
 - 1.1. The laws governing forest management in the producer country or countries.
 - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. **Documentation:** Provide either:
 - 2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
 - 2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.
3. **Certification scheme:**
 - 3.1. **Other evidence:**

120 Preconstruction survey

1. **Procedure:** Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. **Designated items:**
3. **Primary support structure:** Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
4. **Timing:** Before fabrication.

140 Control samples

1. **Procedure**
 - 1.1. Finalise component details.
 - 1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
 - 1.3. Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
2. **Designated items:**

Products

205 Window materials specification

1. **Minimum BRE 'Green Guide to Specification Online' rating:** A

250 Wood windows

1. **Standard:** Non-fire rated window to BS EN 14351-1 and BS 644
2. **Manufacturer:** A firm currently registered under a third party quality assurance scheme.

3. Exposure category to BS 6375-1/ Design wind load: 1200 Pa
4. Operation and strength characteristics: To BS 6375-2.
5. Timber: Generally to BS EN 942.
 - 5.1. Species: Softwood as Table NA.1, Hardwood as Table NA.2
 - 5.2. Appearance class: J10 for glazing beads, drip mouldings, etc. J40 or better for all other members.
 - 5.3. Moisture content on delivery: 12-19%.
6. Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years
7. Finish as delivered: Full paint system as section M60
8. Thermal performance (U-value maximum): Manufacturer's standard
9. Acoustic performance rating: Manufacturer's standard
10. Fire resistance: Not required
11. Glazing details: 11mm double glazed panes, See Clauses L40/** and L40/**
 - 11.1. Beading: External
12. Ironmongery/ Accessories: Sash Locks, sash hooks, meeting stile seals, sash seals, sash pulleys, weights and cords
13. Fixing: Built in with cramps

315 Steel windows

1. Standard:
 - 1.1. Material:
 - 1.2. Window section:
2. Exposure category to BS 6375-1/ Design wind load:
3. Operation and strength characteristics: To BS 6375-2.
4. Finish as delivered:
5. Thermal performance (U-value maximum):
6. Acoustic performance rating:
7. Fire resistance:
8. Glazing details:
 - 8.1. Beading:
9. Ironmongery/ Accessories:
10. Fixing:

316 Frameless Glass Windows

1. Standard: Non-fire and/ or smoke rated windows to BS EN 14351-1 and BS 6510
 - 1.1. Material: Frameless glazed units
2. Exposure category to BS 6375-1/ Design wind load: 1200 Pa or to installer's recommendations
3. Operation and strength characteristics: To BS 6375-2.
4. Finish as delivered:
5. Thermal performance (U-value maximum): 1.4 W/m²K
6. Acoustic performance rating: Rw 37dB
7. Fire resistance: Not required
8. Glazing details: Sealed double glazed safety glass units with laminated inner and toughened outer to installer's design
 - 8.1. Beading:

9. Ironmongery/ Accessories: metal perimeter channel, polyester powder coated aluminium cill with drip
10. Fixing: To installer's recommendations

330 Aluminium windows

1. Standard:
 - 1.1. Non-fire and/ or smoke rated windows to BS EN 14351-1 and BS 4873
 - 1.2. Fire and/ or smoke rated opening windows to BS EN 14351-1, BS EN 16034 and BS 4873
2. Manufacturer:
 - 2.1. Product reference:
3. Finish as delivered:
4. Thermal performance (U-value maximum):
5. Acoustic performance rating:
6. Fire resistance:
7. Glazing details:
 - 7.1. Beading:
8. Ironmongery/ Accessories:
9. Fixing:

390 Proprietary windows

1. Description: Thermal Break Louvred Windows
2. Standard: Non-fire and/ or smoke rated windows to BS EN 14351-1
3. Manufacturer: Naco (Swegon Air Management Limited)
Stourbridge Road, Bridgnorth, Shropshire, WV15 5BB
Tel: 01746 761921 Fax: 01746 766450
Email: naco@swegon.com
 - 3.1. Product reference: Vengen 28
4. Finish as delivered: Polyester powder coated, standard RAL colour to be selected
5. Thermal performance (U-value maximum): Manufacturer's standard
6. Acoustic performance rating: Manufacturer's standard
7. Fire resistance: Not required
8. Glazing details: 28mm doubled glazed units. See L40/**
 - 8.1. Beading: Manufacturer's standard
9. Ironmongery/ Accessories: Bearings, blade linkages, 24v DC D&H linear motor actuators with link to fire alarm system
10. Fixing: Lug fixing

460 Rooflights

1. Manufacturer: A. Bilco UK, 20 Park Farm Business Centre, Fornham St Genevieve, Bury St Edmunds, Suffolk, IP28 6TS.
Tel. 01284 701696. Fax. 01284 702531
Web: www.bilcouk.com
 - 1.1. Product reference: Sky Access, 1000 x 1500
2. Type: Rectangular
3. Frame: Rigid PVC with aluminium profiles
 - 3.1. Finish: As supplied by the manufacturer
 - 3.2. Colour: white

4. Kerb: 250 high insulated polyester
5. Thermal performance (U-value maximum): 1.02 W/m²K
6. Fire performance (minimum): AA, AB or AC designation when tested in accordance with BS 476-3
7. Glazing details: Double layer polycarbonate outer and safety glass inner, clear
8. Other requirements: 24V DC actuator, auto/manual switch
9. Fixing: To manufacturer's recommendations

461 Rooflights Smoke Vent

1. Manufacturer: A. Bilco UK, 20 Park Farm Business Centre, Fornham St Genevieve, Bury St Edmunds, Suffolk, IP28 6TS.
Tel. 01284 701696. Fax. 01284 702531
Web: www.bilcouk.com
 - 1.1. Product reference: SKY-1M, 1000 x 1500
2. Type: Rectangular
3. Frame: Rigid PVC with aluminium profiles
 - 3.1. Finish: As supplied by the manufacturer
 - 3.2. Colour: white
4. Kerb: 250 high insulated polyester
5. Thermal performance (U-value maximum): 1.02 W/m²K
6. Fire performance (minimum): AA, AB or AC designation when tested in accordance with BS 476-3
7. Glazing details: Double layer polycarbonate outer and safety glass inner, clear
8. Other requirements: 24V DC actuator, linked to fire alarm system for stair well A
9. Fixing: To manufacturer's recommendations

650 Acoustic Metal louvres

1. Manufacturer: Wakefield Acoustics Ltd, Flush Mills, Westgate, Heckmondwike, West Yorkshire, WF16 0EN, UK ; Tel: 01924 418959 Email: noise@wakefieldacoustics.co.uk
 - 1.1. Product reference: WA-ACL-150SB 2400 high units on mounting frame designed by the manufacturer.
2. Material: Aluminium with acoustic insulation
 - 2.1. Finish as delivered: Polyester powder coated to standard RAL colour
3. Number of louvre banks: One
4. Louvre blade pitch and angle: Pitch 150mm
5. Accessories/ Other requirements: Stub posts to be provided. Anvil EM mesh to outer face as Clause ***. Louvred doors within acoustic screen to match.
6. Fixing: Bolted in accordance with the manufactures recommendations.

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
2. Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

740 Corrosion protection

1. Surfaces to be protected:
2. Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
 - 2.1. Timing of application: Before fixing components.

750 Building in

1. General: Not permitted unless indicated on drawings.
 - 1.1. Brace and protect components to prevent distortion and damage during construction of adjacent structure.

760 Replacement window installation

1. Standard: In accordance with BS 8213-4.

765 Window installation generally

1. Installation: Into prepared openings.
2. Gap between frame edge and surrounding construction
 - 2.1. Minimum: 5mm
 - 2.2. Maximum: 10mm
3. Distortion: Install windows without twist or diagonal racking.

770 Damp proof courses in prepared openings

1. Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

780 Fixing of wood frames

1. Standard: As section Z20.
2. Fasteners: Stainless steel fixings
 - 2.1. Spacing: When not predrilled or specified otherwise, position fasteners not more than 150 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 450 mm centres.

782 Fixing of aluminium frames

1. Standard: As section Z20.
2. Fasteners: As recommended by the manufacturer
 - 2.1. Spacing: When not predrilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

790 Fire-resisting frames

1. Gap between back of frame and reveal: Completely fill with intumescent mastic or tape.

810 Sealant joints

1. Sealant
 - 1.1. Manufacturer: Contractor's choice
 - 1.1.1. Product reference: Submit proposals
 - 1.2. Colour: To be agreed

- 1.3. **Application:** As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 Ironmongery

1. **Fixing:** In accordance with any third party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. **Checking/ Adjusting/ Lubricating:** Carry out at Completion and ensure correct functioning.

Ω End of Section

L10

Windows/ rooflights/ screens/ louvres

General

001 Methodology - Replacement Timber Windows

1. Full measured survey prior to fabrication - including removal of existing dry lining fabric to jambs/head internally as required to confirm structural opening size.
2. Carefully remove existing frames which are to be removed.
3. Install into prepared structural openings at least 10mm larger (5mm all round) than overall frame size. If necessary let straps in to maintain tolerance. Check window functions correctly and is isolated from the structure by suitable DPM.
4. Stainless steel straps as per cl 250+
5. Perimeter sealant - to all edges - compressible filler foam to be pushed into joint and sealed as per specification.

002 Window Detailed Design

1. Detailed design of the windows is to be carried out by the specialist joinery manufacturer and design liability remains with said party. However any significant deviation from the drawings provided for pricing must be agreed with the Client in advance.
2. Fabrication drawings for each window type must issued to the Client for approval prior to commencing with fabrication.
3. All windows must fully comply with relevant parts of the Building Regulations including part L, B and F, and all other relevant standards unless otherwise agreed in writing.
4. Window detailed design to be in accordance with BS EN 644.

110 Evidence of performance

1. **Certification:** Provide independently certified evidence that all incorporated components comply with specified performance requirements.

111 Warranty

1. Provide insurance backed warranties as follows:
2. Frame and timber - min 30 years
3. Double Glazing Units - min 10 years
4. Factory finish - min 10 years.

115 Timber procurement

1. **Timber (including timber for wood based products):** Obtained from well managed forests and/ or plantations in accordance with:
 - 1.1. The laws governing forest management in the producer country or countries.
 - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. **Documentation:** Provide either:
 - 2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
 - 2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.
3. **Certification scheme:** Forest Stewardship Council (FSC) or similar to be agreed.
 - 3.1. **Other evidence:**

120 Preconstruction survey

1. **Procedure:** Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. **Designated items:** All windows
3. **Primary support structure:** Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
4. **Timing:** Before fabrication.

140 Control samples

1. **Procedure**
 - 1.1. Finalise component details.
 - 1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
 - 1.3. Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
2. **Designated items:** Each window type

Products

205 Window materials specification

1. Minimum BRE 'Green Guide to Specification Online' rating: A

251 Wood windows - Box Sash Type B

1. **Standard:** Non-fire rated window to BS EN 14351-1 and BS 644
2. **Manufacturer:** A firm currently registered under a third party quality assurance scheme.
3. **Exposure category** to BS 6375-1/ **Design wind load:** 1200 Pa
4. **Operation and strength characteristics:** To BS 6375-2.
5. **Timber:** Generally to BS EN 942 or EN 350 class 1.
 - 5.1. **Species:** Warranty backed Accoya <https://www.accoya.com/uk/why-accoya/warranties/>
 - 5.2. **Appearance class:** J10 for glazing beads, drip mouldings, etc. J40 or better for all other members.
 - 5.3. **Moisture content on delivery:** 12-19%.
6. **Preservative treatment:** n/a - Accoya.
7. **Adhesive:** Ensure compatible with Accoya - PU, EPI, epoxy or PRF only.
8. **Finish as delivered:** Full paint system as section M60
9. **Thermal performance (U-value maximum):** TBC
10. **Acoustic performance rating:** Min. reduction 31Rw dB
11. **Fire resistance:** Not required
12. **Glazing details:** TBC - Site or factory glazed with low module silicone bed and voids filled. 4/16/4 DGU Pilkington EnergiKare or equal approved with toughened inner pane at 800mm below FFL. CE marking of insulated glass units to [BS EN 1279-5](#).
 - 12.1. **Beading:** TBC
13. **Ironmongery/ Accessories:** Solid brass sash Locks (lever arm style) Traditional Narrow Hook Fastener design manufactured from durable 304 stainless steel and available in a variety of finishes to exactly colour suite with our extensive range of sash furniture. Tested in compliance with PAS 24 (<https://www.reddiseals.com/product/security-hook-fastener/> or equal approved), sash hooks (<https://www.reddiseals.com/product/sash-lift/> or equal approved), meeting stile seals, sash seals (Brush weather seals and carriers to be Reddipile or equal approved), sash pulleys (PAS 24

rated Mighton or equal approved - ensure compatibility with cord and window weight), weights (steel or lead) and cords (<https://www.reddiseals.com/product/waxed-cotton-sash-cord/> or equal approved). Opening restrictors to bottom sash - max 99mm opening Angel Ventlock <https://www.mightonproducts.com/angel-ventlock-side-fix-pvd-pair> (specific product to avoid clashing with sash horns) Integrated trickle vents in window heads - Mighton Flushfitting Tricklevent or similar approved - white. <https://www.mightonproducts.com/trickle-vent-430mm-white>.

14. **Fixing:** In accordance with the The Good Practice Guide for the Installation of Replacement Windows and Doors (Glass and Glazing Federation) recommendations. Stainless steel straps fixed back to substructure. Windows upto 1000mm wide - jamb fixings - 200-300mm from each corner, max 600mm centres, larger windows to have head and cill fixings also. Do not over tighten fixings. Fix through packers to prevent frame deflection.

252 Wood windows - Casement Type C

1. **Standard:** Non-fire rated window to BS EN 14351-1 and BS 644
2. **Manufacturer:** A firm currently registered under a third party quality assurance scheme.
3. **Exposure category** to BS 6375-1/ **Design wind load:** 1200 Pa
4. **Operation and strength characteristics:** To BS 6375-2.
5. **Timber:** Generally to BS EN 942.
 - 5.1. **Species:** Warranty backed Accoya <https://www.accoya.com/uk/why-accoya/warranties/>
 - 5.2. **Appearance class:** J10 for glazing beads, drip mouldings, etc. J40 or better for all other members.
 - 5.3. **Moisture content on delivery:** 12-19%.
6. **Preservative treatment:** n/a - Accoya.
7. **Adhesive:** Ensure compatible with Accoya - PU, EPI, epoxy or PRF only.
8. **Finish as delivered:** Full paint system as section M60
9. **Thermal performance (U-value maximum):** 1.6 W/m²K overall fitting; (centre pane max 1.2W/m²K) TBC
10. **Acoustic performance rating:** Min. reduction 31Rw dB
11. **Fire resistance:** Not required
12. **Fire Egress:** TBC
13. **Secured by Design Certified:** Ironmongery
14. **Glazing details:** Site or factory glazed with low module silicone bed and voids filled. 4/16/4 DGU Pilkington EnergiKare or equal approved with toughened inner pane at 800mm below FFL. CE marking of insulated glass units to [BS EN 1279-5](#).
 - 14.1. **Beading:** Internal
15. **Ironmongery/ Accessories:** Opening restrictors - max 99mm opening, Integrated trickle vents in window heads - Mighton **Flushfitting Tricklevent or similar approved - white.** <https://www.mightonproducts.com/trickle-vent-430mm-white>, key locking handle (PAS 24 accredited). All brass fittings. Weatherseals to be Schlegel or equal approved.
16. **Fixing:** In accordance with the The Good Practice Guide for the Installation of Replacement Windows and Doors (Glass and Glazing Federation) recommendations. Stainless steel straps fixed back to substructure. Windows upto 1000mm wide - jamb fixings - 200-300mm from each corner, max 600mm centres, and as close to hinges as possible. Larger windows to have head and cill fixings also. Do not over tighten fixings. Fix through packers to prevent frame deflection.

261 Workmanship

1. Workmanship should follow the recommendations of BS 1186: 2
2. All joints to be properly designed to give a tight fit without gaps between abutting surfaces.

3. Any joinery which may split, fracture, shrink, or part at joints or otherwise show flaws or defects must be replaced with new material at the contractors expense.

580 Secondary glazing system Type A

1. Manufacturer: [Selectaglaze Ltd](#)
 - 1.1. Contact details
 - 1.1.1.Address: Alban Park
Hatfield Road
St Albans
Hertfordshire
AL4 0JJ
 - 1.1.2.Telephone: [+44 \(0\)1727 837271](tel:+44(0)1727837271)
 - 1.1.3.Web: www.selectaglaze.co.uk
 - 1.1.4.Email: enquiries@selectaglaze.co.uk
 - 1.2. Product reference: [Series 20 Slimline Vertical Sliding](#)
2. Third-party certification: Blast tested to ISO 16933: EXV 45.
3. Dimensions and configurations: Refer to drawings
4. Product performance
 - 4.1. Safety
 - 4.1.1.Security level: EXV 45.
 - 4.2. Environmental
 - 4.2.1.Acoustic performance rating: 46 dB (Rw). TBC
 - 4.3. Thermal
 - 4.3.1.Whole window U-value: 1.81 W/m²K. TBC
5. Frame
 - 5.1. Profile: Standard.
 - 5.2. Finish as delivered
 - 5.2.1.Coating: Polyester powder-coated.
 - 5.2.2.Colour: RAL. TBC - off white.
 - 5.3. Ventilator: Over the frame acoustic ventilator.
6. Glazing or infill
 - 6.1. Requirements: Toughened, low-E.
7. Hardware: H3 - Recessed finger pull.
8. Operation
 - 8.1. Type: Manual.
9. Fixing features: Face-fixed.
10. Style: Vertical sliding unit.
11. Thickness: Manufacturer standard.
12. Glazing gasket: TBC
13. Gloss level: Semi-gloss.
14. Acoustic reveal linings: Vinyl-faced acoustic foam.

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.

2. **Stored components:** Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. **Wood surfaces inaccessible after installation:** Prime or seal as specified before fixing components. All end grain to be sealed.

740 Corrosion protection

1. **Surfaces to be protected:** n/a use only stainless steel and brass fittings.
2. **Protective coating:** Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
 - 2.1. **Timing of application:** Before fixing components.

820 Ironmongery

1. **Fixing:** In accordance with any third party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. **Checking/ Adjusting/ Lubricating:** Carry out at Completion and ensure correct functioning.

Ω End of Section

L40

General glazing

General requirements

111 Preglazing

1. Preglazing of components: Permitted.
2. Prevention of displacement: Submit details of precautions to be taken to protect glazing and compound/ seals during delivery and installation.
3. Defective/ displaced glazing/ compound/ seals: Reglaze components in situ.

130 Removal of glass/ plastics for reuse

1. Existing glass/ plastics and glazing compound, beads, etc: Remove carefully, avoiding damage to frame, to leave clean, smooth rebates free from obstructions and debris.
2. Deterioration of frame/ surround: Submit report on defects revealed by removal of glazing.
 - 2.1. Affected areas: Do not reglaze until instructed.
3. Reusable materials: Clean glass/ plastics, beads and other components that are to be reused.

140 Material samples

1. Representative samples of designated materials: Submit before cutting panes.
 - 1.1. Sample size (minimum):
 - 1.2. Designated materials:

150 Workmanship and positioning generally

1. Glazing generally: In accordance with BS 6262 series.
2. Integrity: Glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
3. Dimensional tolerances: Panes/ sheets to be within ± 2 mm of specified dimensions.
4. Materials
 - 4.1. Compatibility: Glass/ plastics, surround materials, sealers, primers and paints/ clear finishes to be used together to be compatible. Avoid contact between glazing panes/ units and alkaline materials such as cement and lime.
 - 4.2. Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.

151 Preparation

1. Surrounds, rebates, grooves and beads: Cleaned and prepared by others.

152 Preparation

1. Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing; ensure compliance with any certified installation requirements.

155 Glass generally

1. Standards: To BS 952 and relevant parts of:
 - 1.1. BS EN 572 for basic soda lime silicate glass.
 - 1.2. BS EN 1096 for coated glass.
 - 1.3. BS EN 1748-1 for borosilicate glass.

- 1.4. BS EN 1748-2 for ceramic glass.
- 1.5. BS EN 1863 for heat strengthened soda lime silicate glass.
- 1.6. BS EN 12150 for thermally toughened soda lime silicate safety glass.
- 1.7. BS EN 12337 for chemically strengthened soda lime silicate glass.
- 1.8. BS EN 13024 for thermally toughened borosilicate safety glass.
- 1.9. BS EN ISO 12543 for laminated glass and laminated safety glass.
2. **Panes/ sheets:** Clean and free from obvious scratches, bubbles, cracks, rippling, dimples and other defects.
 - 2.1. **Edges:** Generally undamaged. Shells and chips not more than 2 mm deep and extending not more than 5 mm across the surface are acceptable if ground out.

160 Linear patterned/ wired glass

1. **Alignment:** Vertical/ Horizontal as appropriate, and pattern matched across adjacent panes in close proximity.

165 Heat soaking of thermally toughened glass

1. **Standard:** To BS EN 14179-1 and -2.
 - 1.1. **Holding period (minimum):**
2. **Certified evidence of treatment:** Submit.
3. **Designated locations:**

170 Plastics glazing sheet

1. **Condition:** Free from scratches, edge splits and other defects.
2. **Preparation for use:** Protective coverings carefully peeled back from edges and trimmed off to facilitate glazing. Remainder retained in place until completion unless instructed otherwise.

180 Bead fixing with pins

1. **Pin spacing:** Regular at maximum 150 mm centres, and within 50 mm of each corner.
2. **Exposed pin heads:** Punched just below wood surface.

181 Bead fixing with screws

1. **Screw spacing:** Regular at maximum 225 mm centres, and within 75 mm of each corner.

190 Glass to glass jointing

1. **Sealant:** Silicone.
 - 1.1. **Standard:**
 - 1.1.1. **Evidence of compliance:** Submit.
 - 1.1.2. **Class:**
 - 1.2. **Colour:**
2. **Reaction to fire classification:**
3. **Joints**
 - 3.1. **Width:** Consistent and suitable to receive sealant.
 - 3.2. **Gap between panes:** Completely filled, leaving no voids or bubbles.
 - 3.3. **Surplus sealant:** Removed to leave a clean, neatly finished weathertight joint.

195 Glass to glass jointing

1. **Sealant:**

2. Standard: To BS EN 15651-2.
 - 2.1. Evidence of compliance: Submit.
3. Manufacturer:
 - 3.1. Product reference:
4. Reaction to fire classifications:
5. Colour:
6. Joints:
7. Width: Consistent and suitable to receive sealant.
8. Gap between panes: Completely filled, leaving no voids or bubbles.
 - 8.1. Surplus sealant: Removed to leave a clean, neatly finished weathertight joint.

Types of glazing

210 Putty fronted double glazing for sash windows Type A

1. Description: 11mm Insulating panes with gas fill and soft low e coating
2. Pane material: 3 mm clear float glass
3. Surround: Softwood
 - 3.1. Sealer: Sealant primer
4. Type of putty: Linseed oil
5. Thermal performance (U-value maximum): 1.9 W/m²K
6. Glass installation
 - 6.1. Glass: Located centrally in surround using setting and location blocks, and secured with glazing sprigs/ cleats/ clips at 300 mm centres.
 - 6.2. Finished thickness of back bedding after inserting glazing (minimum): 1.5 mm.
 - 6.3. Front putty: Finished to a smooth, neat triangular profile stopping 2 mm short of sight line. Surface lightly brushed to seal putty to glass and left smooth with no brush marks.
7. Sealing putty: Seal as soon as sufficiently hard but not within 7 days of glazing. Within 28 days apply either:
 - 7.1. The full final finish, suitably protected until completion and cleaned down and made good as necessary, or
 - 7.2. Two coats of applied locally to the compound, to be followed nearer completion with the full specified finish.
8. Opening lights: Keep in closed position until putty has set sufficiently to prevent displacement of glazing when opened.

230 Bead fixed single glazing

1. Description: Replacement as required to existing sash windows
2. Pane material: Restover Light, Scott.com
3. Surround/ bead: Accoya
 - 3.1. Preparation: Paint primer
 - 3.2. Bead location: Outside
 - 3.3. Bead fixing: ??? x ??? mm countersunk brass screws
4. Glazing compound: TBC
5. Thermal performance (U-value maximum): TBC
6. Glazing installation
 - 6.1. Glass: Located centrally in surround using setting and location blocks and distance pieces.
 - 6.2. Finished thickness of back bedding after inserting glazing (minimum): 3 mm.

- 6.3. Front bedding: Applied to fill voids.
- 6.4. Beads: Bedded in glazing compound and fixed securely.
- 6.5. Visible edge of glazing compound: Finished internally and externally with a smooth chamfer.

Ω End of Section

M41 Terrazzo repairs

Types of terrazzo

001 Methodology

1. Scope of repair to be agreed in detail on site following strip-out of existing non original finishes over the terrazzo. The indicative scope of works is to repair the existing stone terrazzo floor where cracks are over approximately 3mm wide and 50mm long. Reinstall matching terrazzo where pieces are missing. Fully clean surface upon completion.
2. Repair and cleaning works are to be limited to those required to maintain the floor and prevent further deterioration. Previous repairs and staining will not be restored purely for aesthetic reasons, but only where it is considered that further damage will take place if the repairs are not carried out.
3. Carry out full condition survey of the full extent of the existing terrazzo floor. This survey should include sampling of stone, binder and bedding to ascertain composition and inform specification of repair fabric.
4. Schedule location and type of repairs including cracking and missing stones or edging strips. Note any staining. Note any deviations from level which could be considered a trip hazard.
5. Once repair locations are agreed, submit detailed repair methodology for sign off by Conservation Architect.
6. Cleaning - carry out trials using the gentlest chemical mix for each type of soiling. These will then be reviewed and if insufficient a slightly stronger mix will be trialed until the lowest level which removes deposits has been confirmed. Use Stonehealth Doff system or similar approved - refer to NBS CI C40
7. Carry out cleaning following trials above.
8. Carry out repair trials for each methodology outlined above. Once these are assessed and agreed with the Conservation Architect, these works can commence.
9. Carry out repairs: Carefully remove damaged material/local bedding such as to facilitate repair work. Do not remove more material than is strictly necessary.
10. Install replacement materials to match existing.
11. Grind surface smooth and clean.
12. Apply protective sealer and or anti slip coating - details TBC following main repair works.

120 In situ terrazzo - restoration

1. **Description:** Ground floor entrance lobby floor
2. **Terrazzo:** Floor
 - 2.1. **Thickness (minimum):** As existing
 - 2.2. **Mix:** To match existing in colour, texture and material.
3. **Substrate:** Concrete slab with brushed finish
 - 3.1. **Preparation for bedding:** Clean off existing grout. Wash thoroughly and wire brush to remove adhering dirt, apply bonding coat.
4. **Bedding**
 - 4.1. **Thickness (minimum):** To match existing
 - 4.2. **Mix (cement:sand):** TBC - take samples and match this.
 - 4.3. **Attachment to substrate:** Fully bonded
5. **Movement joints:** No additional - use existing layout
6. **Finishing**
 - 6.1. **Grinding:**

1. Grind with 24 or finer grit stone with water - to match surrounding existing finish

6.2. Finish: Smooth to match existing.

7. Other requirements: Consider use of sealant - TBA.

Generally

210 Suitability of substrates

1. General: Suitably dry and clean for specified bedding method.
2. Existing substrates: Free from loose areas and significant cracks and gaps.
3. New in situ concrete substrates: Allow for initial shrinkage:
 - 3.1. Air drying after curing: (minimum) 6 weeks .
 - 3.2. Other methods: Submit proposals.

220 Existing concrete/ Screeds

1. Loose or hollow portions: Cut out and make good.
2. Material for making good: Submit proposals - to match existing.

235 Control samples

1. General: Complete sample areas, being part of the finished work, and obtain approval of appearance before proceeding.
2. Terrazzo type: Each colour and contrasting banding.
 - 2.1. Location/ Size: TBA on site.

242 Cement

1. Standard: To BS EN 197-1.
 - 1.1. Types: Portland cement, CEM I or Portland slag cement, CEM II/ B-S.
 - 1.2. Strength class: 42.5.
2. Certification for all cements: BSI Kitemark scheme.

245 Sand (Fine aggregate)

1. Standard: To BS EN 13139.

248 Admixtures

1. Water reducing and set retarding admixtures: To BS EN 934-2 and compatible with other mortar constituents.

Laying

305 Laying generally

1. Tiles: Fully adhered to bedding.
2. Cut tiles: Neat and accurate.
3. Joints: True to line, continuous and without steps.
 - 3.1. Joints in floors: Parallel to main axis of the space or specified features.
4. Dividing strips/ Movement joints: If locations are not indicated, submit proposals.
5. Special setting out:

340 Flatness/ Surface regularity of finished floor

1. Sudden irregularities: Not permitted.
2. Deviation (maximum) of surface measured from underside of a 2 m straightedge, between points of contact, and placed anywhere on the surface: 3 mm.

390 Mixing bedding mortar

1. Batching: Select from:
 - 1.1. Batch by weight.
 - 1.2. Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Allow for bulking of damp sand.
2. Water content: Minimum necessary to achieve full compaction.
3. Mixes: Of uniform consistence, free from lumps. Do not retemper or reconstitute mixes.

430 In situ terrazzo

1. Mixing terrazzo materials: Before adding water, mix in a dry state to a uniform colour and with even distribution of different size aggregates.
 - 1.1. Water content: Minimum necessary to achieve full compaction.
2. Bedding: Compact thoroughly.
3. Terrazzo: Lay on layer of wet slurry and compact level with the dividing strips.
 - 3.1. Timing: To achieve effective bond to bedding.
 - 3.2. Slurry type: 1:1 Cement fine sand.
4. Surfaces: Free from excess laitance.
 - 4.1. Aggregate: Regularly distributed with minimum amount of cement matrix visible.

440 Dividing strips

1. Material: TBC - to match existing.
 - 1.1. Thickness: To match existing.
2. Installation: Set to required finished floor level.

470 Applied slip resistant

1. Description: Requirement TBC.
2. Manufacturer:
 - 2.1. Product reference:
3. Material:
 - 3.1. Format:
 - 3.2. Slip resistance value/ pendulum test value – water wet (minimum) to BS 7976-1, -2 and -3:
4. Size/ Coverage:
5. Colour:
6. Accessories/ Features:

520 Grinding

1. Mechanical grinding: Use wet process. Dry process permitted only where it is not practicable to use wet process.
2. Coarse grinding: Remove all surface grout, correct unevenness and remove lipping between tiles/ slabs.
 - 2.1. Residue and dust: Remove. Wash and rinse surface.

3. Fill with matching grout.
4. Polishing: Use wet process.
 - 4.1. Residue and dust: Remove. Wash and rinse surface and leave to dry naturally.
5. Protection: Cover flooring and keep free from traffic for at least two days.

Completion

525 Slip resistance testing

1. Test: To BS 7976-1, -2 and -3.
2. Report: Submit. Include:
 - 2.1. Name and address of testing authority.
 - 2.2. Date of tests.
 - 2.3. Location of test.
 - 2.4. Temperatures of test surfaces.
 - 2.5. The slider material used on the pendulum tester.
 - 2.6. Slip resistance values in wet and dry conditions.

Ω End of Section

M60

Painting/clear finishing - Timber Frames

Coating systems - Not Used

Generally

210 Coating materials

1. Manufacturers: Obtain materials from any of the following:
2. Dulux, Crown Paints, Johnstone's Paints, AkzoNobel .
3. Selected manufacturers: Submit names before commencement of coating work.
4. Factory applied coating system: Sprayed, 3 no. coat opaque microporous paint system with satin/20% sheen finish incorporating primer and topcoat. all in accordance with system manufacturer recommendations. Water borne acrylic resin system. Minimum dry film thickness of 120µm on exposed surfaces, and 60µm on recesses and closures. System to be in accordance with [BS EN 927](#).
5. Colour: TBC (Dark colour).

215 Handling and storage

1. Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
2. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

220 Compatibility

1. Coating materials selected by contractor
 - 1.1. Recommended by their manufacturers for the particular surface and conditions of exposure.
 - 1.2. Compatible with each other.
 - 1.3. Compatible with and not inhibiting performance of preservative/fire retardant pretreatments.

240 Surfaces not to be coated

1. Components supplied pre-finished.

300 Control samples

1. Sample areas of finished work: Carry out, including preparation, as follows:
2. Types of coating Location
3. M60/ 210.
4. Approval of appearance: Obtain before commencement of general coating work.

320 Inspection by coating manufacturers

1. General: Permit manufacturers to inspect work in progress and take samples of their materials from site if requested.

Preparation

400 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File.

3. Refer to CDM Construction Phase Plan where applicable.
4. **Suspected existing hazardous materials:** Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
5. **Preparation materials:** Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared. Ensure all end grains sealed.
6. **Substrates:** Sufficiently dry in depth to suit coating.
7. **Efflorescence salts:** Remove.
8. **Dirt, grease and oil:** Remove. Give notice if contamination of surfaces/ substrates has occurred.
9. **Surface irregularities:** Remove.
10. **Joints, cracks, holes and other depressions:** Fill flush with surface, to provide smooth finish.
11. **Dust, particles and residues from preparation:** Remove and dispose of safely.
12. **Water based stoppers and fillers**
 - 12.1. Apply before priming unless recommended otherwise by manufacturer.
 - 12.2. If applied after priming: Patch prime.
13. **Oil based stoppers and fillers:** Apply after priming.
14. **Doors, opening windows and other moving parts**
 - 14.1. Ease, if necessary, before coating.
 - 14.2. Prime resulting bare areas.

425 Ironmongery

1. **Removal:** Before commencing work: Remove ironmongery from surfaces to be coated.
2. **Hinges:** Remove
3. **Replacement:** Refurbishment as necessary; refit when coating is dry.

481 Uncoated wood

1. **General:** Provide smooth, even finish with arrises and moulding edges lightly rounded or eased.
 - 1.1. **Preparation:** Lightly sand surface and then ensure surfaces are clean, dry and free from dust/grease/other contamination prior to application.
2. **Heads of fasteners:** Countersink sufficient to hold stoppers/fillers.
3. **Resinous areas and knots:** Apply two coats of knotting.
4. **End Grain:** Ensure all sealed with product compatible with coating system.

Application

711 Coating generally

1. **Application standard:** In accordance with BS 6150, clause 9.
2. **Conditions:** Maintain suitable temperature, humidity and air quality during application and drying.
3. **Surfaces:** Clean and dry at time of application.
4. **Thinning and intermixing of coatings:** Not permitted unless recommended by manufacturer.
5. **Overpainting:** Do not paint over intumescent strips or silicone mastics.
6. **Priming coats**
 - 6.1. **Thickness:** To suit surface porosity.
 - 6.2. **Application:** As soon as possible on same day as preparation is completed.
7. **Finish**
 - 7.1. Even, smooth and of uniform colour.

7.2. Free from brush marks, sags, runs and other defects.

7.3. Cut in neatly.

8. Doors, opening windows and other moving parts: Ease before coating and between coats.

9.

- Coating manufacturer's application methodologies
- and guidance should be followed with particular focus on avoiding cold coatings (should typically
- be above 15°C at application), correct film thickness and appropriate drying techniques/ conditions.
- Coatings should be thoroughly cured in a moisture and temperature controlled environment and in line
- with coating manufacturer's guidelines.

720 Priming joinery

1. Preservative treated timber: Retreat cut surfaces with two flood coats of a suitable preservative before priming.
2. End grain: Coat liberally allow to soak in, and recoat.

730 Workshop coating of concealed joinery surfaces

1. General: Apply coatings to all surfaces of components.

780 Bead glazing to coated wood

1. Before glazing: Apply first two coats to rebates and beads.

790 Linseed oil putty glazing

1. Setting: Allow putty to set for seven days.
2. Sealing
 - 2.1. Within a further 14 days, seal with a solvent-borne primer.
 - 2.2. Fully protect putty with coating system as soon as it is sufficiently hard.
 - 2.3. Extend finishing coats on to glass up to sight line.

800 Glazing

1. Etched, sand blasted and ground glass: Treat or mask edges before coating to protect from contamination by oily constituents of coating materials.

810 Water repellent

1. Application: Liberally flood surface, giving complete and even coverage.

811 Maintenance and Recoating

1. Redecoration
With factory-finished joinery, little preparation is necessary – just give a light abrasion to provide a key for the paint, wipe down and apply one or two top coats with a long-haired synthetic brush.

Use a water-based micro-porous acrylic paint.

You won't need to decorate tricky areas that aren't exposed to the sun.

Any bare wood should be primed before top-coating.

If there is any resin exudation, do not try to remove it when it's fresh and sticky; wait for it to oxidise and brush it off.

2. Ensure maintenance is carried out within the recommended cycles offered by the system manufacturer. This is likely to be 6-8years.

Ω End of Section



Specification created using NBS Chorus