



Arca Architects

363 Wilmslow Road

Technical Specification

10 June 2022

Alterations to existing listed building and recent extension to comply with Planning Consent for the site.

Client: Feltham

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C20

Demolition

To be read with preliminaries/ general conditions.

5 Desk study/ survey

1. **Scope:** Before starting deconstruction/ demolition work, examine available information, and carry out a survey of:
 - 1.1. the structure or structures to be deconstructed/ demolished,
2. **Report and method statements:** Submit, describing:
 - 2.1. Form, condition and details of the structure or structures, the site and the surrounding area.
 - 2.1.1. **Extent:** Second floor and roof of recent rear extension
 - 2.2. Type, location and condition of features of historical, archaeological, geological or ecological importance.
 - 2.3. Type, location and condition of adjoining or surrounding premises that might be adversely affected by removal of the structure or structures or by noise, vibration and/ or dust generated during deconstruction/ demolition.
 - 2.4. Identity and location of services above and below ground, including those required for the Contractor's use, and arrangements for their disconnection and removal.
 - 2.5. Form and location of flammable, toxic or hazardous materials, including lead-based paint, and proposed methods for their removal and disposal.
 - 2.6. Form and location of materials identified for reuse or recycling, and proposed methods for removal and temporary storage.
 - 2.7. Proposed programme of work, including sequence and methods of deconstruction/ demolition.
 - 2.8. Details of specific pre-weakening required.
 - 2.9. Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons.
 - 2.10. Arrangements for control of site transport and traffic.
 - 2.11. **Special requirements:** All in strict accordance with the approved Listed Building and Planning Consent
3. **Format of report:**

20 Features to be retained

1. General: Keep in place and protect the following: existing walling and features to the original house.

50 Workmanship

1. **Standard:** Demolish structures in accordance with BS 6187.
2. Operatives
 - 2.1. Appropriately skilled and experienced for the type of work.
 - 2.2. Holding, or in training to obtain, relevant CITB Certificates of Competence.
3. **Site staff responsible for supervision and control of work:** Experienced in the assessment of risks involved and methods of deconstruction/ demolition to be used.

55 Site hazards

1. **Precautions:** Prevent fire and/ or explosion caused by gas and/ or vapour from tanks, pipes, etc.
2. **Dust:** Reduce airborne dust by periodically spraying deconstruction/ demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris.
 - 2.1. **Lead dust:** Submit method statement for control, containment and clean-up regimes.
3. **Site operatives and general public:** Protect from health hazards associated with vibration, dangerous fumes and dust arising during the course of the Works.

65 Structures to be retained

1. **Extent:** Pre-existing (Listed) house
2. **Parts which are to be kept in place:** Protect.
3. **Interface between retained structures and deconstruction/ demolition:** Cut away and strip out with care to minimize making good.

70 Partly demolished structures

1. **General:** Leave partly in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Make secure outside working hours.
2. **Temporary works:** Prevent overloading due to debris.
3. **Access:** Prevent access by unauthorized persons.

71 Dangerous openings

1. **General:** Provide guarding at all times, including outside of working hours. Illuminate during hours of darkness.
2. **Access:** Prevent access by unauthorized persons.

95 Recycled materials

1. **Materials arising from deconstruction/ demolition work:** Can be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification and in accordance with any site waste management plan.
2. **Evidence of compliance:** Submit full details and supporting documentation.

Ω End of Section

F10

Brick/ block walling

Clauses

10 Reclaimed brick facing brickwork

1. **Description:** Bricks reclaimed as arising from second floor demolition
2. **Reclaimed bricks:** As existing
 - 2.1. **Condition:** Sound, free from mortar and deleterious matter.
3. **Mortar:** As section Z21.
 - 3.1. **Standard:** To BS EN 998-2
 - 3.2. **Mix:** 1:1:6 cement:lime:sand
4. **Bond:** Half lap stretcher
5. **Joints:** Flush

51 Basic workmanship

1. **Bond where not specified:** Half lap stretcher.
2. **Mortar joints:** Fill all vertical joints. Lay bricks, solid and cellular blocks on a full bed.
3. **AAC block thin mortar adhesive and gypsum block adhesive joints:** Fill vertical joints. Lay blocks on a full bed.
4. Clay block joints
 - 4.1. **Thin layer mortar:** Lay blocks on a full bed.
 - 4.2. **Interlocking perpends:** Butted.
5. **Quoins and advance work:** Rack back.
6. Locations for equal levelling of cavity wall leaves
 - 6.1. Every course containing vertical twist type ties or other rigid ties.
 - 6.2. Every third tie course for double triangle/ butterfly ties.
 - 6.3. Courses in which lintels are to be bedded.
7. **Lift height (maximum) for walling using cement gauged or hydraulic lime mortar:** 1.2 m above any other part of work at any time.
8. **Daily lift height (maximum) for walling using cement gauged or hydraulic lime mortar:** 1.5 m for any one leaf.
9. **Lift height (maximum) for walling using thin layer mortar:** 1.3 m above any other part of work at any time.

55 Facework

1. **Commencement of facework:** Not less than 150 mm below finished level of adjoining ground or external works level.
2. **Brick/ block selection:** Do not use units with damaged faces or arrises.
3. **Cut masonry units:** Where cut faces or edges are exposed cut with table masonry saw.
4. **Coursing brickwork and concrete blockwork:** Evenly spaced using gauge rods. To produce satisfactory junctions and joints with built-in elements and components.

60 Alterations/ Extensions

1. **Coursing:** Line up with existing work.
2. **Block bonding new walls to existing:** Unless agreed otherwise cut pocket requirements as follows:
 - 2.1. **Width:** Full thickness of new wall.
 - 2.2. **Depth (minimum):** 100 mm.
 - 2.3. **Vertical spacing:** As follows:
 - 2.4. **Brick to brick:** 4 courses high at 8 course centres.
 - 2.5. **Block to block:** Every other course.
 - 2.6. **Pocket joints:** Fully filled with mortar.
3. **New and existing facework in the same plane:** Bonded together at every course to achieve continuity of bond and coursing.
4. **Support of existing work:** Fully consolidate joint above inserted lintel or masonry with semidry mortar to support existing structure.

90 Cracked bricks in existing facework

1. **Replacement:** Prior to repointing adjacent cracked joints, cut out and replace with matching sound bricks to approval.
2. **Jointing mortar:** As section Z21.
 - 2.1. **Standard:** To BS EN 998-2
 - 2.2. **Mix:** 1:1:6 cement:lime:sand

Ω End of Section

F21

Natural stone/ ashlar walling/ dressings

Types of walling/ dressings

110 Stone Components

1. **Description:** Stone sills
2. **Stone:** To BS EN 771-6.
 - 2.1. **Name (traditional):** York Stone
 - 2.2. **Petrological family:** Sandstone
 - 2.3. **Colour:** Light buff
 - 2.4. **Origin:** -
 - 2.5. **Finish:** Rubbed
 - 2.6. **Supplier:** Etherow Stone Ltd
9 Graphite Business Park
Graphite Way
Hadfield
SK13 1QH
Contact:
Tel: 01457 850 718
Email: sales@etherowstone.co.uk
 - 2.7. **Unit dimension tolerances:** Category D3
 - 2.8. Compressive strength
 - 2.8.1. **Mean value (minimum):** 110 N/mm²
 - 2.8.2. **Characteristic value (minimum):** 60 N/mm²
 - 2.8.3. **Category:** I
 - 2.9. **Open porosity:** 14.7%
 - 2.10. **Additional requirements:** Flexural strength 14.7N/mm²
 - 2.11. **Quality:** Free from vents, cracks, fissures, discolouration, or other defects deleterious to strength, durability or appearance. Before delivery to site, season thoroughly, dress and work in accordance with shop drawings prepared by supplier.
3. **Mortar:** As section Z21.
 - 3.1. **Standard:** To BS EN 998-2
 - 3.2. **Mix:** 1:1:6 cement:lime:sand
 - 3.3. **Sand:** - To BS EN 13139; crushed stone with grading to approval
 - 3.4. **Additional requirements:** Coloured mortar to match existing
4. **Bond:** Half lap stretcher
5. **Joints:** Flush.
 - 5.1. **Width:** 10mm

5.2. **Pointing:** As clause 390

6. **Other requirements:** See drawings

General/ production

250 Cutting and dressing of stone

1. **Timing:** After seasoning but before delivery to site.
2. Accuracy
 - 2.1. **Exposed and joint surfaces:** Square, true planes free from hollow or rough areas.
 - 2.2. **Dimensions:** Maintain specified joint widths.
3. **Orientation for natural bed of stones:** Appropriate to properties of stones and positions in walling/ dressings.

260 Identification of stone units

1. **Marking:** Clearly and indelibly on concealed faces to indicate the natural bed and position in the finished work.

Laying and jointing

300 Reference panels

1. **General:** Provide representative sample of sill material, finish and arrises, including part-painted section for approval by MCC.

315 Adverse weather

1. **General:** Do not use frozen materials or lay on frozen surfaces.
2. **Air temperature:** Do not lay stones:
 - 2.1. **In cement gauged mortars:** At or below 3°C and falling or below 1°C and rising.
 - 2.2. **In hydraulic lime:sand mortars:** At or below 5°C and falling or below 3°C and rising.
3. **Temperature of walling during curing:** Above freezing until mortar hardened.
4. **Newly erected walling:** Protect at all times from:
 - 4.1. Rain and snow.
 - 4.2. Drying out too rapidly in hot conditions and in drying winds.

325 Laying generally

1. **Stone selection:** Do not use units with damaged faces or arrises.
2. Accuracy

- 2.1. **Courses:** Level and true to line.
- 2.2. **Faces, angles and features:** Plumb.
- 2.3. **Setting out:** Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
3. **Absorbent stones:** Dampen in warm weather to reduce suction. Do not soak.
4. Mortar joints
 - 4.1. **Laying:** Full bed of mortar with all joints and voids filled.
 - 4.2. **Temporary distance pieces:** Lead or stainless steel. Remove when mortar is sufficiently strong.
 - 4.3. **Appearance:** Neat and consistent.
5. **Cleanliness:** Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains not permitted.

350 One piece sills/ Thresholds

1. **Pointing on completion:** Mortar to match adjacent work.

390 Pointing

1. **Joint preparation:** Rake out to depth of 7-10 mm as work proceeds. Remove debris. Dampen surface.
2. **Mortar application:** Neat and consistent.

Ω End of Section

H62

Natural slating

To be read with preliminaries/ general conditions.

3 Roof slating

1. **Description:** To main house and extension roofs
2. **Substrate:** Plywood sarking on rafters at 450 mm centres
3. **Pitch:** 35° approx
4. **Underlay:** Contractor's choice of vapour-permeable underlay to BS EN 13859, Class W1
 - 4.1. **Recycled content:** Contractor's choice
 - 4.2. **Direction:** Parallel to eaves.
 - 4.3. **Head-lap (minimum):** 150 mm
5. Counter battens
 - 5.1. **Size:** 38 x 25 mm
 - 5.2. **Fixing:** 65 x 3.35 mm galvanized annular ring shank nails
6. Battens
 - 6.1. **Size:** 50 x 25 mm
 - 6.2. **Fixing:** 65 x 3.35 mm galvanized annular ring shank nails
7. Slates
 - 7.1. **Supplier:** Reclaimed natural slate to sample approved with MCC
 - 7.2. **Product reference:** -
 - 7.3. **Type:** To match existing (similar to Welsh heather-grey)
 - 7.4. **Size:** To match existing
 - 7.5. **Head-lap (minimum):** 77 mm
 - 7.6. **Fixing:** Two nails each slate.
 - 7.7. **Accessories:** None

20 Removing existing slating

1. **General:** Carefully remove slates, battens, underlay, etc. with minimum disturbance of adjacent retained slating.
2. **Undamaged slates:** Set aside for reuse.

25 Underlay

1. **Handling:** Do not tear or puncture.

2. **Laying:** Maintain consistent tautness.
3. **Vertical laps (minimum):** 100 mm wide, coinciding with supports.
4. **Fixing:** Galvanized steel, copper or aluminium 20 x 3 mm extra large clout head nails.
5. **Eaves:** Where exposed, use an external grade (UV-resistant) underlay or a proprietary eaves support product.
6. **Penetrations:** Use proprietary underlay seals or cut underlay neatly.
7. **Ventilation paths:** Do not obstruct.

30 Battens/ Counterbattens

1. **Timber:** Sawn softwood.
 - 1.1. **Standard:** In accordance with BS 5534, Annex D.
 - 1.2. **Moisture content at time of fixing and covering (maximum):** 22%.
2. **Preservative treatment:** As section Z12 and Wood Protection Association Commodity Specification C8.
 - 2.1. **Type:** Contractor's choice

32 Batten fixing

1. **Setting out:** Align parallel to ridge in straight horizontal lines to gauge of slates. Align on adjacent areas.
2. **Batten length (minimum):** Sufficient to span over three supports.
3. **Joints in length:** Butt centrally on supports. Joints must not occur more than once in any group of four battens on one support.
4. **Additional battens:** Provide where unsupported laps in underlay occur between battens.

35 Slate fixing

1. **General:** Fix slating and accessories to make the whole sound and weathertight at earliest opportunity.
2. **Setting out:** To true lines and regular appearance. Lay slates with slightly open (maximum 5 mm) butt joints. Align tails.
3. **Slate thickness:** Consistent in any one course. Lay with thicker end as tail.
4. **Ends of courses:** Use extra wide slates to maintain bond and to ensure that cut slates are as large as possible. Do not use slates less than 150 mm wide.
5. **Top course:** Head-nail short course to maintain gauge.
6. **Fixing:** Centre nail each slate twice through countersunk holes 20-25 mm from side edges.
 - 6.1. **Nails:** Copper clout to BS 1202-2 or aluminium clout to BS 1202-3.
 - 6.2. **Nail dimensions:** Determine in accordance with BS 5534 to suit site exposure, withdrawal resistance and slate supplier's recommendations.

40 Mortar bedding/ Pointing

1. **Mortar:** As section Z21.
 - 1.1. **Mix:** In accordance with BS 5534, 1:3 cement:sand, with plasticizing admixtures permitted.
2. **Weather:** Do not use in wet or frosty conditions or when imminent.
3. **Appearance:** Finish neatly and remove residue.

42 Fire separating walls

1. **Separating walls:** Completely fill space between top of wall and underside of slates with mineral wool quilt to provide fire-stopping.
2. **Boxed eaves:** Completely seal air paths in plane of separating wall with wire reinforced mineral wool, not less than 50 mm thick, fixed to rafters and carefully cut to shape fire-resisting board and quilt to provide fire-stopping.

47 Eaves fascia grilles Type A

1. Ventilation components
 - 1.1. **Manufacturer:** [Rytons Building Products Ltd](#)
 - 1.1.1. Contact details
 - 1.1.1.1. **Address:** Design House
Orion Way
Kettering Business Park
Kettering
Northamptonshire
NN15 6NL
 - 1.1.1.2. **Telephone:** +44 (0)1536 511874
 - 1.1.1.3. **Web:** www.vents.co.uk
 - 1.1.1.4. **Email:** admin@rytons.com
 - 1.1.2. **Product reference:** [OFV1000 - Rytons Over Facia Ventilator](#)
 - 1.2. **Ventilation opening:** 4 mm.
 - 1.3. **Colour:** Black.
 - 1.4. **Free area:** 11 235 mm².

52 Bedded verges with bedded undercloak

1. **Underlay:** Carry 50 mm onto outer leaf of gable wall and bed on mortar.
2. **Undercloak:** Slates, sloping towards verge and projecting 38-50 mm beyond face of wall.
 - 2.1. **Bedding:** On mortar identical to that used in gable walling.
3. **Slating battens:** Carry onto undercloak and finish 100 mm from verge edge.

4. **Verge slates:** Bed flush with undercloak on 75 mm wide bed of mortar. Point with flush profile.

53 Bedded verges with nailed undercloak

1. **Underlay:** Carry over full width of verge.
2. **Undercloak:** Slates, nail fixed, sloping towards verge and projecting 38-50 mm beyond face of gable slating.
3. **Slating battens:** Carry onto undercloak and finish 100 mm from verge edge.
4. **Verge Slates:** Bed flush with undercloak on 75 mm wide bed of mortar. Point with flush profile.

66 Metal valleys

1. **Underlay:** Cut over tilting fillets to lap onto metal valley. Do not lay under metal.
2. **Roof slates:** Cut extra wide slates adjacent to valley to fit neatly.
 - 2.1. **Valley width between slates:** 150 mm

70 Side abutments

1. **Underlay:** Turn up not less than 100 mm at abutments.
2. **Abutment slates:** Cut as necessary. Fix close to abutments.
3. **Soakers:** Interleave and turn down over head of abutment slates.

71 Top edge abutments

1. **Underlay:** Turn up not less than 100 mm at abutments.
2. **Top slate courses:** Fix close to abutments.

77 Mortar-bedded and mechanically fixed tile ridges

1. **Underlay:** Lay courses over ridge. Overlap (minimum) 150 mm.
2. **Ridge tile fixing battens:** To tile manufacturer's recommendations
3. **Ridge tiles**
 - 3.1. **Manufacturer:** Marley
 - 3.1.1. **Product reference:** Capped Angle Clay Ridge Tile 450mm, Slate Grey
 - 3.2. **Bedding:** On mortar, continuous to edges and solid to joints.
 - 3.3. **Fixing:** Secure all ridge tiles to ridge boards or ridge tile fixing battens with self-sealing non-ferrous fixings.
 - 3.4. **Gable end ridge tiles:** Fill ends with mortar and slips of tiles finished flush.

86 Roof slope ventilator tiles Type A

1. **Manufacturer:** BPD Building Product Design Ltd
 - 1.1. Contact details
 - 1.1.1. **Address:** 2 Brooklands Road
Sale
Cheshire
M33 3SS
 - 1.1.2. **Telephone:** +44 (0)161 905 5700
 - 1.1.3. **Web:** <https://www.buildingproductdesign.com/divisions>
 - 1.1.4. **Email:** info@buildingproductdesign.com
 - 1.2. **Product reference:** Glidevale Protect Universal In-line® Slate Ventilator
2. **Purpose:** Roof void ventilator.
3. **Ventilation opening:** 10 000 mm².
4. **Colour:** Grey
5. **Accessories:** -
6. **Roof pitch:** 20°.
7. **Air flow:** 54 m³/hr (10 Pa), 108 m³/hr (42 Pa), 216 m³/hr (162 Pa).

Ω End of Section

H71

Lead sheet fully supported roof coverings/ flashings

To be read with preliminaries/ general conditions.

3 Lead sheet fully supported roof covering

1. **Covering system:** Rolled lead sheet standing seam
2. **Fire performance:** Not required
3. **Insulation:** 150 mm Mineral board to BS EN 13162
4. **Sarking or roof boarding:** Plywood as K11/50
5. **Membrane:** Vapour permeable sheet in accordance with BS EN 13859-1
6. **Substrate:** Plywood (minimum 18 mm) on (50 x 50 mm) treated timber battens, forming ventilated cavity
 - 6.1. **Preparation:** Lay 6 mm plywood
7. **Sheet underlay:** As clause 64
8. **Lead**
 - 8.1. **Type:** Rolled to BS EN 14783
 - 8.2. **Thickness:** 2.00 or 2.24 mm (Code 5)
9. **Joints in direction of fall:** Standing seam
 - 9.1. **Spacing:** 600 mm
10. **Cross joints:** Not permitted
 - 10.1. **Spacing:** Determined by contractor
11. **Intermediate fixings:** Brass cup and screw with lead cap
12. **Accessories:** None

15 Valley gutter linings to slate/ tile roofs

1. **Sheet underlay:** Building paper to BS 1521, Class A1
2. **Lead**
 - 2.1. **Type:** Rolled to BS EN 12588
 - 2.2. **Thickness:** 1.75 or 1.80 mm (Code 4).
 - 2.3. **Laying:** Over and beyond tilting fillets. In lengths not more than 1500 mm.
3. **Cross joints:** Lapped not less than 200 mm.
4. **Fixing:** Welt edges. Nail top edge of each sheet. Dress bottom edge neatly into eaves gutter.

27 Soakers for mitred hips to slate/ plain tile roofs

1. Lead
 - 1.1. **Type:** Rolled to BS EN 12588
 - 1.2. **Thickness:** 1.25 or 1.32 mm (Code 3).
2. Dimensions
 - 2.1. **Length:** Slate/ tile gauge + lap + 25 mm.
 - 2.2. **Underlap:** Not less than 150 mm.

30 Apron flashings

1. **Description:** At reconstructed outrigger abutment
2. Lead
 - 2.1. **Type:** Rolled to BS EN 12588
 - 2.2. **Thickness:** 1.75 or 1.80 mm (Code 4).
3. Dimensions
 - 3.1. **Lengths:** Not more than 1500 mm.
 - 3.2. **End to end joints:** Laps not less than 100 mm.
 - 3.3. **Upstand** not less than 75 mm.
 - 3.4. **Cover to abutment:** Not less than 150 mm.
4. Fixing
 - 4.1. **Top edge:** Lead wedges into bed joint.
 - 4.2. **Bottom edge:** Clips.
 - 4.3. **Material:** Stainless steel
 - 4.4. **Spacing:** At laps and 500 mm centres

41 Soakers and step flashings

1. **Description:** To extension roof abutment at rear wall
2. Lead soakers
 - 2.1. Lead
 - 2.1.1. **Type:** Rolled to BS EN 12588
 - 2.1.2. **Thickness:** 1.25 or 1.32 mm (Code 3).
 - 2.2. Dimensions
 - 2.2.1. **Length:** Slate/ tile gauge + lap + 25 mm.
 - 2.2.2. **Upstand:** Not less than 75 mm.
 - 2.2.3. **Underlap:** Not less than 100 mm.
3. Lead step flashings
 - 3.1. Lead

- 3.1.1. **Type:** Rolled to BS EN 12588
- 3.1.2. **Thickness:** 1.75 or 1.80 mm (Code 4).
- 3.2. Dimensions
 - 3.2.1. Lengths: Not more than 1500 mm.
 - 3.2.2. **End to end joints:** Laps not less than 100 mm.
 - 3.2.3. **Cover:** Overlap to soaker upstands of not less than 65 mm.
- 3.3. **Fixing:** Lead wedges at every course.

50 Flashings

- 1. **Description:** Generally
- 2. Lead
 - 2.1. **Type:** Rolled to BS EN 12588
 - 2.2. **Thickness:** 1.75 or 1.80 mm (Code 4)
- 3. Dimensions
 - 3.1. Lengths: Not more than 1500 mm.
- 4. **Fixing:** Nail top edge at 150 mm centres and welt edge. Clip bottom edge at laps and 500 mm centres.

60 Materials and workmanship generally

- 1. **Lead production method:** Rolled, to BS EN 14783
- 2. **Identification:** Colour marked for thickness/ code, weight and type.
- 3. **Workmanship standard:** To BS 6915 and latest editions of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Training Academy
- 4. **Fabrication and fixing:** To provide a secure, free draining and weathertight installation.
- 5. **Marking out:** Do not use scribes or other sharp instruments to mark out lead without approval.
- 6. **Solder:** Use only where specified.
- 7. **Finished leadwork:** Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
- 8. **Patination oil:** Apply smear coating to all visible lead, evenly in one direction and in dry conditions.

62 Lead-welding

- 1. **In situ lead-welding:** Not permitted.

64 Plastics sheets Type A

1. **Manufacturer:** [Associated Lead Mills](#)
 - 1.1. Contact details
 - 1.1.1. **Address:** Unit B
Bingley Road
Hoddeson
United Kingdom
EN11 ONX
 - 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:** [Geotextiles](#)
2. **Material:** Polyester.
3. Performance characteristics
 - 3.1. **Tensile strength (minimum):** 16.5 kN/m².
 - 3.2. **Tear resistance:** 2500 N.
4. **Form:** Micro-perforated (Needle punched).
5. Physical properties
 - 5.1. **Colour:** Green.
 - 5.2. **Weight (minimum):** 220 g/m².
 - 5.3. Dimensions
 - 5.3.1. **Width (minimum):** 1000 mm.
6. **Water permeability:** 220 L/m²/s.
7. **Options:** Geotec.

75 Timber for use with leadwork

1. **Quality:** Planed, free from wane, pitch pockets, decay and insect attack (ambrosia beetle excepted).
2. **Moisture content:** Not more than 22% at time of fixing and covering. Give notice if greater than 16%.
3. **Preservative treatment:** Organic solvent as section Z12 and Wood Protection Association Commodity Specification C8.

76 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.

- 2.3. Turn up at abutments.
3. **Wood core rolls:** Fixed over underlay.
4. **Protection:** Keep dry and cover with lead at the earliest opportunity.

78 Fixing lead sheet

1. **Top edge:** Secured with two rows of fixings, 25 and 50 mm from edge.
2. Fixings
 - 2.1. **Nails to timber substrates:** Copper clout nails to BS1202-2 , or stainless steel (austenitic) clout nails to BS 1202-1.
 - 2.1.1. **Shank type:** Annular ringed, helical threaded or serrated.
 - 2.1.2. **Length:** Not less than 20 mm or equal to substrate thickness.
 - 2.2. **Screws to concrete or masonry substrates:** Brass or stainless steel.
 - 2.2.1. **Diameter:** Not less than 3.35 mm.
 - 2.2.2. **Length:** Not less than 19 mm.
 - 2.2.3. **Washers and plastics plugs:** Compatible with screws.

80 Clips

1. Material
 - 1.1. **Lead clips:** Cut from sheets of the same thickness/ code as sheet being secured.
 - 1.2. **Copper clips:** Cut from 0.70 mm thick sheet to BS EN 1172, temper R220 (soft) or R240 (half hard) depending on position, dipped in solder if exposed to view.
 - 1.3. **Stainless steel:** Cut from 0.38 mm sheet to BS EN 10088-1, grade 1.4301(304), terne coated if exposed to view.
2. Dimensions
 - 2.1. **Width:** 50 mm where not continuous.
 - 2.2. **Length:** To suit detail.
3. **Fixing clips:** Secure each to substrate with either two screw or three nail fixings not more than 50 mm from edge of lead sheet. Use additional fixings where lead downstands exceed 75 mm.
4. **Fixing lead sheet:** Welt clips around edges and turn over 25 mm.

83 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:** Contractor's choice

3.1. **Application:** As section Z22.

90 Standing seam joints

1. **Joint allowance:** 100 mm overlap, 75 mm underlap and copper or stainless steel clips at not more than 750 mm centres.
2. **Forming joint:** Welt overlap and clips around underlap, loosely turn over to form a standing seam of consistent cross section.

98 Weltded joints

1. **Joint allowance:** 50 mm overlap, 25 mm underlap.
2. **Copper or stainless steel clips:** Fix to substrate at 450 mm centres.
3. **Overlap:** Welt around underlap and clips and lightly dress down.

99 Patination oil

1. **Manufacturer:** Contractor's choice
 - 1.1. **Product reference:** Contractor's choice
2. **Location:** -
3. **Application:** As soon as practical, apply a smear coating to lead, evenly in one direction and in dry conditions.

Ω End of Section

K13

Rigid sheet fine linings and panelling

Types of lining and panelling

160 Proprietary Bay Window Panelling & Window Shutters

1. **Description:** Fine replica painted timber bay window shutters and panelled lining
2. **Substrate:** Timber battens (grounds) on existing walls
3. Panels
 - 3.1. **Manufacturer:** Traditional solid wood historic joiner (eg Jack Badger Ltd, Glossop)
 - 3.2. **Board/ Panel type:** Solid pine, panelling and raised and fielded shutters in accordance with design drawings, to match pre-existing (lost) panels
 - 3.3. **Thickness:** See drawings
 - 3.4. **Moisture content at time of fixing:** As recommended by fabricator to suit environmental conditions.
4. Installation
 - 4.1. **Method of fixing panels:** Secret fixing
 - 4.2. **Joint treatment:** Open, butt jointing as drawings
5. **Included features:** Painted finish.
6. **Accessories:** Hinges and ironmongery in antique brass, subject to sample approval by MCC

General requirements

260 Environmental conditions

1. **General requirements prior to starting work specified in this section:** Building weathertight; wet trades completed and affected areas dried out.
2. **Temperature and humidity before, during and after fixing lining/ panelling:** Maintained at levels approximating to those which will prevail after building is occupied.

Fabrication/ fixing/ finishing

310 Accuracy of fabrication

1. **Site dimensions:** Take as necessary before starting fabrication.
 - 1.1. **Discrepancies with drawings:** Report without delay and obtain instructions before proceeding.
2. Permissible deviations for panels
 - 2.1. **Length:** ± 1.5 mm.

- 2.2. **Width:** ± 1.5 mm.
- 2.3. **Squareness (taking the longer of 2 sides at a corner as a baseline and measuring the deviation of the shorter side from the baseline perpendicular):** ± 1.5 mm in 1 m.
- 2.4. **Flatness (of panels with a core thickness of 12 mm and over, as delivered to site):** ± 1 mm under a 600 mm straightedge.

350 Fixing linings and panelling

- 1. **Setting out:** Accurate, true to line and level, free from undulations and lipping, with lines and joints aligned, straight and parallel unless specified otherwise.
- 2. **Movement allowance:** Adequate for future moisture and temperature movement of boards.
- 3. **Fixing of panels:** Secure, to prevent pulling away, bowing, or other movement during use.
- 4. **Methods of fixing and fasteners:** As section Z20 unless specified otherwise.
- 5. **Trims:** Wherever possible, to be in unjointed lengths between angles or ends of runs.
 - 5.1. **Running joints:** Where unavoidable, submit proposals for location and method of jointing.
 - 5.2. **Angle joints:** See drawings

440 Ironmongery

- 1. **Supplier:** To be confirmed by agreement with MCC
- 2. **Installation:** Shop fixed by lining/ panelling fabricator.
 - 2.1. **Fasteners:** Supplied by ironmongery manufacturer.
 - 2.1.1. **Finish/ Corrosion resistance:** To match ironmongery.
 - 2.2. **Adjacent surfaces:** Undamaged.
- 3. **Moving parts:** Adjusted, lubricated and functioning correctly at completion.

Ω End of Section

L10

Windows/ rooflights/ screens/ louvres

To be read with preliminaries/ general conditions.

5 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 chain of custody certification scheme requirements:
 - 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. **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:** None

15 Wood windows

1. **Standard:** Non-fire and/ or smoke-rated window to BS EN 14351-1 and BS 644
2. **Manufacturer:** Ventrolla Sash Windows or similar approved. ISO 9001-certified.
3. **Timber:** Generally to BS EN 942.
 - 3.1. **Species:** European redwood
 - 3.2. **Appearance Class:** J10 for glazing beads, drip mouldings and the like. J40 or better for all other members.
 - 3.3. **Moisture content on delivery:** 12-19%.
4. **Preservative treatment:** Organic solvent as section Z12 and WPA Commodity Specification C5; Desired service life 30 years
5. **Finish as delivered:** Manufacturer's standard
6. **Thermal performance (U-value maximum):** 1.2 W/m²K
7. **Acoustic performance rating:** Not required
8. Fire performance
 - 8.1. **Fire resistance:** Not required
 - 8.2. **Reaction to fire:** Not required
 - 8.3. **Fire egress:** Not required

9. **Glazing details:** Double glazed generally.
Pilkingtons 'Spacia' units for conservation grade windows in main house, where indicated.
 - 9.1. **Beading:** External
10. **Ironmongery/ accessories:** Locking handle in stainless steel/alu to match existing ironmongery
11. **Fixing:** Manufacturer's standard to suit existing openings on site
 - 11.1. **Fastener spacing:** When not pre-drilled 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.

46 Framed rooflights Type A

1. **Standard:** To BS EN 14351-1.
2. **Manufacturer:** [VELUX Company Ltd](#)
 - 2.1. Contact details
 - 2.1.1. **Address:** Woodside Way
Glenrothes
Fife
KY7 4ND
 - 2.1.2. **Telephone:** +44 (0)1592 778225
 - 2.1.3. **Web:** www.velux.co.uk
 - 2.1.4. **Email:** sales@velux.co.uk
 - 2.2. **Product reference:** Conservation roof windows
3. **Frame:** Composite timber/aluminium
 - 3.1. **Material:** Manufacturer's standard
 - 3.2. **Finish:** Grey-black PPC
4. **Thermal performance (U-value maximum):** Manufacturer's standard 1.3 W/m²K
5. **Fire performance (minimum):** Manufacturer's standard
6. **Glazing details:** Manufacturer's standard, including dividing centre bar
 - 6.1. **Beading:** Manufacturer's standard
7. **Flashings:** By window manufacturer to suit Reclaimed Natural Slate.
8. **Accessories:** Pleated blind
9. **Fixing:** Manufacturer's standard

65 Priming/ sealing

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

75 Resin impregnated pre-compressed foam sealing strips Type A

1. Sealant
 - 1.1. **Manufacturer:** [Tremco – a brand of CPG UK Ltd](#)
 - 1.1.1. Contact details
 - 1.1.1.1. **Address:** Tremco CPG UK Limited
Coupland Road
Hindley Green
Wigan
United Kingdom
WN2 4HT
 - 1.1.1.2. **Telephone:** [+44\(0\)1942251400](tel:+44(0)1942251400)
 - 1.1.1.3. **Web:** www.tremco-europe.com/en_GB/home/
 - 1.1.1.4. **Email:** hello@cpg-europe.com
 - 1.1.2. **Product reference:** Submit proposals
 - 1.2. **Colour:** Black
 - 1.3. **Application:** As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

80 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

P20

Unframed isolated trims/ skirtings/ sundry items

To be read with preliminaries/ general conditions.

30 Proprietary Fibrous Plaster Cornices

1. **Description:** Fibrous Plaster Heritage Coving
2. **Manufacturer:** Premier
 - 2.1. **Product reference:** Ground Floor Rooms: Replica Plaster Cornice from existing moulding by Gazelle Artplaster or similar.

First Floor Rooms: Swan Neck Cornice 83
3. **Size:** See drawings
 - 3.1. **Thickness:** See drawings
4. **Finish/ Colour:** Primed to receive decorative paint finish
5. **Reaction to fire rating:** Not applicable
6. **Accessories:** None
7. **Fixing:** Secret fixed, filled and glued
8. **Jointing:** Butt joints, filled and sanded to be seamless

80 Installation generally

1. **Joinery workmanship:** As section Z10.
2. **Metal workmanship:** As section Z11.
3. **Methods of fixing and fasteners:** As section Z20 where not specified.
4. **Straight runs:** To be in one piece, or in long lengths with as few joints as possible.
5. **Running joints:** Location and method of forming to be agreed where not detailed.
6. **Joints at angles:** Mitre, unless shown otherwise
7. **Position and level:** To be agreed where not detailed.

Ω End of Section

R10

Rainwater drainage systems

To be read with preliminaries/ general conditions.

12 Cast iron gutters

1. **Standard:** To extension. To BS 460
2. **Manufacturer:** Hambaker
 - 2.1. **Product reference:** Classical
3. **Profile:** Half-round
4. **Jointing type:** Spigot and socket
5. **Nominal size:** 100
6. **Finish as supplied:** Prepainted semigloss black
7. **Brackets:** Rafter type
 - 7.1. **Fixings:** Stainless steel screws
 - 7.1.1. **Size:** 40 x 4 mm
8. **Accessories:** Stop ends
9. **Fixing:** Stainless steel screws
10. **Jointing:** Caulked socketed connection

32 Cast iron pipework – flexible couplings

1. **Standard:** To BS EN 877, Agrément certified.
2. **Manufacturer:** Ham Baker Rainwater Ltd
 - 2.1. **Product reference:** Classical
3. **Coupling type:** Spigot Push fit
4. **Nominal size:** DN70
5. **Finish as supplied:** Prepainted semigloss black
6. **Brackets:** Cast iron holderbats
 - 6.1. **Fixings:** Stainless steel screws
 - 6.1.1. **Size:** 40 x 4 mm
7. **Accessories:** Access fittings
8. **Fixing:** Stainless steel screws
9. **Jointing:** Socketed spigots

50 Installation generally

1. **Electrolytic corrosion:** Avoid contact between dissimilar metals where corrosion may occur.
2. **Discharge of rainwater:** Complete, and without leakage or noise nuisance.
3. **Components:** Obtain from same manufacturer for each type of pipework and guttering.
4. **Allowance for thermal and building movement:** Provide and maintain clearance as fixing and jointing proceeds.
5. **Fixings and fasteners:** As section Z20.
6. Protection
 - 6.1. Fit purpose made temporary caps to prevent ingress of debris.
 - 6.2. Fit access covers, cleaning eyes and blanking plates as the work proceeds.

60 Gutters laid to fall

1. **Setting out:** To true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
2. **Joints:** Watertight.
3. **Roofing underlay:** Dressed into gutter.

65 Gutters laid level

1. **Setting out:** Level and as close as practical to roof.
2. **Joints:** Watertight.
3. **Roofing underlay:** Dressed into gutter.

70 Pipework

1. **Fixing:** Securely, plumb and/ or true to line with additional supports as necessary to support pipe collars, particularly at changes in direction.
2. **Cut ends of pipes and gutters:** Clean and square with burrs and swarf removed.

92 Gutter test

1. **Preparation:** Temporarily block all outlets.
2. **Testing:** Fill gutters to overflow level and after 5 minutes closely inspect for leakage.

Ω End of Section

Z21

Mortars

Cement gauged mortars

120 Sand for site made cement gauged masonry mortars

1. **Standard:** To BS EN 13139.
2. **Grading:** 0/2 (FP or MP).
 - 2.1. **Fines content where the proportion of sand in a mortar mix is specified as a range (e.g. 1:1: 5-6):**
 - 2.1.1. **Lower proportion of sand:** Use category 3 fines.
 - 2.1.2. **Higher proportion of sand:** Use category 2 fines.
3. **Sand for facework mortar:** Maintain consistent colour and texture. Obtain from one source.

135 Site made lime:sand for cement gauged masonry mortars

1. **Permitted use:** Where a special colour is not required and in lieu of factory made ready-mixed material.
2. **Lime:** Nonhydraulic to BS EN 459-1.
 - 2.1. **Type:** CL 90S.
3. **Mixing:** Thoroughly mix lime with sand, in the dry state. Add water and mix again. Allow to stand, without drying out, for at least 16 hours before using.

160 Cements for mortars

1. **Cement:** To BS EN 197-1 and CE marked.
 - 1.1. **Types:** Portland cement, CEM I.
2. Portland limestone cement, CEM II/A-L or CEM II/A-LL.
3. Portland slag cement, CEM II/B-S.
4. Portland fly ash cement, CEM II/B-V.
 - 4.1. **Strength class:** 32.5, 42.5 or 52.5.
5. **White cement:** To BS EN 197-1 and CE marked.
 - 5.1. **Type:** Portland cement, CEM I.
 - 5.2. **Strength class:** 52.5.
6. Sulfate resisting Portland cement
 - 6.1. **Types:** To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.
7. To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
 - 7.1. **Strength class:** 32.5, 42.5 or 52.5.

8. **Masonry cement:** To BS EN 413-1 and CE marked.
 - 8.1. **Class:** MC 12.5.

210 Making cement gauged mortars

1. **Batching:** By volume. Use clean and accurate gauge boxes or buckets.
 - 1.1. **Mix proportions:** Based on dry sand. Allow for bulking of damp sand.
2. **Mixing:** Mix materials thoroughly to uniform consistency, free from lumps.
 - 2.1. **Mortars containing air entraining admixtures:** Mix mechanically. Do not overmix.
3. **Working time (maximum):** Two hours at normal temperatures.
4. **Contamination:** Prevent intermixing with other materials.

Lime:sand mortars

310 Lime:sand mortar mixes

1. **Specification:** Proportions and additional requirements for mortar materials are specified elsewhere.

320 Sand for lime:sand masonry mortars

1. **Type:** Sharp, well graded.
 - 1.1. **Quality, sampling and testing:** To BS EN 13139.
 - 1.2. **Grading/ Source:** As specified elsewhere in relevant mortar mix items.

360 Making lime:sand mortars generally

1. **Batching:** By volume. Use clean and accurate gauge boxes or buckets.
2. **Mixing:** Mix materials thoroughly to uniform consistency, free from lumps.
3. **Contamination:** Prevent intermixing with other materials, including cement.

370 Site prepared nonhydraulic lime:sand mortars

1. **Mixing:** Mix materials thoroughly by compressing, beating and chopping. Do not add water.
 - 1.1. **Equipment:** Roller pan mixer or submit proposals.
2. **Maturation period before use (maximum):** Seven days

390 Knocking up nonhydraulic lime:sand mortars

1. **Knocking up before and during use:** Achieve and maintain a workable consistency by compressing, beating and chopping. Do not add water.
 - 1.1. **Equipment:** Roller pan mixer or submit proposals.

Ω End of Section



Specification created using NBS Chorus