421_41-42 Chester Terrace

27 January 2015

L10
Windows/ Rooflights/ Screens/ Louvres

Section Revision History

No.	Purpose	
A	For Tender	27th Jan 2015

Clauses amended in Revision A

This is the first revision stamp for this section. For all future revision stamps, details of all clauses amended at that revision will be included here.

L10 Windows/ Rooflights/ Screens/ Louvres

TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS, LOCAL AUTHORITY APPROVALS, THE CROWN ESTATE STANDARD GUIDELINES AND SPECIFICATION (7TH EDITION) AND EMPLOYERS REQUIREMENTS

GENERAL

110 EVIDENCE OF PERFORMANCE
- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

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

120 SITE DIMENSIONS
- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items: Sash windows, glazed doors and opening for rooflight.

140 CONTROL SAMPLES
- Procedure:
  - Finalise component details.
  - Fabricate one of each of the following designated items as part of the quantity required for the project.
  - Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
- Designated items: Sash windows.

170 SPECIALIST SASH WINDOW RENOVATION AND PERFORMANCE UPGRADE
- Ventrolla
  - Web: www.ventrolla.co.uk
  - Tel: +44 (0)1423 859323
  - Product Reference: Specialist Sash Window Renovation and Performance Upgrade - refer to Ventrolla's report ref: MJ/14/6301 Revision 1 dated 21.01.15
- Sash Removal System: Where required - refer to Ventrolla's report ref: MJ/14/6301 Revision 1 dated 21.01.15
- Sill Replacement: Where required - refer to Ventrolla's report ref: MJ/14/6301 Revision 1 dated 21.01.15
- Ironmongery: Remove all existing fittings and replace. Refer to window and ironmongery schedule.

171 GUIDANCE FOR SPECIALIST SASH WINDOW RENOVATION AND PERFORMANCE UPGRADE

This service includes:

- Staff beads, parting beads and sash cords removed and discarded.
- Sashes are eased by removing excess paint build-up, released and brought into the building.
- Adjustments made to ensure min. 3mm gap between upper sash face and parting bead face.
- Mid-rail and lower rail of bottom sash routed to profile of pile carrier.
- Pile carriers fitted into the mid and bottom rails of lower sash and the new staff beads. All new fittings/carriers and beads to be timber.
- Where specified, Ventrolla sash cord brake and detachable sash cord holder threaded on to each new sash cord. sash edges routed to allow mounting of invisible Sash Removal System.
- Ventrolla parting bead snapped into the new U-Section installed into the existing parting bead groove.
- Weatherfin pile weather-stripping size selected and inserted as appropriate to width of gaps to be sealed.
- Sash weights are adjusted to balance sashes.
- Sashes re-hung and checked to ensure easy sliding.
- New staff beads mitred or butt jointed and fitted by pinning brass screw and cup, or easy release clips.
- Exposed bare wood is painted with white acrylic primer to BS 5082.

Perimeter sealing system performance:

- Air permeability: To BS EN 12207 Class 3 and BS 6375 (600Pa), independantly assessed by BBA (test report number 2756).
- Draught strips: To BS 7386.
- Sound insulation: Independantly tested and proven to fall within the 6 to 10dB noise reduction range. Performance verified by Hanns Tucker Acoustic Engineers.

Ventrolla Wood Repair:

Ventrolla wood repairs are undertaken using Ventrolla VR90, formulated to give long lasting wood repairs beyond those normally carried out using conventional polyester wood fillers. VR90 is a two-part resin system and is designed to be used to impart the original strength to sash tenon joints, to fill large cavities in sills and to act as a powerful adhesive. It completely bonds with the aprent wood and flexes when the wood contracts or expands. To Achieve this bond, all decayed wood is removed exposing only sound wood. This is then stabilised using VR90 WS solution which penetrates the wood fibres to attain the permanent anchorage for the subsequently applied VR90 filler.

Sash Removal System:

The sash removal system is a unique hidden methos which allows the quick and easy removal of both top and bottom sashes internally. Staff beads can easily be detached from teh window giving access to the bottome sash. Using the plastic cord holder, the sash cord can be unclipped from the window which allows the bottom sash to be completely removed. The parting beads can also be removed, allowing access to the top shash. The Ventrolla sash removal system allows all components of the window to be removed internally and brought into the building for convenient maintenance and painting, thereby avoiding the need for external scaffolding.

Sill Replacement:

Replacement sills can be provided to match original profiles. The original bottom section of the box linings is removed and sill trenches are cut, the outer and inner linings are spliced to facilitate a flush and water tight finish.

Ironmongery:
Refer to window schedule and ironmongery schedule.

PRODUCTS

250 WOOD WINDOWS
- Standard: To BS 644.
- Manufacturer: A firm currently registered under a third party quality assurance scheme.
- Exposure category to BS 6375-1/ Design wind load: 1600 Pa.
- Operation and strength characteristics: To BS 6375-2.
- Timber: Generally to BS EN 942.
  - Species: To match existing. Class 1 for glazing beads, drip mouldings and similar elements. Class 2 for all other members.
  - Appearance class: J10 for glazing beads, drip mouldings and the like. J40 or better for all other members.
  - Moisture content on delivery: 12-19%.
- Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years.
- Finish as delivered: Prepared and primed as section M60.
- Glazing details: To match existing.
  - Beading: To match existing.
- Ironmongery/ Accessories: Pulleys, sash cords and counter weights as required and to suit size and weight of windows. Concealed draft excluders and acoustic seals to be fitted to suit requirements. Refer to ironmongery schedule for sash fastner. sash pulls and sash locks.
- Fixing: As existing. Screwed to timber framing as clause 780.

420 WOOD SUBFRAMES
- Timber: To BS EN 942.
  - Species: Hardwood as table NA.2.
  - Appearance class: J30.
  - Moisture content on delivery: 12-19%.
- Assembly adhesive: As recommended by manufacturer.
- Joinery workmanship: As section Z10.
- Preservative treatment: Organic Solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years.
- Finish as delivered: Prepared and primed as section M60.
- Fixing: As existing.

460 ROOFLIGHTS
- Manufacturer: Glazing Vision or Similar Approved.
  - Product reference: Flushglaze Walk-On.
- Type: Flat with fall.
- Frame: Minimal steel.
  - Finish: Powder Coated.
  - Colour: Dark Grey.
- Kerb: Timber by main contractor with lead flashings.
- Glazing details: Clear - triple glazed sealed unit.
- Other requirements: Adhesive glazing tape.
- Fixing: To be carried out by an approved installer. Anti-slip covering to external face of rooflight. Rooflight to be in one single sheet of glass in one single frame - no joints allowed.

511 GLAZED WOOD DOORS

- Location: Basement. Refer to drawings AA-6-02 and AA-7-01.
- Timber: Generally to BS EN 942.
  - Species: Softwood as table NA.1.
  - Appearance class: J10 for glazing beads, drip mouldings and the like. J40 or better for other members.
  - Moisture content on delivery: As recommended by Trada .
- Panels: Double glazed units.
- Assembly adhesive: Contractor's choice .
- Joinery workmanship: As section Z10.
- Finish as delivered: Prepared and primed as section M60.
- Glazing details: Hardwood beads fixed with brass cups and screws.
- Special features/ Other requirements: Mouldings to mullions and stiles to match existing mounldings of windows within no. 41.
- Fixing: Screw fixed and pelleted as clause 780.

610 WOOD LOUVRES

- Timber: Generally to BS EN 942.
  - Species: Hardwood as table NA.2.
  - Appearance class: J20.
  - Moisture content on delivery: 12–16%.
- Blanking panels: Not required.
- Assembly adhesive: Submit proposals.
- Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years.
- Finish as delivered: Primer and undercoat as section M60.
- Joinery workmanship: As section Z10.
- Fixing: Screwed and pelleted as clause 780. Where louvres are access doors into plant/service areas, they are to have external grade hinges, locks and handles.

EXECUTION

710 PROTECTION OF COMPONENTS

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

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

740 CORROSION PROTECTION

- Surfaces to be protected: Any surfaces that will come into contact with metals where electrolytic action may take place, or timbers where chemical reactions may take place.
- Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
  - Timing of application: Before fixing components.

750 BUILDING IN

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

760 REPLACEMENT WINDOW INSTALLATION
- Standard: To BS 8213-4.

765 WINDOW INSTALLATION GENERALLY
- Installation: Into prepared openings.
- Gap between frame edge and surrounding construction:
  - Minimum: Submit proposals for approval.
  - Maximum: Submit proposals for approval.
- Distortion: Install windows without twist or diagonal racking.

770 DAMP PROOF COURSES IN PREPARED OPENINGS
- Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

780 FIXING OF WOOD FRAMES
- Standard: As section Z20.
- Fasteners: As existing .
  - 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.

790 FIRE RESISTING FRAMES
- Gap between back of frame and reveal: Completely fill with intumescent material.

820 IRONMONGERY
- Fixing: Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
- Checking/ Adjusting/ Lubricating: Carry out at Completion and ensure correct functioning.

L40
General glazing

L40 General glazing

TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS, LOCAL AUTHORITY APPROVALS, THE CROWN ESTATE STANDARD GUIDELINES AND SPECIFICATION (7TH EDITION) AND EMPLOYERS REQUIREMENTS

GENERAL REQUIREMENTS

120 PROTECTION
- Protect existing glass from impact during the works, take particular care of historic Crown Glass.

131 REMOVAL OF GLASS FOR REUSE
- The original Crown Glass is now irreplaceable and special care must be taken to avoid damaging it.
- Carefully remove existing glazing and glazing compound, beads, etc., avoiding damage to the frame, to leave clean smooth rebates free from obstructions and debris.
- Report to CA any signs of deterioration of the surround revealed by removal of glazing, compounds, etc.
- Do not reglaze affected surrounds until instructed.
- Re-usable materials - clean glazing, neads and other components that are to be reused.
- Historic Crown or Cylinder glass should always be reused where casement repairs have been undertaken.

135 DE-GLAZING EXISTING OPENINGS
- Temporary blocking to opening whilst glass is removed: Sterling board (12mm minimum thickness) neatly scribed to outer surface of the opening.
- Provide 75 x 50mm softwood bracing internally. Bolt bracing and board together with threaded rod, nuts and washers.
- Protect internal finishes and surfaces.
- Internal dust sheeting: provide polythene sheeting internally where required by Schedule of Works.
- Existing frames/casements: Preparation - clean out glazing rebate and leave ready for glass.

141 MATERIAL SAMPLES - REPLACEMENT FOR DAMAGED GLASS
- Representative samples of Crown or cylinder glass: Submit before cutting panes.
  - Sample size (minimum): 150 x 150 mm.
  - There should not be excessive distortion in the glass.

150 WORKMANSHIP GENERALLY
- Glazing generally: To BS 6262.
- Integrity: Glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
- Dimensional tolerances: Panes/ sheets to be within ± 2 mm of specified dimensions.
- Materials:
  - 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.
  - Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.

152 PREPARATION

- Surrounds, rebates, grooves and beads: Clean and prepare before installing glazing.

155 GLASS GENERALLY

- Standards: To BS 952 and relevant parts of:
  - BS EN 572 for basic soda lime silicate glass.
  - BS EN 1096 for coated glass.
  - BS EN 1748-1 for borosilicate glass.
  - BS EN 1748-2 for ceramic glass.
  - BS EN 1863 for heat strengthened soda lime silicate glass.
  - BS EN 12150 for thermally toughened soda lime silicate safety glass.
  - BS EN 12337 for chemically strengthened soda lime silicate glass.
  - BS EN 13024 for thermally toughened borosilicate safety glass.
  - BS EN ISO 12543 for laminated glass and laminated safety glass.
- Panes/ sheets: Clean and free from obvious scratches, bubbles, cracks, rippling, dimples and other defects.
  - 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.

156 CROWN GLASS

- Crown glass is to be used for windows and generally elsewhere, except where specifically noted otherwise.
  - Crown Glass German Cylinder Blown Sheet NR.
  - Manufactured by The London Crown Glass Company
- There should not be excessive distortion in the glass.

165 HEAT SOAKING OF THERMALLY TOUGHENED GLASS

- Standard: To BS EN 14179.
  - Holding period (minimum): 2 hours.
  - Mean glass temperature: 290° ± 10°C.
- Certified evidence of treatment: Submit.
- Designated locations: Rooflight.

180 BEAD FIXING WITH PINS

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

181 BEAD FIXING WITH SCREWS

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

TYPES OF GLAZING

210 PUTTY FRONTED SINGLE GLAZING TO WINDOWS

- Pane material: As clause L40/156 .
- Surround: Softwood .
  - Sealer: Paint primer as M60 .
- Type of putty: Linseed oil putty to BS 544 .
- Glass installation:
  - Glass: Located centrally in surround using setting and location blocks, and secured with glazing sprigs/ cleats/ clips at 300 mm centres.
  - Finished thickness of back bedding after inserting glazing (minimum): 1.5 mm.
  - 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.
- Sealing putty: Seal as soon as sufficiently hard but not within 7 days of glazing. Within 28 days apply either:
  - The full final finish, suitably protected until completion and cleaned down and made good as necessary, or
  - Two coats of oil based primer applied locally to the compound, to be followed nearer completion with the full specified finish.
- Opening lights: Keep in closed position until putty has set sufficiently to prevent displacement of glazing when opened.

370 BEAD FIXED INSULATING GLASS UNITS TO BASEMENT WINDOWS

- Pane material: 14mm insulating glass units to BS EN 1279 and Kitemark certified .
  - Inner pane: 4mm clear float glass .
  - Outer pane: 4mm clear float glass .
  - Spacer: 6mm .
  - Perimeter taping: Do not use.
- Surround/ bead: Hardwood .
  - Preparation: Paint primer .
  - Bead location: As existing .
  - Bead fixing: As existing .
- Glazing system: Preformed gasket sections supplied by window manufacturer .
- Glazing installation:
  - Insulating unit: Located centrally in surround using setting and location blocks.
  - Gaskets and beads: Installed as recommended by frame manufacturer. Gasket fit at corners: Tight, without gaps.
  - Drainage and ventilation holes: Unobstructed.

520 FIRE RATING

- Assessment of capability: Submit proposed construction details of designated items to a UKAS/ NAMAS accredited laboratory or other approved authority for assessment of capability of achieving specified fire ratings.
  - Test standard: To BS EN 1364-1.
- Assessment/ test results and reports: Submit immediately they are available, and before installing glazing.
- Designated items: To comply with Building Regulations. Contractor to submit proposals for approval.

550 GLASS MIRRORS TO SLIDING DOORS

- Mirror material: Float glass, silvered to give maximum reflection, free from tarnishing, discoloration, scratches and other defects visible in the designed viewing conditions.
  - Thickness: 6 mm .
  - Backing: Silvered .
  - Edge treatment: Polished .
- Background: Refer to door schedule .
- Fixing method: Moisture resistant glue .
- Installation: Fixed accurately and securely without overtightening fasteners, to provide a flat surface giving a distortion free reflection.

550A GLASS MIRRORS TO JOINERY - REFER TO JOINERY DETAILS AND SCHEDULE

- Mirror material: Float glass, silvered to give maximum reflection, free from tarnishing, discoloration, scratches and other defects visible in the designed viewing conditions.
  - Thickness: 6 mm .
  - Backing: Silvered .
  - Edge treatment: Polished .
- Background: Refer to joinery schedule and details .
- Fixing method: Moisture resistant glue .
- Installation: Fixed accurately and securely without overtightening fasteners, to provide a flat surface giving a distortion free reflection.