RICHARD CROOKS
PARTNERSHIP

# Refurbishment of No. 3 The Green, Horsforth

T1

## Specifications

Tender

-

02-02-2023

RIBA AABC

# Contents

# C20
# Demolition

## Clauses

### 10 Extent of deconstruction/ demolition

1. General: Subject to retention requirements specified elsewhere, deconstruct/ demolish structures down to floor levels as shown on drawings 98218/02 & 98218/03.
2. Prior to the removal of any walls, the Contractor is to liaise with the Structural Engineer to confirm if they are structural, and where found to be so, that full structural support is provided to the structure above, prior to installation of new supports. The Contractor's particular attendion is brought to the stone vaulted chambers in the cellar, which will require the spreading of any point loads from timber props/supports to avoid structural failure.

### 25 Location of services

1. Services affected by the Works: Locate and mark positions on site prior to any works commencing.
2. Mains services marking: Arrange with the appropriate authorities for services to be located and marked.

### 35 Live foul and surface water drains

1. General: Protect drains and fittings still in use. Keep free of debris and ensure normal flow during deconstruction/ demolition work.
2. Damage: Make good damage arising from deconstruction/ demolition work. Leave clean and in working order at completion of deconstruction/ demolition work.

### 40 Service bypass connections

1. General: At tender stage, ascertain whether existing services within the building also supply adjacent buildings. Some services are shared with the Museum.

   Provide bypass connections, as necessary, to maintain continuity of services to occupied areas of the site on which the deconstruction/ demolition is taking place and to adjoining sites/ properties.
2. Notice: Give adequate notice to adjoining owners and all affected occupiers if shutdown is necessary.

### 45 Services to be retained

1. Damage to services: Give notice, and notify relevant service authorities and/ or owner/ occupier regarding damage arising from deconstruction/ demolition.
2. Repairs to services: Complete as directed, and to the satisfaction of the service authority or owner.

### 50 Workmanship

1. Standard: Demolish structures in accordance with BS 6187.
2. Operatives: Appropriately skilled and experienced for the type of work. 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 by periodically spraying with an appropriate wetting agent, or contain.

2.1. Lead dust: Submit method statement for control, containment and clean-up regimes.

3. Asbestos: Remove prior to commencement of demolition/stripping out works.
4. Site operatives and general public: Protect from vibration, dangerous fumes and dust arising during the course of the Works.

## 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.

## 75 Asbestos-containing materials – known occurances

1. General: Materials containing asbestos are known to be present in the structure(s) to be demolished in the following locations: Stair nosings to the 2nd Floor, bitumen adhesive to the ground floor coverings, vinyl flooring to the entrance hall and toilet and cupboard lining to the 1st floor. The Refurbishment and Demolition Survey (included within the tender documents) identifies all known occurances of absbestos.
2. Removal: By contractor licensed by the Health and Safety Executive, and prior to other works starting in these locations.

## 76 Asbestos-containing materials – unknown occurances

1. Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction/ demolition work. Avoid disturbing such materials.
2. Removal: Submit statutory risk assessments and details of proposed methods for safe removal.
3. Identification: All workers on site must ahve undergone asbestos awareness training from an approved instructor.

## 78 Unforeseen hazards

1. Discovery: Give notice immediately when hazards, such as unrecorded voids, tanks, chemicals, are discovered during deconstruction/ demolition.
2. Removal: Submit details of proposed methods for filling, removal, etc.

## 85 Site condition at completion

1. Debris: Clear away and leave the site tidy on completion.

## 86 Site levels at completion

1. Levels: Grade the site to follow the levels of adjacent areas and ensure min. 150mm cover to new drains.

## 90 Contractor's property

1. Components and materials arising from the deconstruction/ demolition work: Property of the Contractor except where otherwise provided.
2. Action: Remove from site as work proceeds where not to be reused or recycled for site use.

## 91 Employer's property

1. Components and materials to remain the property of the Employer: Description: The existing, retained building and all retained services within..
2. Protection: Maintain until these items are removed by the Employer or reused in the Works, or until the end of the Contract.

## 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.

Ω End of Section

# D20
# Excavating and filling

## Clauses

### 23 Excavations and backfilling

1. Prior to commencing excavation: Excavate trial pit adjacent to external wall of the building (internally) to determine extent and formation levels and existing sub-ground features in advance of excavating for slab.
    1.1. Allow for inspection of trial pits.
    1.2. Allow time for amendment of details if required.
        1.2.1. Time period: Five working days
2. Requirement: Where excavations are close; complete all work including backfilling to the lower excavation before the higher excavation is made.
3. Backfill material
    3.1. Up to higher excavations formation level: Excavated material
    3.2. Above higher excavations formation level: Excavated material

### 40 Surplus excavated material

1. Topsoil: Remove from site.
2. Remaining material: Remove from site

### 50 Hazardous, aggressive or unstable materials

1. Generally: Do not import or use fill materials which would, either in themselves or in combination with other material or ground water, give rise to a health hazard, damage to building structures or instability in the filling.

### 53 Water

1. General: Keep excavations free from water until formations are covered, foundations and below ground constructions are completed, and structures (including basements and retaining walls) are able to resist leakage, water pressure and flotation.

### 55 Placing fill generally

1. Excavations and areas to be filled: Free from loose soil, rubbish and standing water.
2. Freezing conditions: Do not use frozen materials or materials containing ice. Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.
3. Fill against structures, membranes or buried services: Place and compact in a sequence and manner which will ensure stability and avoid damage.

### 58 Geosynthetic sheet

1. Type: Geotextile
2. Recycled content: Contractor's choice
3. Manufacturer:: Terram, Berry Global Inc. Fiberweb Geosynthetics Ltd., Blackwater Trading Estate, The Causeway, Maldon, CM9 4GG, Tel: 01621 874200, Email: info@terram.com
    3.1. Product Ref:: TERRAM Standard Geotextile (or equivalent to Architect's approval)
4. Jointing: 300 mm overlap
5. Preparation of subgrade: Before laying geotextile sheet, remove humps and sharp projections. Fill hollows

6. Protect from
   6.1. Exposure to light.
   6.2. Contaminants.
   6.3. Materials listed as potentially deleterious by geotextile manufacturer.
   6.4. Wind uplift.

## 65 Hardcore

1. Fill: Granular material, free from harmful matter and excessive dust or clay, well graded, all pieces less than 75 mm in any direction, and in any one layer only one of the following:
   1.1. Crushed hard rock (other than argillaceous rock) or quarry waste.
   1.2. Crushed concrete, brick or tile, free from plaster.
   1.3. Gravel or hoggin.
2. Filling: Spread and level both backfilling and general filling in layers not exceeding 150 mm. Thoroughly compact each layer.

## 75 Blinding to hardcore

1. Surfaces to receive sheet overlays or concrete: Blind with:
   1.1. Concrete where shown on drawings; or
   1.2. Sand, fine gravel, or other approved fine material applied to provide a closed smooth surface.
2. Permissible deviation on surface level: +0 -25mm.

Ω End of Section

# E05
# In situ concrete construction generally

**To be read with preliminaries/general conditions.**

## 300 Levels of structural concrete floors

1. Tolerances (maximum):
2. Level of floor: As shown on Architect's drawings - generally level with existing concrete floor slab (except 70mm recess for lift pit).

## 310 Surface regularity of concrete floors to BS 8204 – general

1. Standard: To BS 8204-1 or -2.
2. Measurement: From underside of a 2 m straightedge (between points of contact) placed anywhere on surface and using a slip gauge.

Ω End of Section

# E10
# Mixing/ casting/ curing in situ concrete

## Clauses

### 15 Specification

1. Concrete generally: To BS 8500-2.
2. Exchange of information: Provide concrete producer with information required by BS 8500-1, clauses 4 and 5.

### 20 Designated Concrete - Concrete Floor Slab to Lift Base

1. Description: Ground floor slab to lift base.
2. Designation: C35
3. Fibres: Not required.
4. Reinforcement: A142 reinforcement mesh in top of slab with 25mm cover.

   Either B785 reinforcement mesh or 2 no. layers of A393 reinforcement mesh in the bottom of the slab with 25mm cover.

   All to Structural Engineer's specifications.

### 45 Properties of fresh concrete

1. Adjustments to suit construction process: Determine with concrete producer. Maintain conformity to the specification.

### 50 Premature water loss

1. Requirement: Prevent water loss from concrete laid on absorbent substrates.
   1.1. Underlay: Polyethylene sheet 1200 gauge.
   1.2. Installation: Lap edges 150 mm.

### 60 Placing and compacting

1. Surfaces to receive concrete: Clean, with no debris, tying wire clippings, fastenings or free water.
2. Timing: Place as soon as practicable after mixing and while sufficiently plastic for full compaction.
3. Temperature limitations for concrete: 30°C (maximum) and 5°C (minimum). Do not place against frozen or frost covered surfaces.
4. Compaction: Fully compact to full depth to remove entrapped air especially around reinforcement, cast-in accessories, into corners of formwork and at joints. Continue until air bubbles cease to appear on the top surface.
   4.1. Methods of compaction: To suit consistence class and use of concrete.

### 70 Curing and protecting

1. Evaporation from surfaces of concrete: Prevent throughout curing period.
2. Surfaces covered by formwork: Retain formwork in position and, where necessary to satisfy curing period, cover surfaces immediately after striking.
   2.1. Top surfaces: Cover immediately after placing and compacting. Replace cover immediately after any finishing operations.
3. Curing periods
   3.1. Surfaces which in the finished building will be exposed to the elements, and wearing surfaces of floors and pavements: 10 days (minimum).

3.2. Other structural concrete surfaces: 5 days (minimum).

4. Protection: Protect concrete from shock, indentation and physical damage.

Ω End of Section

# F10
# Block walling

## Clauses

### 35 Medium Density Concrete Blockwork - above ground

1. Description: 100mm to lift shaft walls & inner leaf of cavity walls.
2. Blocks: To BS EN 771-3.
   - 2.1. Manufacturer: Contractor's choice
   - 2.2. Product reference: Contractor's choice
   - 2.3. Configuration: Group 1
   - 2.4. Compressive strength: 7.3 N/mm²
   - 2.5. Minimum Density: 1500kg/m3
   - 2.6. Work sizes (length x width x height): 440 x 100 x 215 mm
3. Mortar: As section Z21.
   - 3.1. Mix: 1:3 masonry cement:sand
4. Bond: Stretcher

### 36 Concrete common blockwork - below ground

1. Description: Blockwork below ground and d.p.c. level to cavity walls.
2. Blocks: To BS EN 771-3.
   - 2.1. Manufacturer: Thomas Armstrong (Concrete Blocks) Ltd., Workington Road, Flimby, Maryport, Cumbria, CA15 8RY, T: 01900 68211
   - 2.2. Product reference: Armstart Foundation Block
   - 2.3. Configuration: Group 1
   - 2.4. Compressive strength: 7.3 N/mm²
   - 2.5. Category: II
   - 2.6. Freeze/ thaw resistance: Frost resistant - For use below and above ground level
   - 2.7. Thermal properties: 0.44 W/m2K
   - 2.8. Recycled content: 90% - As supplied.
   - 2.9. Work sizes (length x width x height): 215mm(w) x 350mm(l) x 140mm(h)
3. Mortar: As section Z21.
   - 3.1. Standard: Not applicable
   - 3.2. Mix: 1:3 masonry cement:sand
   - 3.3. Designation:: Class I - with sulfate resisting cement
4. Bond: Stretcher

### 37 Dense Concrete Blockwork (Below Ground)

1. Description: To ground slab support walls.
2. Blocks: To BS EN 771-3.
   - 2.1. Manufacturer: As Clause 36.
   - 2.2. Product reference: Solid Dense 'Standard'
   - 2.3. Configuration: Group 1
   - 2.4. Compressive strength: See Structural Engineer's instruction.
   - 2.5. Minimum Density: 1980kg/m3
   - 2.6. Work sizes (length x width x height): 440 x 215 x 215 mm

3. Mortar: As section Z21.
   3.1. Mix: 1:3 masonry cement:sand
   3.2. Designation:: Class I - with sulfate resisting cement
4. Bond: Stretcher

## 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.

## 66 Fire stopping

1. Avoidance of fire and smoke penetration: Fit tightly between cavity barriers and masonry. Leave no gaps.

Ω End of Section

# F20
# Natural stone walling

## Clauses

### 10 Stone walling

1. Description: To bay window infill
2. Stone: To BS EN 771-6
   2.1. Petrological family: Sandstone
   2.2. Colour: To match existing
   2.3. Origin: Salvaged stone to match existing. Re-use that from demolished bay where possible.
   2.4. Supplier: Contractor's choice subject to samples and approval by Architect.
   2.5. Size: Provisionally 200 mm on bed (check on site); random length, 150mm deep.
   2.6. Quality: Seasoned and free from cracks, vents, fissures or other defects deleterious to strength, durability or appearance.
3. Mortar: As section Z21.
   3.1. Standard: Not applicable
   3.2. Mix: 1:2 NHL 3.5 hydraulic lime:sand
   3.3. Sand: To be agreed, subject to samples
4. Joints: Flush; brushed

### 20 Laying generally

1. Absorbent stones: Dampen in warm weather to reduce suction.
2. Mortar joints
   2.1. Laying: Full bed of mortar with all joints and voids filled.
   2.2. Appearance: Neat and consistent.
3. Natural bed of stones: Appropriate to properties of stones and positions in walling.
4. Appearance and bonding: Consistent overall appearance, good bond, and satisfactory junctions and joints with built-in elements and components.
   4.1. Random walling: Avoid long continuous vertical joints.
   4.2. Quoins and jambs: Large stones dressed to a regular shape.
5. Cleanliness: Keep facework clean.

### 25 Walling below ground level

1. Extent of facework below finished level of adjoining ground or external works (minimum): 150 mm.

### 30 Cavity walls

1. Regularity: Dress stones to give consistent leaf thickness and maintain full cavity width.

### 40 Brushed finish to joints

1. General: After the initial set has taken place, brush joints to remove laitance/ excess fines and give a coarse texture.

Ω End of Section

# F30
# Accessories/ sundry items for brick/ block/ stone walling

## Clauses

### 5 Cavities

1. Concrete fill to base of cavity:
2. Concrete generally: To BS EN 206 and BS 8500-2.
3. Concrete type: Designated GEN1 or Standardized prescribed ST2 mix with high workability.
   3.1. Extent: Maintain 75 mm between top of fill and external ground level and a minimum of 225 mm between top of fill and ground level dpc.
4. Cleanliness: Keep cavity faces, ties and dpcs free from mortar and debris.

### 8 Perpend joint plastics weep holes

1. Manufacturer: Rytons Building Products Ltd., Design House
   Orion Way, Kettering Business Park, Northamptonshire, NN15 6NL
   1.1. Web: www.vents.co.uk
   1.2. Tel: +44 (0)1536 511874
2. Product reference: RYTWEBS
3. Colour: Buff/Sand (to suit mortar colour)
4. Locations: Through outer leaf, immediately above base of cavity at cavity trays, stepped dpcs and external openings. 75 mm above top of cavity fill at base of cavity.
5. Provision: At not greater than 1000 mm centres and not less than two over openings.

### 12 Partial fill cavity insulation

1. Insulation: Polyisocyanurate (PIR) foam boards to BS EN 13166
2. Manufacturer: Kingspan Insulation, Pembridge, Leominster, Herefordshire, HR6 9LA, Tel: 01544 388 601, Email: info@kingspaninsulation.co.uk
   2.1. Product reference: K108 Cavity Board
3. Thickness (nominal): 75mm
4. Placement: Secure against face of inner leaf using insulation retaining clips (e.g. Ancon Staifix Building Pro UNIversal Insulation Retaining Clips)
5. Residual cavity: Clear and unobstructed.
6. Joints between boards, at closures and penetrations: No gaps and free from mortar and debris. Tape all joints with foil insulation board tape.

### 15 Air bricks in external walling

1. Standard: To BS 493, class 1.
2. Manufacturer: Wavin, Edlington Lane, Edlington, Doncaster, DN12 1BY, Tel: +44 844 856 9440.
   2.1. Product reference: Hepworth Terr Airbrk Sq Buff 215x140
3. Apertures: Rectangular hole
4. Work sizes: 215 x 140 mm
5. Material/ colour: Buff
6. Placement: Built in with no gaps at joints.

### 17 Ventilation ducts in external walling

1. Manufacturer: Contractor's Choice

1.1. Product reference: Contractor's Choice

2. Placement: Across cavity, sloping away from inner leaf. Full mortar joints to seal cavity. Seal around tanking/radon barriers.

## 17 Periscopic ventilation ducts in external walling

1. Manufacturer: *Rytons Building Products Ltd., Design House, Kettering Business Park, Kettering, NN15 6NL, Tel: 01536 511874, Fax: 01536 310455, Email: admin@rytons.com.*
   1.1. Product reference: Rytons Periscope® Underfloor Ventilator.
2. Placement: Across cavity, sloping away from inner leaf. Full mortar joints to seal cavity.
3. Size:: 218mm W x 250mm D x 368mm H.
4. Air Brick:: As Clause 15

## 24 Cavity wall ties

1. Manufacturer: Ancon
   1.1. Web: www.ancon.co.uk
   1.2. Email: info@ancon.co.uk
2. Product reference: Staifix RT2 Wall Tie
3. Length: 275
4. Material: Stainless steel

## 28 Fixing ties in masonry cavity walls

1. Embedment in mortar beds (minimum): 50 mm.
2. Placement: Sloping slightly downwards towards outer leaf without bending. Drip centred in the cavity and pointing downwards.
3. Spacing: Staggered in alternate courses. 2.5 ties per square metre.
   3.1. Horizontal centres: 900mm
   3.2. Vertical centres: 450mm
4. Provision of additional ties: Within 225 mm of reveals of unbonded openings and at the vertical reveals of unsupported masonry Insert at not more than 300 mm centres vertically.

## 39 Wall starters/ connectors

1. Manufacturer: Ancon
   1.1. Web: www.ancon.co.uk
   1.2. Email: info@ancon.co.uk
2. Product reference: Ancon Staifix Starter Tie
3. Material
   3.1. QuickStart Wall Starter: Stainless steel grade 1.4482

## 46 Damp proof course – plastics

1. Manufacturer: Visqueen, Heanor Gate, Heanor, Derbyshire, DE75 7RG
   1.1. Tel: +44 (0) 333 202 6800
   1.2. Email: enquiries@visqueen.com
2. Product reference: Visqueen Zedex CPT High Performance Damp Proof Course or equivalent
3. Width: As necessary for wall thickness
4. Accessories: DPC Jointing Tape
5. Gauge: 2000

## 52 Site formed flexible sheet cavity trays

1. Manufacturer: Visqueen
   1.1. Product reference: Visqueen Zedex CPT High Performance DPC

## 66 Installation of horizontal dpcs

1. Placement: In continuous lengths on full even bed of fresh mortar, with 100 mm laps at joints and full laps at angles.
2. Width: At least full width of masonry leaf. Edges of dpc not covered with mortar or projecting into cavity.
3. Overlying construction: Immediately cover with full even bed of mortar to receive next masonry course.
4. Overall finished joint thickness: As close to normal as practicable.
5. Ground level dpcs joint with damp proof membrane: Continuous and effectively sealed.
6. Low level dpcs in external walls: Install not less than 150 mm above adjoining finished ground level.
7. Sill dpcs form and placement: In one piece and turned up at the back when the sill is in contact with inner leaf.
8. Dpcs crossing cavity: Provide support to prevent sagging.

## 68 Sealing of dpcs

1. Description: GENERALLY
2. Overlaps and junctions: Seal with Adhesive recommended by dpc manufacturer .

## 72 Installation of gas resistant dpcs/ cavity trays

1. Joint treatment: Use continuous length wherever possible, otherwise lap at least 150 mm and seal to form gas and watertight installation.
2. Joint with damp proof membrane: Overlap dpc/ cavity tray not less than 150 mm.

## 74 Installation of vertical dpcs

1. Form: In one piece wherever possible.
   1.1. Joints: Upper part overlapping lower not less than 100 mm.
2. Dpcs to jambs of openings: Fully lap behind cavity tray/ lintel at head and over horizontal dpc at sill. Project not less than 25 mm into cavity and maintain full contact with frames.
3. Fixing of jamb dpcs to back of built in timber frames: Secure using galvanized clout nails or staples.

## 76 Movement joints with sealant

1. Joint preparation and sealant application: As section Z22.
2. Filler: Polyurethane foam Closed cell polyethylene foam
   2.1. Placement: Build in as work proceeds ensuring no projections into cavities and to correct depth to receive sealant system.
3. Manufacturer: GCP Applied Technologies, 580/1 Ipswich Road, Slough, Berkshire, SL1 4EQ, Tel: 01753 490000, Email: uksales@gcpat.com.
4. Sealant: Aerofil® 1
   4.1. Colour: To match adjoining masonry

## 83 Precast concrete lintels

1. Standard: To BS EN 845-2.

2. Manufacturer: Naylor Industries Plc., Head Office, Naylor House, Valley Road, Wombwell, Barnsley, South Yorkshire S73 0BS
   2.1. Product reference: R6 - Pre-cast concrete lintel
   S5 - Pre-cast concrete lintel
   As Engineer's design.
3. Sizes: R6 - 140 x 100mm
   S5 - 140 x 140mm
4. Placement: Bed on mortar used for adjacent work.
   4.1. Bearing length (minimum): 150 mm

## 84 Precast concrete padstones

1. Manufacturer: Naylor Industries Plc., Head Office, Naylor House, Valley Road, Wombwell, Barnsley, South Yorkshire S73 0BS
   1.1. Product reference: Pre-cast concrete padstones
2. Sizes: 2 no. 440 x 100 x 215mm
   2 no. 600 x 100 x 222mm
   as shown on Architet's drawings
3. Placement: Under all beam end bearings in masonry

Ω End of Section

# G12
# Isolated structural metal members

## Clauses

### 10 Steel sections and plate

1. Section properties and dimensions: To BS EN 10055, BS EN 10056, BS EN 10210-2 or BS EN 10365, as appropriate.
   1.1. Steel: To BS EN 10025-2 or BS EN 10210-1, as appropriate.
      1.1.1. Grade: To Engineer's Specification
   1.2. Surface condition: Free from heavy pitting and rust, burrs, sharp edges and flame cutting dross.
2. Cuts and holes: Accurate and neat.
3. Welding: Metal arc method to BS EN 1011-2.
   3.1. Welded joints: Fully fused, with mechanical properties not less than those of the parent metal.
   3.2. Site welding: Obtain approval.

### 20 Shop priming

1. Description: To steel beams.
2. Preparation: To BS EN ISO 12944-4. Remove fins, burrs, sharp edges and weld spatter, clean out crevices
   2.1. Surface finish: Manually cleaned to BS EN ISO 8501-1, grade St 2.
   2.2. Prepared surfaces: Keep in a dry atmosphere and apply first coating without delay.
3. Priming
   3.1. Primer: One coat zinc phosphate modified alkyd, minimum dry film thickness 40 micrometres.
   3.2. Application: To BS EN ISO 12944-7.

### 40 Installation

1. Accuracy: Members positioned true to line and level using, if necessary, steel packs of sufficient area to allow full transfer of loads to bearing surfaces.
2. Fixing: Use washers under bolt heads and nuts.
   2.1. Tapered washers: Provide under bolt heads and nuts bearing on sloping surfaces. Match taper to slope angle and align correctly.

Ω End of Section

# G20
# Carpentry/ timber framing/ first fixing

## Clauses

### 2 Timber procurement

1. Timber (including timber for wood based products): Obtained from well managed forests/ 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, or
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.

### 6 Structural softwood (internal)

1. Description: For wall plates to face of lift shaft.
2. Grading standard: To the appropriate BS EN 14081-1-compliant standard.
   2.1. Grade: GS to BS 4978
3. Strength class to BS EN 338: C16 (As shown on Architect's details & Structural Engineer's plans)
4. Treatment: None

### 10 Ungraded softwood

1. Description: For non-loadbearing internal use.
2. Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
3. Surface finish: Sawn
4. Treatment: None.

### 14 Plywood (for internal (humid) conditions)

1. Description: For lining to Accessible W/c wall.
2. Standard: To an approved national standard.
3. Service class to BS EN 1995-1-1: Class 2
4. Use class to BS EN 335: Use class 2
5. Nominal thickness: 18mm
6. Appearance class to BS EN 635: N/A
7. Bonding quality to BS EN 314-2: Class 2
8. Finish: Unsanded
9. Treatment: None

### 15 Plywood (for internal (dry) conditions)

1. Description: Overlay to floors
2. Standard: To an approved national standard.
3. Service class to BS EN 1995-1-1: Class 1

4. Use class to BS EN 335: Use class 1
5. Nominal thickness: 9mm
6. Appearance class to BS EN 635: N/A
7. Bonding quality to BS EN 314-2: Class 1
8. Finish: Sanded
9. Treatment: None

## 30 Selection and use of timber

1. Timber members damaged, crushed or split beyond the limits permitted by their grading: Do not use.

## 32 Notches, holes and joints in timber

1. Notches and holes: Position in relation to knots or other defects such that the strength of members will not be reduced.
2. Scarf joints, finger joints and splice plates: Do not use without approval.

## 35 Processing treated timber

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

## 40 Moisture content

1. Moisture content of wood and wood based products at time of installation: Not more than:
   1.1. Covered in generally unheated spaces: 24%.
   1.2. Covered in generally heated spaces: 20%.
   1.3. Internal in continuously heated spaces: 20%.

## 41 Bolt/ screw assemblies

1. Description: To bolt wall plates to lift shaft.
2. Size: M10
3. Location: At 400mm centres.
4. Coating applied by manufacturer: Contractor's choice
5. Nuts and washers: Material grade and finish to suit bolts
6. Washer dimensions: Diameter/ side length of washers in contact with timber faces to be minimum 3 times bolt diameter, with a thickness not less than 0.25 times bolt diameter.

## 50 Additional supports

1. Provision: Position and fix additional studs, noggings and/ or battens to support edges of sheet materials, and wall/ floor/ ceiling mounted appliances, fixtures, etc. shown on drawings.
2. Material properties: Timber to be of adequate size and have the same treatment as adjacent timber supports.

## 55 Joists generally

1. Centres: Equal, and not exceeding designed spacing.
2. Bowed joists: Installed with positive camber.
3. End joists: Positioned about 50 mm from masonry walls.

## 70 Trimming openings

1. Trimmers and trimming joists: Double up joists around all openings.

Ω End of Section

# J40
# Flexible sheet waterproofing/ damp proofing

## Clauses

### 10 Soft blinding to hardcore beds

1. Material: Soft sand
   1.1. Thickness (minimum): 50 mm
   1.2. Finish on completion: Smooth, consolidated bed free of sharp projections.

### 20 Loose laid plastic gas retardant damp proofing to floor construction

1. Substrate: Sand blinding
2. Membrane
   2.1. Standard: To BS EN 13967.
   2.2. Manufacturer: Provisionally Visqueen or equivalent
      2.2.1. Product reference: Provisionally Visqueen High Performance DPM
3. Thickness/ Gauge: 1200 gauge
4. Joints
   4.1. Surfaces to be joined: Clean and dry beyond full width of joint.
   4.2. Laps (minimum): End and side, 150 mm.
   4.3. Sealing: Continuous strip between overlaps, edge of top sheet sealed with jointing tape.

### 50 Workmanship generally

1. Condition of substrate
   1.1. Clean and even textured, free from voids and sharp protrusions.
   1.2. Moisture content: Compatible with damp proofing/ tanking.
2. Air and surface temperature: Do not apply sheets if below minimum recommended by membrane manufacturer.
3. Condition of membrane at completion
   3.1. Neat, smooth and fully supported, dressed well into abutments and around intrusions.
   3.2. Completely impervious and continuous.
   3.3. Undamaged. Prevent puncturing during following work.
4. Permanent overlying construction: Cover membrane as soon as possible.

### 60 Junctions with projecting dpcs/ cavity trays

1. Adjoining surfaces: Clean and dry.
2. Dpcs/ cavity trays: Lap and fully bond/ seal with sheeting.
   2.1. Laps (minimum): 100 mm
   2.2. Bonding/ Sealing: As Manufacturer's specifications.

### 65 Junctions with flush dpcs/ cavity trays

1. Adjoining surfaces: Clean and dry.
2. Preparation of adjacent dpcs/ cavity trays
   2.1. Expose edge where concealed.
   2.2. Lap and fully bond/ seal sheeting to wall.
   2.3. Dressing of sheeting beyond dpc/ cavity tray (minimum): 50 mm.

2.4. Bonding/ Sealing: Continuous strip between overlaps, edge of top sheet sealed with jointing tape.

Ω End of Section

# K10
# Gypsum board dry linings/ partitions/ ceilings

## Clauses

### 15 Lining on timber framed walls generally (Fire rated)

1. Description: To new internal partitions generally.
2. Manufacturer:: Siniat Limited, Marsh Lane, Easton-in-Gordano, Bristol, BS20 0NF, (Tel: 01275 377773, Fax: 01275 377737
   2.1. Product Ref:: GTEC Fire Board
3. Substrate: Studs at 450 mm centres.
4. Linings: 1 no. layer of 12.5mm GTEC Fire Board
   1 no. layer of 15mm GTEC Fire Board (to ceilings)
5. Fixing: Screws at 300 mm centres
6. Finishing: Skim coat plaster
   6.1. Primer/ Sealer: Not required
   6.2. Accessories: Metal beads/ stops recommended by board manufacturer

### 16 Lining on timber framed walls generally

1. Description: To new internal partitions generally, where 30 minutes fire rating is not required.
2. Manufacturer:: Siniat Limited, Marsh Lane, Easton-in-Gordano, Bristol, BS20 0NF, (Tel: 01275 377773, Fax: 01275 377737
   2.1. Product Ref:: GTEC General Board
3. Substrate: Studs at 450 mm centres.
4. Linings: 1 no. layer of 12.5mm GTEC General Board
5. Fixing: Screws at 300 mm centres
6. Finishing: Skim coat plaster
   6.1. Primer/ Sealer: Not required
   6.2. Accessories: Metal beads/ stops recommended by board manufacturer

### 16 Shower Lining on timber

1. Description: To shower walls
2. Manufacturer:: Head Office & Sittingbourne Plant, Kemsley Fields Business Park, Kent, ME9 8SR, Tel: 01795 424499, Email: info@knauf.co.uk
   2.1. Product Ref:: Knauf Aquapanel
3. Substrate: Studs at 450mm centres.
4. Colour: TBC
5. Fixing: In accordance with Mnaufacturer's reocmmendations
6. Finishing: N/A
   6.1. Primer/ Sealer: Mnaufacturer's reocmmended sealant
   6.2. Accessories: Edge beading.

### 25 Lining on timber framed ceilings generally

1. Substrate: Joists at 450 mm centres.
2. Linings: 1 no. layer of 15mm GTEC Fire Board to repaired/replaced principle ceilings.

   1 no. layer of 15mm GTEC General Board to suspended ceiling.

3. Fixing: Nails at 150 mm centres
4. Finishing: Skim coat plaster
   4.1. Primer/ Sealer: Not required
   4.2. Accessories: Metal beads/ stops recommended by the board manufacturer

## 26 Moisture resistant lining on timber framed walls & ceilings to w/c's

1. Substrate: Joists at 450 mm centres
2. Linings: 1 no. layer of 12.5mm GTEC Moisture Board to walls
   1 no. layer of 15mm GTEC Moisture Board to ceilings
   2.1. Recycled content: Not applicable
3. Fixing: Nails at 150 mm centres
4. Finishing: Skim coat plaster
   4.1. Primer/ Sealer: As recommended by board manufacturer for improved moisture resistance within W/c's.
   4.2. Accessories: Metal beads/ stops recommended by the board manufacturer

## 65 Dry lining generally

1. General: Use fixing, jointing, sealing and finishing materials, components and installation methods recommended by board manufacturer.
2. Standard
   2.1. Gypsum plasterboard to BS EN 520.
   2.2. Gypsum fibre board to BS EN 15283-2.
   2.3. Evidence of compliance: All sheets to be CE marked. Submit Declaration of Performance (DoP).
3. Cutting gypsum boards: Neatly and accurately without damaging core or tearing paper facing. Minimize cut edges.
4. Two layer boarding: Stagger joints between layers.
5. Finishing: Neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.

## 67 Skim coat plaster finish

1. Plaster type: As recommended by board manufacturer
   1.1. Thickness: 2-3 mm.
2. Joints: Fill and tape except where coincident with metal beads.
3. Finish: Tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

## 69 Installing beads/ stops

1. Cutting: Neatly using mitres at return angles.
2. Fixing: Securely using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
3. Finishing: After joint compounds/ plasters have been applied, remove surplus material while still wet from surfaces of beads exposed to view.

## 70 Additional supports

1. Framing: Accurately position and securely fix to give full support to:
   1.1. Partition heads running parallel with, but offset from main structural supports.
   1.2. Fixtures, fittings and services.
   1.3. Board edges and lining perimeters.

## 75 New wet laid bases

1. Dpcs: Install under full width of partitions/ freestanding wall linings.

## 85 mineral wool insulation

1. Fitting insulation: Closely butted joints and no gaps. Prevent slumping.
2. Electrical cables overlaid by insulation: Size accordingly.

## 87 Sealing gaps and air paths

1. Sealing: Apply sealant to perimeter abutments and around openings as a continuous bead with no gaps.
    1.1. Gaps between floor and underside of gypsum board: After sealing, fill with joint compound.

## 90 Seamless jointing

1. Filling and taping: Fill joints, gaps and internal angles with jointing compound and cover with continuous lengths of tape, fully bedded.
2. Finishing: Feather out jointing compound to give a flush, smooth, seamless surface.
3. Nail/ screw depressions and minor indents: Fill to give a flush surface.

## 430 Access Panels

1. Description: Access panels to corridor suspended ceilings in locations shown on plans.
2. Manufacturer: Profab Access, Innovation Drive, Wolverhampton, West Midlands, WV9 5GA, Tel: 01827 718222
3. Reference: PRIMA 1000 SERIES
4. Size: 600 x 600mm
5. Type: Beaded frame (BF)
6. Lock: Concealed push catch (PC)
7. Door: PLASTERBOARD DOOR (PD)

Ω End of Section

# L10
# Windows/rooflights

## Clauses

### 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:
   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)

### 15 Wood windows

1. Standard: Non-fire and/or smoke rated window to BS EN 14351-1 and BS 644
2. Manufacturer: One of the below listed or Manufacturer's alternative subject to Architect's approval:
   2.1. Des Marples Manufacturing Joiner: 16 Century Street
   Sheffield
   S9 5DX

   Email: celia@easycomputing.org
   Tel: 0114 243 7251
   2.2. Roy C Smith: Woodview Works
   Marsden
   Huddersfield
   HD7 6ND

   Email: susan@roycsmith.co.uk/
   Tel: 01484 844 405
3. Timber: Generally to BS EN 942.
   3.1. Species: Hardwood - Sapele, Iroko, etc. to Architect's approval.
   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. Finish as delivered: Prepared and primed as section M60
5. Thermal performance (U-value maximum): 1.4 W/m²K
6. Glazing details: Histoglass (Garforth, West Yorkshire) HD13 (or equivalent):

   Slim-line double-glazed units comprising:
   4mm Low-E float inner pane - laminated glass
   7mm Gas-filled cavity with white glazing bar.
   3mm Outer pane
   6.1. Putty:: Bed in Kawo Elastokitt (or equivalent Manufacturer's recommended material) to Manufacturer's recommendations for installation and point with linseed oil putty to the exterior.

6.2. Rebate: 22mm - plus 1.5mm on all 4 sides (so 3mm in both the width and height)

7. Ironmongery/ Accessories: To match existing.
Supply new weights and cords.
Sash locks.
Central lock TBC.

8. Fixing: Screwed to timber framing

8.1. Fastener 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.

9. Warranty: 7-year manufacturer's warranty or more.

## 65 Priming/ sealing

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

## 75 Sealant joints

1. Sealant

1.1. Manufacturer: Everbuild building Products Ltd. of Site 41, Knowsthorpe Way, Cross Green Industrial Estate, Leeds, LS9 0SW (0113 240 3456).

1.1.1. Product reference: Polyurethane foam followed by Sika pastix-48N Contractors Grade Silicone

1.2. Colour: To match window/screen/door.

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

# L20
# Doors/ shutters/ hatches

## Clauses

### 10 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 (FSA)

### 20 Wood flush doors (not fire rated)

1. Description: Internal doors (no vision panel) - GD02, GD03, GD04, FD02 & FD04
2. Manufacturer: *Safelincs Ltd., 33 West Street, Alford, Lincolnshire, LN13 9FX, Tel: 01507 464 443, Email:* support@safelincs.co.uk
   2.1. Product reference: Custom 30 Minute Fire Door (FD30) (without frame).
3. Size: To suit new and/or existing openings shown on drawings.
4. Finish as delivered: Ash Veneer
5. Glazing/ Infill details: No glazing
6. Accessories: Kick Plates
   W/c signage.
7. Ironmongery: To be agreed.

### 21 Wood flush FD30 fire doorsets - single

1. Description: Internal single door (with vision panel) supplied by Manufacturer below and installed by their recommended and accredited installers.
2. Manufacturer: *Safelincs Ltd., 33 West Street, Alford, Lincolnshire, LN13 9FX, Tel: 01507 464 443, Email:* support@safelincs.co.uk
   2.1. Product reference: Custom 30 Minute Single Fire Door (FD30) With Frame
3. Size: To suit new and/or existing openings shown on drawings.
4. Finish as delivered: Ash Veneer
5. Glazing/ Infill details: 150 x 760mm & 150 x 450mm vision panel with fire resistant plain glass except to GD11.
6. Accessories: Supplied with fire rated hinges from Safelincs
   Fire Door Keep Shut Signs
   Kick Plates
   Overhead fire door closer
   Rebated intumescent seals
7. Ironmongery: Handles with Sashlock
   Handles to be disguarded and handles provided under Provisional Sum.
8. Other requirements: Installed by Manufacturer's recommended installer.

## 21 Wood flush FD60 fire doorsets - single

1. Description: Internal single door (no vision panel) supplied by Manufacturer below and installed by their recommended and accredited installers.
2. Manufacturer: *Safelincs Ltd., 33 West Street, Alford, Lincolnshire, LN13 9FX, Tel: 01507 464 443, Email:* support@safelincs.co.uk
   2.1. Product reference: Custom 60 Minute Single Fire Door (FD60) With Frame
3. Size: To suit new and/or existing openings shown on drawings.
4. Finish as delivered: Ash Veneer
5. Acoustic Seals: 30dB Acoustic Seals
6. Accessories: Supplied with fire rated hinges from Safelincs
   Fire Door Keep Shut Signs
   Kick Plates
   Overhead fire door closer
   Rebated intumescent seals
7. Ironmongery: Handles with Sashlock
   Handles to be disguarded and handles provided under Provisional Sum.
8. Other requirements: Installed by Manufacturer's recommended installer.

## 22 Wood glazed door - single to GD12

1. Description: Internal single door (with full vision panel) supplied by same Manufacturer but not fire rated.
2. Manufacturer: *Safelincs Ltd., 33 West Street, Alford, Lincolnshire, LN13 9FX, Tel: 01507 464 443, Email:* support@safelincs.co.uk
   2.1. Product reference: Custom Single Door With Frame
3. Size: To suit opening shown on drawings.
4. Finish as delivered: Ash Veneer
5. Glazing/ Infill details: 508 x 1500mm vision panel with non-fire resistant glazing
6. Accessories: Hinges
   Kick Plates
7. Ironmongery: Handles with Sashlock provided under Provisional Sum.
8. Other requirements: Installed by Manufacturer's recommended installer.

## 31 Wood Doors - External Hardwood

1. Description: Panelled to match existing door GD07
2. Manufacturer: As L10/15
3. Materials: Generally to BS EN 942.
   3.1. Species: European Oak, Iroko or Sapele
   3.2. Appearance class: J10
4. Panels: To match existing.
5. Assembly
   5.1. Adhesive: Contractor's Choice
   5.2. Joinery workmanship: As section Z10.
   5.3. Accuracy: To BS 4787-1.
6. Moisture content on delivery: 6-10%
7. Finish as delivered: Shop primed
8. Glazing/ Infill details: Clear double glazing - cavity to suit door thickness.
   Toughened safety glass to comply with Class 2 of BS EN 12600 or Class B of BS 6206:1981.
   8.1. Beading: External

9. Thermal performance (U-value maximum): 1.4 W/m²K
10. Other requirements: With hardwood timber frame and architraves as Clause 50 Weatherstripping to full perimeter.

## 41 Timber Doors - Bi-fold

1. Description: Bi-fold Doors to FD09
2. Materials: Melamine veneer from standard range. Finish TBC.
3. Manufacturer: Building Additions, Commerce Park, Unit C3, Southgate, Frome, BA11 2RY
   3.1. Reference: Multifold Sliding Folding Partition
4. Size: Opening size: 3660mm x 2235mm to be confirmed on site.
   4.5 panels.
5. Finish as delivered: Final finish
6. Acoustic Performance Rating: 45dB
7. Outer Frame: As supplied
8. Ironmongery/ Accessories:: All as supplied as standard

## 52 Wood door frames To Non-fire Doors

1. Description: To non-fire resisting doorsets.
2. Materials: Generally to BS EN 942.
   2.1. Species: Softwood
3. Assembly
   3.1. Adhesive: Contractor's CHoice
   3.2. Joinery workmanship: As section Z12.
4. Finish as delivered: Contractor's Choice
5. Fixing: Plugged and screwed
   5.1. Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb, adjacent to each hanging point and at 600 mm maximum centres.

## 70 Fire and smoke resistance

1. Requirement: Specified performance to be the minimum period attained when tested for integrity in accordance with BS 476-22, BS EN 1634-1 or BS EN 1634-3.
2. Components and assemblies will be marked to the relevant product standard and/ or third party certification rating.

## 75 Fire resisting/ smoke control doors/ doorsets

1. Gaps between frames and supporting construction: Filled as necessary in accordance with door/ doorset manufacturer's instructions.

## 80 Sealant joints

1. Sealant
   1.1. Manufacturer: Contractor's choice
   1.2. Colour: White
   1.3. Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

## 85 Fixing ironmongery generally

1. Fasteners: Supplied by ironmongery manufacturer.
   1.1. Finish/ Corrosion resistance: To match ironmongery.

2. Holes for components: No larger than required for satisfactory fit/ operation.
3. Adjacent surfaces: Undamaged.
4. Moving parts: Adjusted, lubricated and functioning correctly at completion.

## 610 Roller shutters

1. Description:: To ground floor kitchenette servery.
2. Manufacturer:: Alliance Door Engineering Ltd., Unit 1, Stephens Way,
   Warrington Road Industrial Estate, Wigan, Greater Manchester, WN3 6PH
   2.1. Product Ref:: Hour “Phoenix” Power Operated, Single Phase Fire Roller Shutter
   2.2. Quote Ref:: Quote Ref: Q31920
3. Size:: 1411mm W x 1000mm H,
4. Accessories: Galvanised traditional (20swg) 2" flat lath Powder coated to RAL: TBC,Powder coated to RAL: TBC (1.6mm) Heavy
   Duty Bottom Rail,
   Powder coated heavy duty - 3mm x 65mm guide section,
   75 x 50 x 6mm Fixing angle,
   1 phase Tubular motor (low usage),
   Manual override facility (crank handle included),
   Powder coated (1mm thick) Canopy,
   Safety brake.
5. Alarm Connection/Link-up:: UPS-FDI Fire Alarm link (n/o volt free contact required),
   Keyswitch x 1,
   1000VA Battery Back Up,
   Crank handle
6. Requirements: Main Contractor to arrange necessary power supplies in accordance with installer's requirements and connection to fire alarm system.

Ω End of Section

Building
ADDITIONS
Unit C3
Southgate
Commerce Park
Frome
BA11 2RY

T : 01373 454577
F : 01373 454578

Tom Dowson
Tom Crooks Architecture Ltd
7 Moorland Road
Hathersage
Hope Valley
S32 1BH

September 9, 2022
Quote No. SEG/57907

## RE : 98218 Museum, Horsforth

# QUOTATION

Further to your recent enquiry, we have pleasure in submitting our quotation based upon the information received.

## *Building Additions Multifold Sliding Folding Partition*

Specification

80mm thick panels, bottom rolling with top guide rail, centrefolding. Panels are locked into position by means of an espagnolette locking handle. Last panel is furnished as a pass door

| | | |
|---|---|---|
| **Opening Size** | : | 3660mm x 2235mm |
| **Acoustic rating** | : | 45dB |
| **Finish** | : | Melamine from our standard range |
| **Panel elements** | : | 4.5 panels |
| **Stack size** | : | Approximately 794mm wide x 410mm deep |
| **Weight** | : | 344kgs approximately |

We have allowed to offload and install the wall to a first floor location in 1 visit. We have allowed to fix direct to the underside of a load bearing structure by others. All the required access equipment has been allowed for.

**Price to supply, deliver and install will be : £4,210.00 + vat**

Delivery from receipt of all final details and dimensions will be
Head track & panels ~ Approximately 5/6 weeks

**Please note openings do need to be square with the floor level to +/-3mm.**

Building
ADDITIONS
Unit C3
Southgate
Commerce Park
Frome
BA11 2RY

T : 01373 454577
F : 01373 454578

All partitions are purpose made to individual order, we regret therefore once an order has been placed, we cannot undertake to exchange,amend or cancel.

Terms : Payment is net 30 days. New accounts are required to provide two trade references.

To enable us to process your order as soon as it is received, please forward credit references as a matter of urgency. Any delay in receiving your references could result in a delay in manufacture.

We trust this quotation meets with your approval and look forward to receiving your firm instructions in due course. However, should further information or assistance be required, please do not hesitate to contact me.

Yours faithfully
Building Additions Ltd

Tony Regan

**Alliance Door Engineering Ltd.**
Unit 1, Stephens Way,
Warrington Road Industrial Estate, Wigan,
Greater Manchester, WN3 6PH

# Quote

**Quote Ref: Q31920**
10/10/2022 11:42 AM
tel: 01942 683 601
fax: 01942 683 607
info@alliancedoors.co.uk

**** Please note that the below quotation is valid for 15 WORKING DAYS ****

**CUSTOMER REFERENCE:- Horsforth Town Council**

| INVOICE TO: | **DELIVERY ADDRESS or EX WORKS:** |
|---|---|
| **Tom Crooks Architecture Ltd**<br>The Dovecote, Hathersage Hall Business Centre, Main Rd,<br>Hope Valley<br>Hathersage,<br>S32 1BB | Unloading is the sole responsibility of the client and the delivery vehicle must be met by suitable personnel and lifting equipment. Industrial doors are not palletised or crated unless by request at the quotation stage. |

| Product Details | Qty | List Price | Total |
|---|---|---|---|
| **1 Hour "Phoenix" Power Operated, Single Phase Fire Roller Shutter, covered by EN 13241:2003+A2:2016 & EN 16034:2014 Series 37 Phoenix** | 1 | £ 2,113.41 | £ 2,113.41 |

Ref: D1,
1411mm W x 1000mm H,
Included in the price -
Galvanised traditional (20swg) 2" flat lath Powder coated to RAL: TBC,Powder coated to RAL: TBC (1.6mm) Heavy Duty Bottom Rail,
Powder coated heavy duty - 3mm x 65mm guide section,
75 x 50 x 6mm Fixing angle,
1 phase Tubular motor (low usage),
Manual override facility (crank handle included),
Powder coated (1mm thick) Canopy,
Safety brake,

UPS-FDI Fire Alarm link (n/o volt free contact required),
Keyswitch x 1,
1000VA Battery Back Up,
Crank handle

| | | | |
|---|---|---|---|
| **Phoenix Terms & Conditions Series 37** | 0 | £ 0.00 | £ 0.00 |

Terms and Conditions

Note: We provide the equipment for the fire alarm link (UPS-FDI), the physical connection to the alarm is carried by others (normally the alarm contractor). We require a normally open volt free contact from the fire alarm system.

Our price includes for completing installation, wiring & commissioning in accordance with our standard terms during one continuous visit in normal working hours.

Note: If suitable power is not available at time of installation there will be an extra charge for each of our return visits to wire and commission.

Operating controls will be mounted immediately adjacent to the opening on the motor side.

Control cabling will be surfaced mounted and clipped directly to the structure.

The following must be installed by you or others prior to our commencement on site, otherwise return visits will be necessary at extra cost: - A 13 amp fused spur within one meter of the motor position.

Our price includes for delivery on a suitable vehicle, delivered and installation date to be agreed on receipt of an official purchase order.

| Product Details | Qty | List Price | Total |
|---|---|---|---|

Price is based upon information taken during the site survey, and unimpeded access to structural opening.

All Doors are manufactured Alliance Door Engineering Limited standard specification unless stated otherwise.

Should you require any further assistance please do not hesitate to contact myself.

| | |
|---|---|
| Sub Total | **£ 2,113.41** |
| Tax | £ 422.68 |
| Adjustment | £ 0.00 |
| **Grand Total** | **£ 2,536.09** |

**HANDING**

**FINISH**
Powder coated

**OTHER EXTRAS**

**Supply and Install**

**LEAD TIME ** Due to COVID 19 this cannot be guaranteed ****

4 - 6 Working Weeks

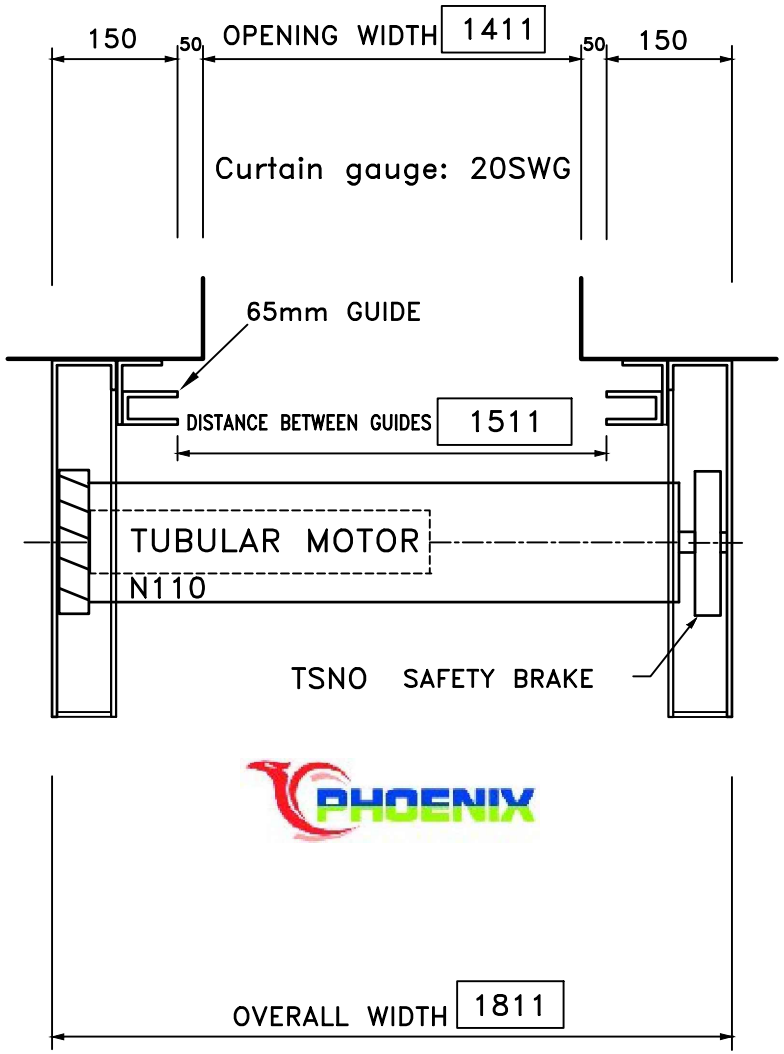
**Terms and Conditions**

* SERIES 37 MUST HAVE A MAINTAINED SUPPLY - BATTERY BACK-UP CAN BE PROVIDED AT AN EXTRA COST. 2 HOUR TUBEMOTOR FIRE SHUTTER IS LINKED INTO THE FIRE ALARM SYSTEM AS STANDARD, OTHERWISE A LOCAL SMOKE DETECTOR WILL BE REQUIRED (BY OTHERS) TO ACTIVATE THE SHUTTER. THE FIRE SIGNAL REQUIRED IS A N/O VOLT FREE SIGNAL. SERIES 23 & 29 PUSH UP & CHAIN OP FIRE SHUTTERS ARE NORMALLY POSITIONED FULLY OPEN OR FULLY CLOSED. FOR DAILY USAGE WE RECOMMEND POWER OPERATION , ALTHOUGH ALL FIRE SHUTTERS ARE DESIGNATED AS "LOW USAGE". SERIES 25 FIRE ALARM SIGNAL MUST BE 24 VOLT D.C. (MINIMUM 0.5 AMPS - NON POLARISED). WE RECOMMEND THAT ALL SHUTTERS SHOULD BE SERVICED EVERY SIX MONTHS. PRICES ARE PROVIDED BASED UPON INFORMATION GIVEN BY THE ENQUIRER.

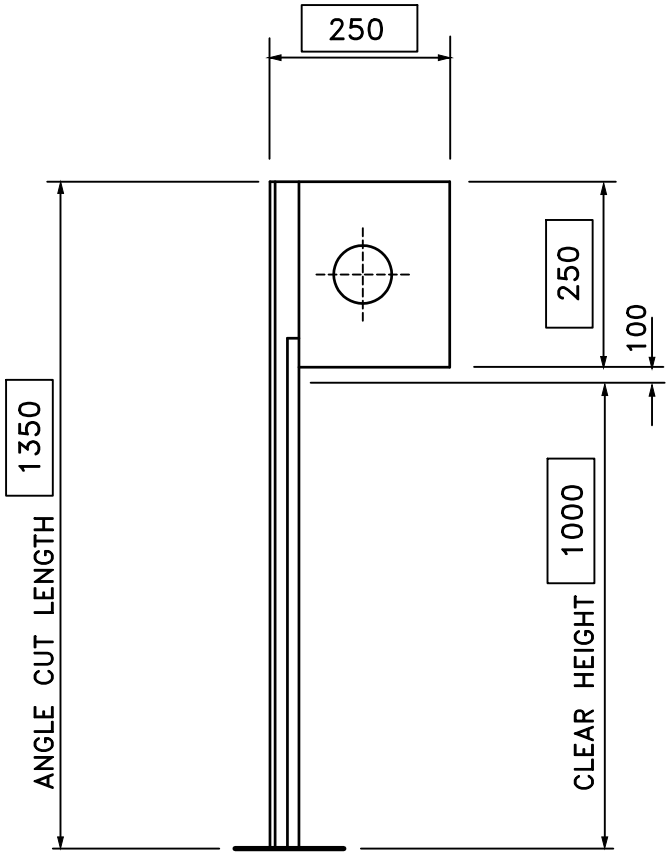
** **ONLY WHERE INSTALLATION IS SPECIFIED ABOVE** - OUR PRICE INCLUDES FOR COMPLETING INSTALLATION, WIRING AND COMMISSIONING IN ACCORDANCE WITH OUR STANDARD TERMS DURING ONE CONTINUOUS VISIT IN NORMAL WORKING HOURS. OPERATING CONTROLS WILL BE MOUNTED IMMEDIATELY ADJACENT TO THE OPENING ON THE MOTOR SIDE. CONTROL CABLING WILL BE SURFACE MOUNTED AND CLIPPED DIRECTLY TO THE STRUCTURE. A POWER SUPPLY TERMINATING AT A SUITABLE ISOLATOR WITHIN ONE METRE OF THE MOTOR POSITION MUST BE INSTALLED BY YOURSELVES OR OTHERS PRIOR TO OUR COMMENCEMENT ON SITE, OTHERWISE RETURN VISITS WILL BE NECESSARY AT ADDITIONAL COST. OUR PRICE INCLUDES FOR DELIVERY ON A SUITABLE VEHICLE FOR OFFLOADING AND MOVING INTO POSITION BY OTHERS. PRICE IS BASED UPON INFORMATION GIVEN, OR TAKEN DURING THE SITE SURVEY, AND UNIMPEDED ACCESS TO THE STRUCTURAL OPENING.

ALL DIMENSIONS IN MILLIMETRES

DO NOT SCALE




PLAN VIEW




SECTIONAL VIEW

POWDER COAT REF: BS/RAL RAL: TBC

BACK OF ANGLE 1651

NORMAL COIL REF D1

QUANTITY 1 DOOR NO. D1

DWG No: 31920

SERIES 37: FIRE DOOR, LEFT HAND



Canopy
UPS FDI
Battery backup 1000VA
Keyswitch x1
Touchup paint c/w fixing kit
Powder coated

CLIENT: Tom Crooks Architecture
ORDER NO: ---
QUOTE NO: Q31920
SITE: Horsforth Town Council

Unit 1, Stephens Way
Warrington Road Industrial Estate
Wigan, WN3 6PH

Alliance DOOR ENGINEERING

Tel: 01942 683601
Email: info@alliancedoors.co.uk

# L30
# Stairs/ ladders/ walkways/ handrails/ balustrades

## Clauses

### 15 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.

### 65 Purpose-made handrails

1. Description: To ramp and external steps
2. Component material, grade and finish as delivered
   2.1. Handrails: Low carbon steel - galvanized
   2.2. Brackets: Low carbon steel - galvanized
   2.3. Size: 32mm diameter handrails and stanchions.
3. Workmanship
   3.1. Joinery: As section Z10.
   3.2. Metalwork: As section Z11.
4. Fixing: Anchor fixed to concrete
   4.1. Centres: 1m

### 70 Proprietary handrails

1. Description: To main staircase
2. Manufacturer: Contractor's choice
3. Component material and finish as delivered
   3.1. Handrails: 41mm pine handrail - "cottage loaf" profile.
   3.2. Brackets: Stainless steel angle brackets fixed to wall.
4. Other requirements: Turned down at ends.

### 80 Installation generally

1. Fasteners and methods of fixing: To Section Z20.
2. Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
3. Temporary support: Do not use stairs, walkways or balustrades as temporary support or strutting for other work.
4. Applied features (finishes, inserts, nosings, etc.): Substrates to be even, dry, sound and free from contaminants. Make good substrate surfaces and prepare/ prime as applied feature manufacturer’s recommendations before application.

Ω End of Section

# L40
# General glazing

## Clauses

### 10 Workmanship and positioning generally

1. Glazing
   1.1. Generally: In accordance with BS 6262 series.
   1.2. Integrity: Wind and watertight under all conditions. Make full allowance for deflections and other movements.
2. Glass
   2.1. Standards: Generally to BS 952 and to the relevant parts of:
      2.1.1. BS EN 572 for basic soda lime silicate glass.
      2.1.2. BS EN 1096 for coated glass.
      2.1.3. BS EN 12150 for thermally toughened soda lime silicate glass.
      2.1.4. BS EN ISO 12543 for laminated glass.
   2.2. Quality: Free from scratches, bubbles and other defects.
   2.3. Dimensional tolerances: Panes/ sheets to be accurately sized.
3. Material compatibility: Glass/ plastics, surround materials, sealers primers and paints/ clear finishes to be compatible. Comply with glazing/ sealant manufacturers' recommendations.

### 20 Removal of glass/ Plastics for reuse

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

### 30 Preparation

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

### 40 Putty fronted glazing

1. Description: To new external windows
2. Pane material: 3mm clear float glass
3. Surround: Hardwood
4. Putty: Linseed oil
5. Glass installation
   5.1. Glass: Located centrally in surround using setting and location blocks, and secured with glazing sprigs/ cleats/ clips at 300 mm centres.
   5.2. Finished thickness of back bedding after inserting glazing (minimum): 1.5 mm.
   5.3. Front putty: Finished to a smooth, neat triangular profile stopping 2 mm short of sight line. Surface lightly brushed to seal putty to glass.
6. Sealing putty: Seal as soon as sufficiently hard by applying either the full final finish, or two coats of undercoat applied locally.

Ω End of Section

# M10
# Cement based levelling/ wearing screeds

## Clauses

### 7 Proprietary quick drying levelling screeds

1. Description: To floors throughout, where asbestos tiling is removed.
2. Substrate: Assumed concrete slab.
3. Screed manufacturer: Mapei U.K. Ltd. Mapei House Steel Park Road, Halesowen, West Midlands, B62 8HD
   Phone: 44-121-5086970, Email: info@mapei.co.uk
   3.1. Product reference: Ultraplan Smoothing Compound
4. Thickness
   4.1. Nominal: 1mm
   4.2. Maximum: 10mm
5. Finish: Trowelled to distribute and allowed to self level with assistance if required to achieve level surface with max 1mm deviation.

### 50 Mixing

1. Water content: Minimum necessary to achieve full compaction.
2. Mixing: Mix materials thoroughly to uniform consistency in a suitable forced action mechanical mixer.

### 55 Joints in levelling screeds

1. Laying screeds: Lay continuously using 'wet screeds' between strips or bays. Minimize defined joints.

### 70 Smooth floated finish

1. Finish: Even texture with no ridges or steps.

### 75 Trowelled finish to levelling screeds

1. Floating: To an even texture with no ridges or steps.
2. Trowelling: To a uniform smooth surface, free from trowel marks and other blemishes, and suitable to receive specified flooring material.

### 90 Curing

1. Curing period (minimum): As soon as screed has set sufficiently, closely cover with polyethylene sheeting for period recommended by screed manufacturer.
2. Drying after curing: Allow screeds to dry gradually. Do not turn on underfloor heating while screed is curing. After it has fully cured, UFH is to be very rgadually switched on.

Ω End of Section

# M20
# Plastered/ rendered/ roughcast coatings

## Clauses

### 30 Lightweight gypsum plaster

1. Description: Plaster to blockwork walls
2. Substrate: Concrete block
   2.1. Preparation: Apply bonding coat
3. Manufacturer: Contractor's choice
4. Undercoats: To BS EN 13279-1.
   4.1. Product reference: Contractor's choice
   4.2. Thickness (excluding dubbing out): First coat 8-12 mm and second coat 6-10 mm
5. Final coat: Finish plaster to BS EN 13279-1, class B.
   5.1. Product reference: Contractor's choice
   5.2. Thickness: 2-3 mm.
   5.3. Finish: Smooth.

### 50 Gypsum plaster skim coat on plasterboard

1. Plasterboard manufacturer: As K10. Generally 12.5/15mm plasterboard or plaster lath.
2. Plaster: Board finish plaster to BS EN 13279-1, class B.
   2.1. Manufacturer: Contractor's choice
      2.1.1. Product reference: Contractor's choice
   2.2. Thickness: 2-3 mm
   2.3. Finish: Smooth.

### 65 Mixing

1. Render mortars (site-made)
   1.1. Batching: By volume using gauge boxes or buckets.
   1.2. Mix proportions: Based on damp sand. Adjust for dry sand.
2. Mixes: Of uniform consistence and free from lumps.

### 67 Cold weather

1. Internal work: Take precautions to prevent damage to internal coatings when air temperature is below 3°C.
2. External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising.

### 71 Suitability of substrates

1. General: Suitable to receive coatings. Sound, free from contamination and loose areas.

### 74 Existing damp affected plaster/ render

1. Plaster affected by rising damp: Remove to a height of 300 mm above highest point reached by damp or 1 m above dpc, whichever is higher.
2. Perished and salt contaminated masonry
   2.1. Mortar joints: Rake out.
   2.2. Masonry units: Submit proposals.
3. Drying out substrates: Establish drying conditions.

## 76 Removing defective existing plaster

1. Plaster for removal: Loose, hollow, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
2. Removing plaster: Cut back to a square, sound edge.

## 80 Plasterboard backings

1. Additional framing supports
   1.1. Fixtures, fittings and service outlets: Accurately position to suit fasteners.
   1.2. Board edges and perimeters: To suit type and performance of board.
2. Joints
   2.1. Joint widths (maximum): 3 mm.
   2.2. End joints: Stagger between rows.
   2.3. Two layer boarding: Stagger joints between layers.
3. Joint reinforcement tape: Apply to joints and angles except where coincident with metal beads.

## 82 Beads/ stops

1. Location: External angles and stop ends.
2. Materials
   2.1. Internal plaster/ render: Galvanized steel
3. Fixing: Secure and true to line and level.
   3.1. Beads/ stops to external render: Fix mechanically.

Ω End of Section

# M40
# Ceramic Tiling

## Clauses

### 5 Tiling to Walls

1. Tiles: To be decided (included by way of Provisional Sum)
   1.1. Size: Provisionally allow for 150 x 150mm tiles
2. Background/ Base: Plastered walls
   2.1. Preparation: Ensure plaster substrate is fully cured and dry before applying coatings. Test to ascertain moisture content is in accordance with Manufacturer's recommendations.
3. Bedding: In accordance with Manufacturer's recommendations
   3.1. Adhesive: BAL Rapidset Flexible cementitious tile adhesive from.
   *Building Adhesives Limited, Longton Road, Trentham, Stoke-on-Trent, ST4 8JB, Tel: 01782 591100, Fax: 01782 591101, info@building-adhesives.com*
4. Joint width: 4 mm
5. Grout: Bal Micromax flexible cementitious antibacterial grout
   5.1. Colour: To be decided.

### 15 New backgrounds/ bases

1. Background drying times (minimum)
   1.1. Brick/block walls: six weeks.
   1.2. Rendering: two weeks.
   1.3. Gypsum plaster: four weeks.
2. Base drying times (minimum)
   2.1. Concrete slabs: six weeks.
   2.2. Cement:sand screeds: three weeks.

### 20 Existing backgrounds/ bases generally

1. Efflorescence, laitance, dirt, loose and defective material: Remove and make good defective areas with materials compatible with background/base and bedding.
2. Deposits of oil, grease and other materials incompatible with the bedding: Remove.
3. Tile, paint and other nonporous surfaces: Clean.
4. Wet backgrounds: Dry before tiling.
5. Paint with unsatisfactory adhesion: Remove so as not to impair bedding adhesion.

### 25 New plaster

1. Plaster primer: Apply if recommended by adhesive manufacturer.

### 30 Fixing generally

1. Colour/ shade: Avoid unintended variations within tiles for use in each area/ room.
   1.1. Variegated tiles: Mix thoroughly.
2. Adhesive: Compatible with background/ base.
3. Cut tiles: Neat and accurate.
4. Fixing: Provide adhesion over entire background/ base and tile backs.
5. Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints.

6. Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles/ mosaics and no gap should be greater than 6 mm, i.e. a tolerance of
7. Surplus bedding material: Clean from joints and face of tiles/ mosaics.

## 32 Mortar bedding

1. Bedding mix
   1.1. Cement: Portland to BS EN 197-1, type CEM I/42.5.
   1.2. Sand for walls: Fine aggregate to BS EN 13139.
      1.2.1. Grading designation: 0/2 (CP or MP) category 2 fines.
   1.3. Sand for floors: Fine aggregate to BS EN 13139.
2. Grading designation: 0/4 (MP) category 1 fines and between 20-66% passing a 0.5 sieve.
3. Batching: Select from:
   3.1. Batch by weight.
   3.2. Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Use accurate gauge boxes. Allow for bulking of damp sand.
4. Mixing: Mix materials thoroughly to uniform consistence. Use a suitable forced action mechanical mixer. Do not use a free fall type mixer.
5. Application: At normal temperatures use within two hours. Do not use after initial set. Do not retemper.

## 35 Setting out

1. Joints: True to line, continuous and without steps.
   1.1. Joints on walls: Horizontal, vertical and aligned round corners.
   1.2. Joints in floors: Parallel to main axis of space or specified features.
2. Cut tiles: Minimize number, maximize size and locate unobtrusively.
3. Joints in adjoining floors and walls: Align.
4. Joints in adjoining floors and skirtings: Align.

## 50 Adhesive bed – notched trowel method to walls

1. Application: By 3 mm floated coat of adhesive to dry background. Comb surface.
2. Tiling: Press tiles firmly onto float coat.

## 55 Adhesive bed – notched trowel and buttering method to walls

1. Application: By floated coat of adhesive to dry background. Comb surface.
2. Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any profiles. Press tiles firmly onto float coat.
3. Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.

## 57 Adhesive bed – buttering method

1. Tiling: Apply even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles.
2. Finished adhesive thickness
   2.1. Walls: 3 mm or within the range allowed by the adhesive manufacturer.
   2.2. Floors: Within the range allowed by the adhesive manufacturer.

## 60 Adhesive bed – notched trowel and buttering method to floors

1. Application: Floated coat of adhesive to dry base and comb surface.
2. Tiling: Apply coat of adhesive to backs of dry tiles. Fill any profiles. Press tiles firmly onto float coat.
3. Finished adhesive thickness: Within range allowed by manufacturer.

## 70 Grouting

1. Sequence: Grout when bed/adhesive has set sufficient to prevent disturbance of tiles.
2. Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
3. Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
4. Polishing: When grout is hard, polish tiling with dry cloth.

## 75 Sealant movement joints

1. Description: To walls and floor tiling
2. Joints: Extend through tiles and bedding to base/ background. Centre over joints in base/ background.
   2.1. Width: 5mm
3. Sealant: BAL Micromax Silicone Sealant from *Building Adhesives Limited, Longton Road, Trentham, Stoke-on-Trent, ST4 8JB, Tel: 01782 591100, Fax: 01782 591101, info@building-adhesives.com*.
   3.1. Colour: To be confirmed
   3.2. Preparation and application: As section Z22.

Ω End of Section

# M50
# Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

## Clauses

### 11 Polyvinyl chloride (PVC) tiles

1. Description: To first and ground floor corridors, stairs and kitchens.
2. Tiles
   - 2.1. Manufacturer: Polyflor Ltd
     - 2.1.1. Contact details
       - 2.1.1.1. Address: PO Box 3
         Radcliffe New Road
         Whitefield
         Manchester
         M45 7NR
       - 2.1.1.2. Telephone: +44 (0)161 767 1122
       - 2.1.1.3. Web: www.polyflor.com
       - 2.1.1.4. Email: info@polyflor.com
     - 2.1.2. Product reference: Expona Commercial - Wood PUR (4037 White Oak)
   - 2.2. Standard: To BS EN 649 and BS EN ISO 10582.
   - 2.3. Use class: To BS EN ISO 10874, class 23, 33 and 42.
   - 2.4. Slip potential
     - 2.4.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum): R10.
   - 2.5. Recycled content: 40%.
   - 2.6. Size: 152.4 x 1219.2 mm.
   - 2.7. Thickness: 2.5 mm.
   - 2.8. Colour and pattern: "Light Classic Oak" - TBC
3. Adhesive (and primer if recommended by manufacturer): As recommended by Manufacturer.
4. Installation: By a Polyfor approved installer.

### 15 Pile carpet tiles

1. Carpet tiles to BS EN 14041 and BS EN 1307
   - 1.1. Manufacturer: Paragon Carpet Tiles
     - 1.1.1. Contact details
       - 1.1.1.1. Address: Farfield Park
         Manvers
         Wath-upon-Dearne
         Rotherham
         S63 5DB
       - 1.1.1.2. Telephone: +44 (0) 1709 763 813
       - 1.1.1.3. Web: https://www.paragon-carpets.co.uk/
       - 1.1.1.4. Email: sales@paragon-carpets.co.uk
     - 1.1.2. Product reference: Vapour
   - 1.2. Style: Tufted loop pile carpet tile.
   - 1.3. Material: Nylon.
   - 1.4. Classification
     - 1.4.1. Level of use class: Class 33.

1.4.2. Luxury rating class: LC1.

1.5. Recycled content: 72%.

1.6. Size: 500 x 500 x 6 mm.

1.7. Colour and pattern: "Haze" 63244

1.8. Construction: Antron Lumena SD 6.6 NI.

1.9. Pile yarn weight: 650 gsm.

1.10. Height: 2.5 mm.

1.11. Total weight: 4140 gsm.

1.12. Total thickness: 6 mm.

1.13. Backing: 100% Envirobase.

1.14. Tiles per box: 20.

1.15. Anti static layer: Less than 2 Kv.

1.16. Colour fastness: > 6; 4–5.

1.17. Flammability: To BS EN ISO 13501, Cfl-s1.

1.18. Castor chair rating: Pass.

1.19. VOC content: E1.

## 20 Particle-based enhanced slip-resistant polyvinyl chloride (PVC) sheets

1. Description: To W/c's
2. Flooring roll
   2.1. Manufacturer: Polyflor Ltd
      2.1.1. Contact details
         2.1.1.1. Address: PO Box 3
         Radcliffe New Road
         Whitefield
         Manchester
         M45 7NR
         2.1.1.2. Telephone: +44 (0)161 767 1122
         2.1.1.3. Web: www.polyflor.com
         2.1.1.4. Email: info@polyflor.com
      2.1.2. Product reference: Polysafe Quattro PUR Safety Flooring
   2.2. Standard: To BS EN 13845.
   2.3. Use class: To BS EN ISO 10874, class 23, 34 and 43.
   2.4. Slip potential
      2.4.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum): R11.
   2.5. Width: 2000 mm.
   2.6. Thickness: 2 mm.
   2.7. Colour and pattern: "Midnight Blue"
   2.8. Acoustic underlay: Not required.
3. Adhesive (and primer if recommended by manufacturer): As recommended by Manufacturer
4. Seam welding: Hot welding with complimentary coloured rod
5. Installation: By a Polyfor approved installer.

## 24 Entrance Matting

1. Manufacturer:: Coba, Tel: +44 (0)1788 228 555, Email: sales@cobaeurope.com
   1.1. Reference:: PathMaster Duo (Ref: PMDB010001C)

1.2. Size:: 2m wide x 3.55m long

1.3. Colour:: Charcoal

2. Laying:: Lay with Manufacturer's reocmmended adhesive (F3)
3. Accessories:: Bevelled edging below arch into GF corridor.

## 40 Laying coverings on new wet laid bases

1. Base drying aids: Not used for at least four days prior to moisture content test.
2. Base moisture content test: Carry out in accordance with BS 5325, Annexe A or BS 8203, Annexe A.
3. Commencement of laying coverings: Not until all readings show 75% relative humidity or less.

## 45 Existing floor covering removed

1. Substrate: Clear of covering and as much adhesive as possible. Skim with smoothing compound to give smooth, even surface.

   Asbestos advesive to be removed by specialist Asbestos Contractor.

## 60 Setting out tiles

1. Method: Set out from centre of area/ room so that wherever possible:
   1.1. Tiles along opposite edges are of equal size.
   1.2. Edge tiles are more than 50% of full tile width.

## 65 Laying coverings

1. Base/ substrate condition: Rigid, dry, smooth, free from grease, dirt and other contaminants.
2. Use a primer where recommended by adhesive manufacturer. Allow to dry thoroughly.
3. Adhesive: As specified, as recommended by covering manufacturer or, as approved.
4. Conditioning of materials prior to laying: As recommended by manufacturer.
5. Environment: Before, during and after laying, provide adequate ventilation and maintain temperature and humidity approximately at levels which will prevail after building is occupied.
6. Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks, stains, trowel ridges and high spots.

## 70 Edgings and cover strips to W/c's

1. Manufacturer: Polyflor
   1.1. Product reference: Cap and Cove - Cove Former CF 38mm & CS Capping Strip
2. Material/ finish: PVC
3. Fixing: Secure (using matching fasteners where exposed to view) with edge of covering gripped.

## 75 Rigid stair nosings

1. Manufacturer: CAT (Carpet Accessory Trims) Limited
   1.1. Contact details
      1.1.1. Address: Unit 24A,B,C
      Park Avenue Estate
      Sundon Park
      Luton
      Bedfordshire
      LU3 3BP
      1.1.2. Telephone: +44 (0)1582 561500
      1.1.3. Web: www.thecatweb.com

1.1.4. Email: sales@cat-accs.com

1.2. Product reference: AN59/55SL Aluminium Stair Nosings (Mill finish)

2. Profile: Single channel/ square front.
3. Base section
   3.1. Material: Aluminium alloy 6063 T6.
   3.2. Finish: Satin.
4. Size
   4.1. Rise x going: 55 x 59 mm.
   4.2. Gauge: 2.5 mm.
5. Inserts
   5.1. Material: Olympic grip carborundum.
   5.2. Colour: Granite LRV:7.02.
6. Installation: To be supplied pre-drilled and countersunk in the channel for concealed fixing and on-site retro fitting of the infill.
7. Length: 3200 mm.

## 85 Waste

1. Spare covering material: Retain suitable material for patching. On completion submit pieces for selection. Hand over selected pieces to Employer.

Ω End of Section

# M60
# Painting/ clear finishing

## Clauses

### 10 Emulsion paint - To All Plastered Surfaces (except W/c's and Kitchens)

1. Description: To plastered surfaces
2. Manufacturer: Crown
   2.1. Product reference: Crown Trade Clean Extreme Scrubbable Matt
3. Surfaces: Plastered walls and ceilings/MDF
   3.1. Preparation: Ensure surfaces are clean and dry
4. Initial coats: As recommended by manufacturer
   4.1. Number of coats: 1
5. Undercoats: As recommended by manufacturer
   5.1. Number of coats: 1

### 11 Water-based finishing coats - To All Plastered Surfaces to W/c's and Kitchens (A)

1. Description: To plastered surfaces
2. Manufacturer: Dulux Trade, brand of AkzoNobel
   2.1. Contact details
      2.1.1. Address: AkzoNobel Decorative Paints
      Wexham Road
      Slough
      Berkshire
      SL2 5DS
      2.1.2. Telephone: +44 (0)333 222 7070
      2.1.3. Web: www.duluxtradepaintexpert.co.uk
      2.1.4. Email: project.support@akzonobel.com
   2.2. Product reference: Dulux Easycare Matt
3. Surfaces: Plastered walls and ceilings/MDF
   3.1. Preparation: Ensure surfaces are clean and dry
4. Initial coats: As recommended by manufacturer
   4.1. Number of coats: 1
5. Undercoats: As recommended by manufacturer
   5.1. Number of coats: 1

### 12 Satin paint - To Internal Woodwork

1. Description: To internal woodwork
2. Manufacturer: Dulux
   2.1. Product reference: Satinwood
3. Surfaces: Preprimed and sealed
   3.1. Preparation: In accordance with Manufacturer's recommendations
4. Undercoats: Satinwood
   4.1. Number of coats: 1
5. Finishing coats: Satinwood

5.1. Number of coats: 1

## 13 Satin paint - To External Woodwork

1. Description: To new external timberwork
2. Manufacturer: Dulux
   2.1. Product reference: Weathershield
3. Surfaces: Preprimed and sealed
   3.1. Preparation: In accordance with Manufacturer's recommendations
4. Initial coats: “Weathershield” Quick drying Primer.
   4.1. Number of coats: 1
5. Undercoats: Weathershield
   5.1. Number of coats: 2
6. Finishing coats: Weathershield
   6.1. Number of coats: 1

## 14 Satin paint - To External Metalwork

1. Description: To metal gutters and downpipes
2. Manufacturer: Dulux
   2.1. Product reference: Weathershield
3. Surfaces: Preprimed and sealed
   3.1. Preparation: In accordance with Manufacturer's recommendations
4. Initial coats: “Weathershield” Quick drying metal Primer.
   4.1. Number of coats: 1
5. Undercoats: Weathershield
   5.1. Number of coats: 2
6. Finishing coats: Weathershield
   6.1. Number of coats: 1

## 19 Flame-retardant coatings to plastered surfaces

1. Description: Fire retardant upgrading coating to existing plastered surfaces.
2. Manufacturer: Envirograph, Envirograf House, Barfrestone, Dover, Kent, CT15 7JG, Tel: 01304 842 555, Email: steven.tillyer@envirograf.com.
   2.1. Product reference: EP/CP 105
3. Reaction to fire rating (indicative): To BS EN 13501-1, Class B-s1, d0 or better
4. Surfaces: Existing (retained) internal plastered surfaces, including ceilings, walls and moulded cornice.
   4.1. Preparation: Clean all walls or ceilings, taking off any loose paint and removing all wall or ceiling paper. Any grooves or cracks in the ceiling or walls can be made good with Envirograf® Intumescent Cement – Product 63 or AM Intumescent Mastic – Product 58. Should it be found that EP/CP will not adhere to the existing coating, then either apply a PVA Adhesive Coating at a 50/50 ratio of adhesive to water, or apply 1 coat of Envirograf® EP/CP/P Primer at 14 m² per litre.
5. Initial coats: As recommended by manufacturer
   5.1. Number of coats: 2
6. Application: Apply 2 coats of EP/CP at the rate of 8 m² per litre, per coat. The approximate drying time is 1 hour.

## 30 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File and CDM Construction Phase Plan where applicable.
3. Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
5. Substrates: Sufficiently dry in depth to suit coating.
6. Efflorescence salts, dirt, grease and oil: Remove.
7. Surface irregularities: Provide smooth finish.
8. Organic growths and infected coatings
   8.1. Remove with assistance of biocidal solution.
   8.2. Apply residual effect biocidal solution to inhibit regrowth.
9. Joints, cracks, holes and other depressions: Fill with stoppers/ fillers. Provide smooth finish.
10. Dust, particles and residues from preparation: Remove and dispose of safely.
11. Doors, opening windows and other moving parts
    11.1. Ease, if necessary, before coating.
    11.2. Prime resulting bare areas.

## 32 Previously coated surfaces generally

1. Preparation: In accordance with BS 6150, clause 11.5.
2. Contaminated or hazardous surfaces: Give notice of:
   2.1. Coatings suspected of containing lead.
   2.2. Substrates suspected of containing asbestos or other hazardous materials.
   2.3. Significant rot, corrosion or other degradation of substrates.
3. Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
5. Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
6. Alkali affected coatings: Completely remove.
7. Retained coatings
   7.1. Thoroughly clean.
   7.2. Gloss coated surfaces: Provide key.
8. Partly removed coatings: Apply additional preparatory coats.
9. Completely stripped surfaces: Prepare as for uncoated surfaces.

## 35 Fixtures and fittings

1. Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
2. Removal: Before commencing work: Ironmongery, coverplates, grilles, wall clocks, and other surface mounted fixtures.
3. Replacement: Refurbish as necessary, refit when coating is dry.

## 37 Wood preparation

1. General: Provide smooth, even finish with lightly rounded arrises.

2. Degraded or weathered surface wood: Take back surface to provide suitable substrate.
3. Degraded substrate wood: Repair with sound material of same species.
4. Heads of fasteners: Countersink sufficient to hold stoppers/ fillers.
5. Resinous areas and knots: Apply two coats of knotting.
6. Defective primer: Take back to bare wood and reprime.

## 39 Steel preparation

1. Corrosion and loose scale: Take back to bare metal.
2. Residual rust: Treat with a proprietary removal solution.
3. Bare metal: Apply primer as soon as possible.

## 43 Plaster preparation

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled 'polished' areas: Provide suitable key.

## 45 Previously painted window frames

1. Paint encroaching beyond glass sight line: Remove.
2. Loose and defective putty: Remove.
3. Putty cavities and junctions between previously painted surfaces and glass: Clean thoroughly.
4. Finishing
    4.1. Patch prime, reputty, as necessary and allow to harden.
    4.2. Seal and coat as soon as sufficiently hard.

## 50 External pointing to existing frames

1. Defective sealant pointing: Remove.
2. Joint depth: Approximately half joint width; adjust with backing strip if necessary.
3. Sealant
    3.1. Manufacturer: Contractor's Choice
        3.1.1. Product reference: Burnt Sand Mastic
    3.2. Preparation and application: As section Z22.

## 61 Coating generally

1. Application standard: In accordance with BS 6150, clause 9.
2. Conditions: Maintain suitable temperature, humidity and air quality.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing: Not permitted unless recommended by manufacturer.
5. Priming coats: Apply as soon as possible on same day as preparation is completed.
6. Finish
    6.1. Even, smooth and of uniform colour.
    6.2. Free from brush marks, sags, runs and other defects.
    6.3. Cut in neatly.
7. Doors, opening windows and other moving parts: Ease before coating and between coats.

## 70 External doors

1. Bottom edges: Prime and coat before hanging.

## 80 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.

Ω End of Section

# N11
# Domestic kitchen fittings, furnishings and equipment

## To be read with preliminaries/ general conditions

### 10 Kitchenettes

1. Description: To kitchenettes are to be supplied as per quotations and schedules provided by Howdens and included here and installed by the Principal Contractor.
2. Manufacturer: Howdens, Unit 1 Moorfield Road, Yeadon, Estate, LS19 7BN, Tel: 0113 250 3854
   2.1. Product reference: Quotation Ref: J63/0002628 (First Floor)
   Quotation Ref: J63/0002630 (Ground Floor)
3. Doors and drawer fronts

### 50 Sealant

1. Type: One-part silicone
   1.1. Manufacturer: Contractor's choice
      1.1.1. Product reference: Contractor's choice
2. Colour: To match worktop

## Execution

### 65 Installation generally

1. Fixings and adhesives: As section Z20.
2. Services: As sections S90 and V90

### 70 Installing units and worktops

1. General: Well fitting, stable and secure.

### 75 Installing appliances

1. Connections: Provide to electric, gas, and hot and cold water services.

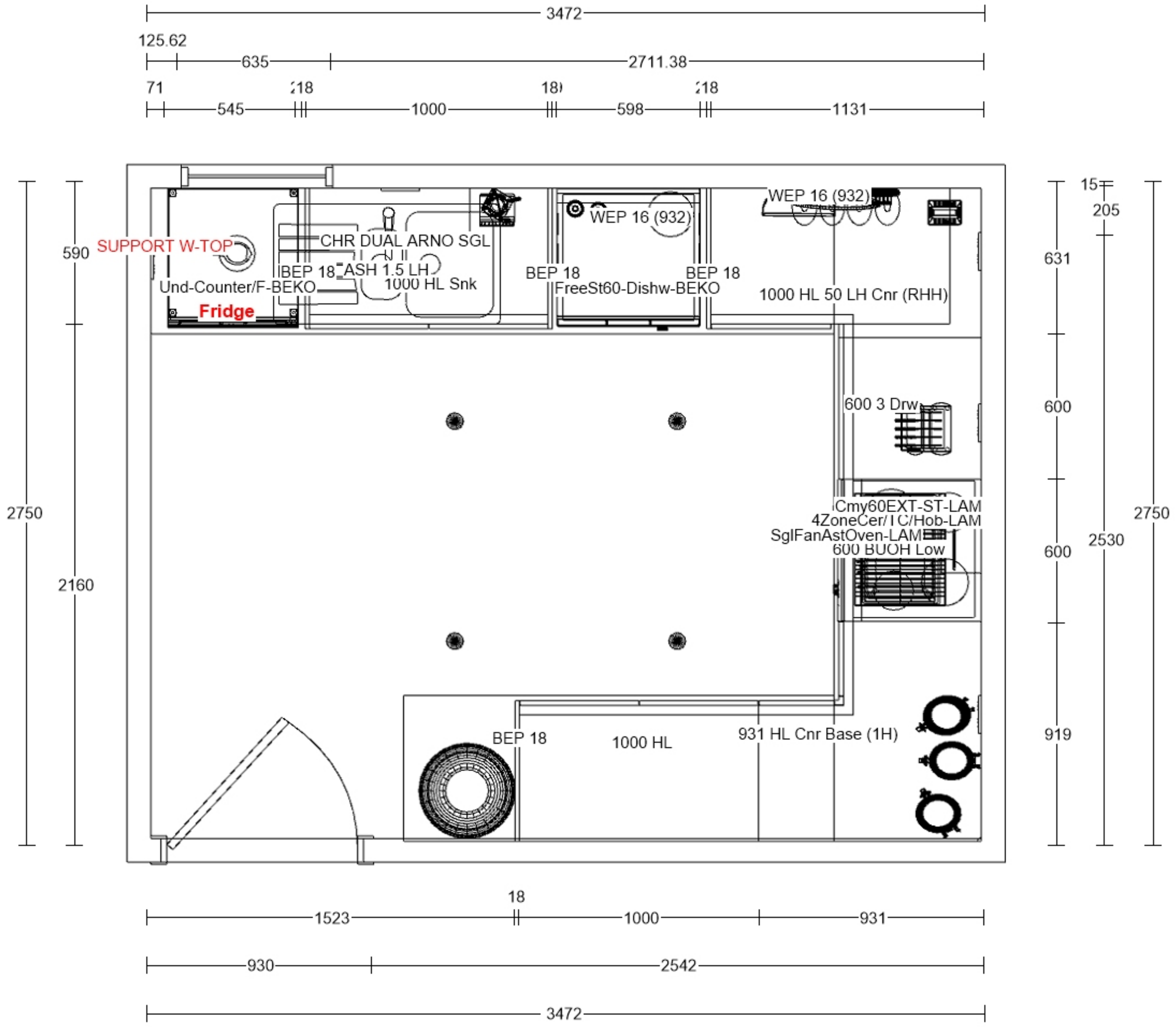
### 80 Installing sinks, taps and wastes

1. Water supply: According to BS EN 806-2 and -4.
2. Taps
   2.1. Fixing: Secure, watertight seal with the appliance.
   2.2. Positioning: Hot tap to left of cold tap as viewed by the user of the appliance.
3. Wastes
   3.1. Bedding: Waterproof jointing compound.
   3.2. Fixing: With resilient washer between appliance and backnut.

### 90 Installing trims and mouldings

1. Lengths: Un-jointed between angles or ends of runs.
2. Angle joints: Mitred.

Ω End of Section




| | | | |
|---|---|---|---|
| HOWDENS | Please consult the quotation for a list of items to be supplied. The drawing is a computer representation of layout | Cad Plan No : 22100845903 | Customer : TOM CROOKS ARCHITECTURE LIMITED |
| | and dimension, details should be checked by the installer/builder. Please also ensure a Gas Safe registered | Designed By : Eddie Bennett | Phone : |
| | engineer is engaged with regards to any gas appliances. Check with your installer/builder for more information. | Designed On : 16/2/23 | Range Designed : Greenwich Dove Grey |

HOWDENS

ESTIMATE

Date: 16/02/2023 08:18
Account: 1102077868

Estimate For:

xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Cad Plan Number: 22100845903
Estimate Number: J63/0002630
Estimate expiry: 18/03/2023
Our Operator: Edwards
Sales Consultant: Edwards

Your Contact: xxxxxxxxxx
Contact No: xxxxxxxxxx
Your Reference: Horforth T-Hall Lge

| Qty | Product | | Net | |
|---|---|---|---|---|
| 1 | ACS1412 | Glass Splashback 595mm x 705mm | 54.63 | |
| 2 | GAR0123 | Howdens Black General Purpose Silicone 310ml | 7.64 | |
| 2 | GDY5920 | Gwich Dv Grey Continuous Plinth 2.75m | 54.62 | F |
| 4 | GDY5933 | Gwich Dv Grey 910 Base Decor End | 107.08 | F |
| 1 | GDYG14B | Gwich Dv Grey 600 PreFit Standard 3 Dwr Base Light Grey Oak Cab | 176.16 | F |
| 1 | GDYG271 | Gwich Dv Grey 1000 CC HiLine Base Light Grey Oak Cab | 201.68 | F |
| 1 | GDYG271 | Gwich Dv Grey 1000 CC HiLine Base Light Grey Oak Cab | 201.68 | F |
| 1 | GDYG341 | Gwich Dv Grey 1000 CC HiLine Cnr Base Light Grey Oak Cab | 172.10 | F |
| 1 | GDYG369 | Gwich Dv Grey 931 CC HiLine Cnr Shelf Service Void Base Light Grey Oak Cab | 339.88 | F |
| 1 | HJA2908 | Carbon Filter for LAM2410,2411 | 18.09 | |
| 1 | HJS9805 | Kitchen Installation Manual June 2022 | 0.00 | |
| 9 | HKB4100 | Brushed Nickel Effect Classic D Handle 185mm | 42.21 | |
| 1 | LAM1706 | Lamona Black Side Ctrl Ceramic Hob 60cm | 139.34 | |
| 1 | LAM2410 | Lamona S/Steel Chimney Extractor 60cm | 50.00 | |
| 1 | LAM3451 | Lamona S/Steel Single Standard Fan Oven 60cm | 147.25 | |
| 1 | PLU6002 | Space Saving Plumbing Kit 1.5 and 2.0 Bowl Sinks, 2 x Appliance Trap | 42.45 | |
| 1 | SNT9306 | S/Steel Drayton 1.5 Bowl Sink, Chrome Arno Tap and Waste | 91.00 | |
| 1 | WOK0395 | Standard Black Mirror Chip Worktop Edging Strip 1.4m 38mm | 5.86 | |

Depot: Yeadon Manager: Michael Ellis
Address: Unit 1, Moorfield Industrial Estate, Moorfield Close, Yeadon, LS19 7BN
Tel: 0113 250 3854
E-mail: Yeadon@howdens.com

HOWDENS

ESTIMATE

Date: 16/02/2023 08:18
Account: 1102077868

Estimate For:

xxxxxxxxxx
xxxxxxxxxx
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xxxxxxxxxx
xxxxxxxxx

Cad Plan Number: 22100845903
Estimate Number: J63/0002630
Estimate expiry: 18/03/2023
Our Operator: Edwards
Sales Consultant: Edwards

Your Contact: xxxxxxxxxx
Contact No: xxxxxxxxxx
Your Reference: Horforth T-Hall Lge

| Qty | Product | Net |
|---|---|---|
| 3 | WOK5160 Black Mirror Chip Bullnose Worktop 3m 38mm/8mm | 237.00 F |
| 1 | ZZD39 Delivery | 100.00 |

Only Products marked F (FSC) or P (PEFC) above
Are certified as Follows :
FSC Mix 70%, SA-COC-001813
70% PEFC Certified, SA-PEFC-COC-001813

| | |
|---|---|
| Total Goods | 2188.67 |
| VAT | 437.74 |
| Estimate Total | 2626.41 |

All prices are in GBP

Depot: Yeadon Manager: Michael Ellis
Address: Unit 1, Moorfield Industrial Estate, Moorfield Close, Yeadon, LS19 7BN
Tel: 0113 250 3854
E-mail: Yeadon@howdens.com

# HOWDENS

ESTIMATE

Date: 16/02/2023 08:02
Account: 1102077868

Estimate For:

xxxxxxxxxx
xxxxxxxxxx
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xxxxxxxxxx
xxxxxxxxxx
xxxxxxxxxx

Cad Plan Number: 22100845903
Estimate Number: J63/0002628
Estimate expiry: 18/03/2023
Our Operator: Edwards
Sales Consultant: Edwards

Your Contact: xxxxxxxxxx
Contact No: xxxxxxxxxx
Your Reference: Town Hall Small Kitc

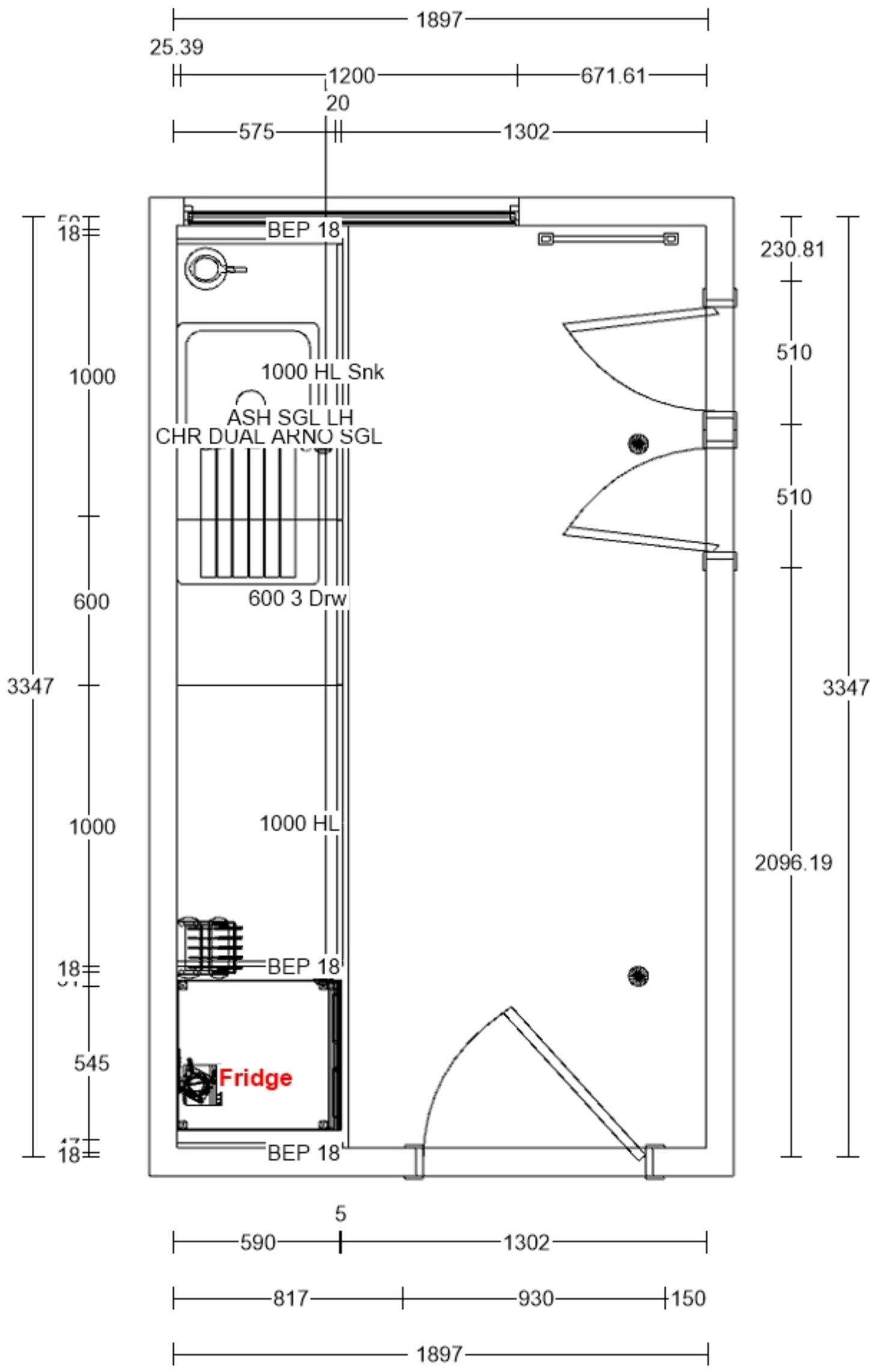
| Qty | Product | Net |
|---|---|---|
| 1 | WOK5160 Black Mirror Chip Bullnose Worktop 3m 38mm/8mm | 79.00 F |
| 1 | GAR0123 Howdens Black General Purpose Silicone 310ml | 3.82 |
| 1 | GDY5920 Gwich Dv Grey Continuous Plinth 2.75m | 27.31 F |
| 3 | GDY5933 Gwich Dv Grey 910 Base Decor End | 80.31 F |
| 1 | GDY4271 Gwich Dv Grey 1000 CC HiLine Base Natural Oak Cab | 201.68 F |
| 1 | GDY427F Gwich Dv Grey 1000 CC HiLine Sink Base Natural Oak Cab | 254.70 F |
| 1 | GDY414B Gwich Dv Grey 600 PreFit Standard 3 Dwr Base Natural Oak Cab | 176.16 F |
| 1 | SNT1997 Trad Mono Mixr and Draytn 1 Bwl and Wst | 95.95 |

Only Products marked F (FSC) or P (PEFC) above
Are certified as Follows :
FSC Mix 70%, SA-COC-001813
70% PEFC Certified, SA-PEFC-COC-001813

| | |
|---|---|
| Total Goods | 918.93 |
| VAT | 183.79 |
| Estimate Total | 1102.72 |

All prices are in GBP

Depot: Yeadon Manager: Michael Ellis
Address: Unit 1, Moorfield Industrial Estate, Moorfield Close, Yeadon, LS19 7BN
Tel: 0113 250 3854
E-mail: Yeadon@howdens.com

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|---|---|---|---|
| HOWDENS | Please consult the quotation for a list of items to be supplied. The drawing is a computer representation of layout | Cad Plan No : 22100845903 | Customer : TOM CROOKS ARCHITECTURE LIMITED |
| | and dimension, details should be checked by the installer/builder. Please also ensure a Gas Safe registered | Designed By : Eddie Bennett | Phone : |
| | engineer is engaged with regards to any gas appliances. Check with your installer/builder for more information. | Designed On : 16/2/23 | Range Designed : Greenwich Dove Grey |

# P10
# Sundry insulation/ proofing work

## Clauses

### 41 Insulation fitted between internal wall studs

1. Manufacturer: Knauf Insulation Ltd., PO Box 10, Stafford Road, St Helens, Merseyside, WA10 3NS, Tel: 01744 766600, Email: info.uk@knaufinsulation.com
   1.1. Product reference: Knauf Insulation Acoustic Roll or equivalent
2. Thickness: 100
3. Installation requirements
   3.1. Joints: Butted, no gaps.
   3.2. Fasteners: Used to prevent slumping.

Ω End of Section

# P12
# Fire stopping systems

## General

### 10 Fire stopping - electrical/power/cable penetrations

1. Description: To electrical/power/lighting cabling.
2. Resistance to fire: To BS EN 13501-2, EI 30
3. Reaction to fire: To BS EN 13501-1, class A1
4. Penetration seal: Flexible intumescent gap sealer as clause 35
   4.1. Size: To match wall thickness
5. Capping sealant: Contractor's choice
   5.1. Colour: Contractor's choice

### 11 Fire stopping - pipes (heating/water)

1. Description: To pipes (hot water/heating/waste/etc.)
2. Resistance to fire: To BS EN 13501-2, EI 30 or To BS 476-20 and -22, 30 minutes integrity and insulation
3. Reaction to fire: To BS EN 13501-1, class A1 or To BS 476-7, Class 1
4. Penetration seal: Flexible intumescent gap sealer as clause 35.
   Waste pipes - Pipe collar as clause 68
   4.1. Size: To match wall thickness
5. Capping sealant: Contractor's choice
   5.1. Colour: Contractor's choice

### 12 Fire stopping - ventilation ducts

1. Description: To ventilation pipes
2. Resistance to fire: To BS EN 13501-2, EI 30 or To BS 476-20 and -22, 30 minutes integrity and insulation
3. Reaction to fire: To BS EN 13501-1, class A1 or To BS 476-7, Class 1
4. Penetration seal: Smoke and Fire duct dampers.
   4.1. Size: To match wall thickness

### 13 Fire stopping - roof cavity stopper

1. Description: To void beneath roof tiles and above dividing wall.
2. Resistance to fire: FB/TS Free-Air-Flow barrier tested to BS EN 1363-1 (1999), achieving up to 123 minutes fire protection.
3. Manufacturer: Envirograph, Intumescent Systems Ltd, Envirograf House, Barfrestone, Dover, Kent, CT15 7JG, Tel: 01304 842 555
4. Product Ref: Timber Frame Cavity Stop Barrier FB/TS
   4.1. Size: As appropriate to cavity size.

## Products

### 35 Flexible intumescent gap sealer

1. Manufacturer: Rawlins Paints, Northspeed House, Leeds, LS11 9NF, Phone: 0113 2455450, Email: sales@rawlinspaints.com
   1.1. Product reference: Protecta FR Graphite 4hr Intumescent Sealant

2. Strip width: To Manufacturer's recommendations.

### 36 Intumescent foam

1. Manufacturer: Rawlins Paints, Northspeed House, Leeds, LS11 9NF, Phone: 0113 2455450, Email: sales@rawlinspaints.com
   1.1. Product reference: Protecta FR Foam

### 37 Intumescent mortar

1. Manufacturer: Rawlins Paints, Northspeed House, Leeds, LS11 9NF, Phone: 0113 2455450, Email: sales@rawlinspaints.com
   1.1. Product reference: Protecta EX Mortar Fire Rated Compound

### 43 Pipe collar - concealed intumescent

1. Manufacturer: Rawlins Paints, Northspeed House, Leeds, LS11 9NF, Phone: 0113 2455450, Email: sales@rawlinspaints.com
   1.1. Product reference: Protecta FR Pipe Collars
2. Size: To suit pipe diameter.

### 44 Pipe collar - insulated wrap

1. Manufacturer: Rawlins Paints, Northspeed House, Leeds, LS11 9NF, Phone: 0113 2455450, Email: sales@rawlinspaints.com
   1.1. Product reference: Protecta FR Pipe Wrap
2. Size: To suit wall thickness.

### 49 Sealant - Fire resisting polysulfide

1. Manufacturer: Rawlins Paints, Northspeed House, Leeds, LS11 9NF, Phone: 0113 2455450, Email: sales@rawlinspaints.com
   1.1. Product reference: Protecta FR 4hr Intumescent Sealant - Seek Manufacturer's advice on correct specification product.

## Execution

### 62 Execution generally

1. Gaps: Seal gaps between building elements and services, to provide fire resistance and resist the passage of smoke.
2. Adjacent surfaces: Prevent overrun of sealant or mortar on to finished surfaces.

### 63 Installing flexible intumescent gap sealer

1. Fitting of strips: Compress strips and fit into gap, so that, as they decompress the strips wedge themselves in the void.
2. Joints
   2.1. Ends of strips: Fit intumescent 'end piece' at both ends of run of stop laminate.
   2.2. Joints between strips: Fit two intumescent 'end pieces' at each butt joint.

### 64 Applying intumescent foam

1. New joints: Remove builder's debris, mortar droppings, grease, and other contaminants.
2. Old joints: Clean and remove existing sealant from each joint.
3. Priming: Lightly moisten substrate with water.
4. Application: Fill joint to approximately half its depth, and allow foam to expand to face of joint.

5. Trimming: Trim excess foam to give a neat, flush appearance

### 65 Applying intumescent mortar

1. Sequence: Install mortar after services are permanently installed.
2. Loose dust and combustible materials: Remove from the opening.
3. Shuttering: Install suitable shuttering panels to the faces of the opening.
4. Temperature: Do not apply mortar when it could be damaged by frost.
5. Powder:water ratio: To Manufacturer's recommendations.
6. Mortar cure: Do not disturb mortar before final set has taken place.
7. Shuttering: Remove after mortar has cured.

### 68 Fixing pipe collars

1. Collar fixing: Contractor's choice
2. Gap around collar: Seal with gap filler and sealant
3. Length of wraps: Project 50 mm from each side of the element

### 71 Inserting sealant backing material

1. Preparation: Removed debris from service penetration.
2. Installation: Insert joint filler to full depth of joint leaving sufficient depth to apply sealant

### 73 Applying sealants generally

1. Application: As section Z22.

## Completion

### 91 Cleaning

1. Masking tapes: Remove.
2. Cleaning: Clean off splashes and droppings. Wipe down finishes.

### 92 Inspection

1. Notice for inspection (minimum): Three working days

Ω End of Section

# P20
# Unframed isolated trims/ skirtings/ sundry items

## Clauses

### 10 Softwood Skirtings

1. Description: Skirtings throughout
2. Quality of wood and fixing: To BS 1186-3.
   2.1. Species: Pine
3. Moisture content at time of fixing: 9 -13%
4. Fire rating: Not applicable
5. Profile: To match existing
   5.1. Finished size: Provisionally 175 x 25 mm
6. Finish as delivered: Natural
7. Fixing: Plugged, and screwed at 600mm centres. Provide 3mm gap to underside, above finished floor level.

### 11 Softwood Architraves

1. Description: Architraves throughout
2. Quality of wood and fixing: To BS 1186-3.
   2.1. Species: Contractor's choice
3. Moisture content at time of fixing: 9 -13%
4. Fire rating: Not applicable
5. Profile: To match existing
   5.1. Finished size: Provisionally 75 x 25 mm
6. Finish as delivered: Natural
7. Fixing: Nailed at suitable centres

### 35 Medium density fibreboard

1. Description: To form boxing in
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Standard: To BS EN 622-5.
   3.1. Type: Moisture Resistant MDF
   3.2. Formaldehyde class: To BS EN 622-1, class E1.
4. Thickness: 22mm
5. Edges: Square
6. Finish: Prepared and primed as M60/12

### 80 Installation generally

1. Joinery workmanship: As section Z10.
2. Metal workmanship: As section Z11.
3. Methods of fixing and fasteners: As section Z20.
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

# P30
# Trenches, pipeways and pits for buried engineering services

## Clauses

### 10 Routes of services below ground

1. Locations of new service runs: Submit proposals.
2. Temporary marking: Indicate service runs with marker posts.

### 20 Trenches

1. Width: As small as practicable.
2. Trench sides: Vertical.
3. Trench bottoms: Remove mud, rock projections, boulders and hard spots. Trim level.
4. Give notice: To inspect trench for each section of the work.

### 30 Pipeducts

1. Types, colour and sizes: As recommended by the service undertaker.
2. General: Lay pipes straight to line, true to gradient or level on an even, continuous bed.
3. Bedding thickness: 100 mm minimum
4. Clearance between pipe ducts where they cross (minimum): 50 mm.
5. Drawlines: During laying, thread through pipeducts.
   5.1. Material, strength and length: As specified by service undertaker.
6. Protection: Protect from ingress of debris. During construction, temporarily seal all exposed ends.
7. Inspection: Before backfilling, allow service undertakers to inspect installation.
8. Surround material: Lay and compact to 150 mm (minimum) above pipeduct crown.
9. Markers: Lay marker, 200 mm above pipeduct.
   9.1. Type: Tapes

Ω End of Section

# P31
# Holes, chases, covers and supports for services

## Clauses

### 10 Holes, recesses and chases in masonry

1. Locations: To maintain integrity of strength, stability and sound resistance of construction.
2. Sizes: Minimum needed to accommodate services.
   2.1. Holes (maximum): 300 mm².
3. Walls of hollow or cellular blocks: Do not chase.
4. Walls of other materials
   4.1. Vertical chases: No deeper than one third of single leaf thickness, excluding finishes.
   4.2. Horizontal or raking chases: No longer than 1 m. No deeper than one sixth of the single leaf thickness, excluding finishes.
5. Chases and recesses: Do not set back to back. Offset by a clear distance at least equal to the wall thickness.
6. Cutting: Do not cut until mortar is fully set. Cut carefully and neatly. Avoid spalling, cracking and other damage to surrounding structure.

### 20 Notches and holes in structural timber

1. General: Avoid if possible.
2. Sizes: Minimum needed to accommodate services.
3. Position: Do not locate near knots or other defects.
4. Notches and holes in same joist: Minimum 100 mm apart horizontally.
5. Notches in joists
   5.1. Position: Locate at top. Form by sawing down to a drilled hole.
   5.2. Depth (maximum): 0.15 x joist depth.
   5.3. Distance from supports: Between 0.1 and 0.2 x span.
6. Holes in joists
   6.1. Position: Locate on neutral axis.
   6.2. Diameter (maximum): 0.25 x joist depth.
   6.3. Centres (minimum): 3 x diameter of largest hole.
   6.4. Distance from supports: Between 0.25 and 0.4 of span.
7. Notches in roof rafters, struts and truss members: Not permitted.
8. Holes in struts and columns: Locate on neutral axis.
   8.1. Diameter (maximum): 0.25 x minimum width of member.
   8.2. Centres (minimum): 3 x diameter of largest hole.
   8.3. Distance from ends: Between 0.25 and 0.4 of span.

### 30 Pipe sleeves

1. Material: Match pipeline.
2. Sleeves: Extend through full thickness of wall or floor. Position accurately.
   2.1. Clearance around service (maximum): 20 mm or diameter of service, whichever is the lesser.
   2.2. Installation: Bed solid.

## 40 Sealing around services

1. Service: As drawings
2. Location: As drawings
3. Sealing material: Intumescent sealant
4. Method: Completely fill gaps with sealant and finish neatly
5. Requirements: Watertight

Ω End of Section

# Q10
# Kerbs/ edgings/ channels/ paving accessories

## Clauses

### 30 Drainage channel system

1. Manufacturer: ACO Technologies plc., ACO Business Park, Hitchin Road, Shefford, Bedfordshire, SG17 5TE, Tel: 01462 816666, Email: technologies@aco.co.uk.
    1.1. Product reference: MULTIDRAIN MD or other as recommended for this situation by the Manufacturer.
2. Nominal size: 100mm
3. Bedding: Concrete
4. Cover Gratings: Stainless Steel.
    4.1. Fixings: Stainless Steel
    4.2. Loading grade to BS EN 124: Suitable for pedestrian loading.

### 40 Laying kerbs, edgings and channels

1. Cutting: Neat and accurate and without spalling. Form neat junctions.
2. Bedding and backing of units: Either of the following: Bedded on mortar laid on hardened concrete base. Bedding mortar allowed to set and units secured with a continuous haunching of concrete.
    2.1. Bedded on fresh concrete races to BS 7533-6, secured with backing concrete cast monolithically with concrete race.
3. Concrete for foundations and haunching
    3.1. Standard: To BS 8500-2.
    3.2. Designated mix: Not less than GEN0 or Standard mix ST1 or better, low workability.
4. Mortar bedding: 1:3 cement:sand as section Z21.
    4.1. Bed thickness: 12-40 mm.

### 45 Accuracy

1. Deviations (maximum)
    1.1. Level: ± 6 mm.
    1.2. Horizontal and vertical alignment: 3 mm in 3 m.

### 80 Regularity of paved surfaces

1. Maximum undulation of (non-tactile) paving surface: 3 mm.
    1.1. Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).
2. Difference in level between adjacent units (maximum)
    2.1. Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).
    2.2. Recessed, filled joints: 2 mm.
        2.2.1. Recess depth (maximum): 5 mm.
    2.3. Unfilled joints: 2 mm.
3. Sudden irregularities: Not permitted.

Ω End of Section

# Q20
# Granular sub-bases to roads/ pavings

## Clauses

### 10 Thicknesses of sub-bases

1. Thicknesses: As specified in the relevant paving section.

### 30 Excavation and compaction of subgrades

1. Final excavation to formation level: Carry out immediately before compaction of subgrade.
2. Soft spots and voids: Give notice.
3. Old drainage and service trenches: Remove unless due to be re-used.
4. Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.
5. Compaction: Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the completed roads/ pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

### 40 Sub-bases

1. Granular material: Of a known suitability for use in sub-bases, free from ice, harmful matter and excessive dust or clay, well graded, all pieces less than 75 mm in any direction, and selected from one of the following:
   1.1. Crushed rock (other than argillaceous rock) or quarry waste.
   1.2. Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
   1.3. Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
   1.4. Natural sand or gravel.

### 45 Laying and compacting sub-bases

1. Subgrade: Not frozen and free from loose soil, rubbish and standing water.
2. Structures, membranes and buried services: Ensure stability and avoid damage.
3. General: Spread and level in layers.
4. Compaction
   4.1. Timing: As soon as possible after laying.
   4.2. Method: By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

### 50 Accuracy

1. Permissible deviation from required levels, falls and cambers (maximum):
2. Subgrade: ± 20 mm.
3. Sub-base: ± 12 mm.

### 60 Surfaces to receive sand bedding for paving

1. Blind surface: As necessary before compaction to ensure that surface is tight and dense enough to prevent laying course sand being lost into it during construction or use.
2. Material: Sand or PFA.

## 70 Protection

1. Sub-bases: As soon as practicable, cover with subsequent layers, specified elsewhere.
2. Subgrades and sub-bases: Prevent degradation by construction traffic, construction operations and inclement weather.

Ω End of Section

# Q22
# Asphalt roads/ pavings

## Clauses

### 15 Asphalt concrete paving

1. Description: Macadam paving to regraded ground around parking area.
2. Standard: To BS EN 13108-1
3. Geomembrane: Not required
4. Granular sub-base: As section Q20
   4.1. Compacted thickness: 150 mm
5. Water collection: Not required
6. Binder course: 20mm material (DBM)
   6.1. Compacted thickness: 45-75 mm nominal, 40 mm minimum at any point
7. Surface course: Contractor's Choice
   7.1. Compacted thickness: 30-35 mm nominal, 25 mm minimum at any point
8. Surface treatment: Not required

### 30 Laying generally

1. Preparation: Remove all loose material, rubbish and standing water.
2. Adjacent work: Form neat junctions. Do not damage.
3. Channels, kerbs, inspection covers etc: Keep clean.
4. Permissible deviation from the required levels, falls and cambers (maximum): In accordance with BS 594987, Table 7.
5. New paving
   5.1. Keep traffic free until it has cooled to prevailing atmospheric temperature.
   5.2. Do not allow rollers to stand at any time.
   5.3. Prevent damage.
   5.4. Lines and levels: With regular falls to prevent ponding.
   5.5. Overall texture: Smooth, even and free from dragging, tearing or segregation.
   5.6. Condition on completion: Clean.

Ω End of Section

# Q25
# Stone Slab Pavings

## Clauses

### 11 Laying pavings

1. Cutting: Cleanly and accurately, without spalling, to give neat junctions with edgings and adjoining finishes.
2. Lines and levels of finished surface: Smooth and even with falls to prevent ponding.
3. Bedding of units: Firm so that rocking or subsidence does not occur or develop.
4. Appearance: Even and regular with even joint widths and free of mortar and sand stains.

### 16 Levels of paving

1. Permissible deviation from specified levels (generally):
2. ± 6 mm.
3. Regularity of paved surfaces
   - 3.1. Maximum undulations in the surface of pavings (except tactile paving surfaces) under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface): 3 mm.
   - 3.2. Joints between paving units or utility access covers
     - 3.2.1. Joints flush with the surface: difference in level between adjacent units to be no more than twice the joint width (with a 5 mm max difference in level).
     - 3.2.2. Recessed, filled joints: difference in level between adjacent units to be no greater than 2 mm; the recess to be no deeper than 5 mm.
     - 3.2.3. Unfilled joints: difference in level between adjacent units to be no greater than 2 mm.
4. Sudden irregularities: Not permitted.

### 21 Protection from traffic

1. Mortar bedded pavings: Keep free from pedestrian traffic for 4 days and vehicular traffic for 10 days after laying.
2. Access: Restrict access to paved areas to prevent damage from site traffic and plant.

### 31 Concrete flag paving

1. Description: To ramp and landings.
2. Granular sub-base: Granular material, as section Q20 - Existing concrete slab can be retained as sub-base.
   - 2.1. Thickness: 150 mm
3. Laying and jointing: Bound construction - on mortar, site category IV, to BS 7533-4.
4. Laying course: Full mortar bed, nominal thickness after compaction: 15-25 mm.
   - 4.1. Mortar: As section Z21, mix 1:3 cement:sand.
5. Slabs: To BS EN 1339.
   - 5.1. Manufacturer: Contractor's choice
     - 5.1.1. Product reference: Contractor's choice, subject to Architect's approval.
   - 5.2. Colour/ Finish: As supplied.
   - 5.3. Sizes: 400 x 400mm
6. Jointing: Mortar filled.
   - 6.1. Width: 5-10 mm.

6.2. Mortar: As section Z21, mix: 1:4 cement:sand.

## 320 Tactile Paving

1. Description: Directional tactile/courderoy paving to base and top of steps
2. Granular sub-base: As clause 31
   2.1. Thickness: 150 mm
3. Laying and jointing: Bound construction - on mortar, site category IV, to BS 7533-4.
4. Laying course: Full mortar bed, nominal thickness after compaction: 15-25 mm.
   4.1. Mortar: As section Z21, mix 1:3 cement:sand.
5. Slabs: To BS EN 1339.
   5.1. Manufacturer: Contractor's choice
      5.1.1. Product reference: Contractor's choice, subject to Architect's approval.
   5.2. Colour/ Finish: Buff
   5.3. Sizes: 400 x 400mm
6. Jointing: Mortar filled.
   6.1. Width: 5-10 mm.
   6.2. Mortar: As section Z21, mix: 1:4 cement:sand.

Ω End of Section

# R10
# Rainwater drainage systems

## Clauses

### 30 Cast Iron pipework

1. Standard: Not applicable
2. Manufacturer: J & JW Longbottoms
   2.1. Product reference: 3" Rainwater Downpipes
3. Type/ Grade: Cast
4. Sections: Round
5. Nominal sizes: 76 mm diameter (or to match existing)
6. Finish: Painted
7. Colour: Black
8. Accessories: Shoes;
   Swan-neck off-sets;
   Single branches;
9. Fixing: All fittings supplied with ears and fitted with stainless steel screws into masonry with black stained timber bobbins.

### 50 Installation generally

1. Discharge of rainwater: Complete, and without leakage or noise nuisance.
2. Components: Obtain from same manufacturer for each type of pipework and guttering.
3. Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
4. Fixings and fasteners: As section Z20.

### 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.

### 80 Internal pipework test – England, Wales, Ireland and Northern Ireland

1. Preparation: Temporarily seal open ends of pipework with plugs.
2. Testing: Connect a 'U' tube water gauge and pump air into pipework until gauge registers 38 mm.
3. Required performance
   3.1. Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

Ω End of Section

# R11
# Above ground foul drainage systems

## Clauses

### 11 Plastics branch pipework

1. Materials and standards: Plastics to BS 5255, BS EN 1451-1, BS EN 1455-1 or BS EN 1566-1, Kitemark certified
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Colour: Contractor's choice
4. Jointing: Contractor's choice
5. Fixing: Plastics brackets at 500 mm centres
6. Accessories: Access fittings

### 21 PVC-U soil/ vent pipework and wc branches

1. Standard
   1.1. To BS EN 1329-1, Kitemark certified; or
   1.2. To BS 4514, Kitemark certified.
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Colour: Contractor's choice
4. Jointing: Contractor's choice
5. Fixing: Plastics brackets at 1800 mm centres
6. Accessories: Air admittance valves

### 31 Cast iron pipework

1. Standard: To BS EN 877 with flexible joint couplings.
2. Manufacturer: As clause R10/30
   2.1. Product reference: 4/5" Cast iron downpipes with fixing lugs.
3. Coupling type: Push fit
4. Fixing: Timber bobbins stained black.
5. Accessories: Wire balloons
   Bends as shown on drawings.

### 45 Air admittance valves

1. Standard: To BS EN 12380 or Agrément certified.
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Position: Vertical.
4. Unheated locations: Fit manufacturer's insulating cover.

### 50 Installation generally

1. Standards: To BS EN 12056-1, BS EN 12056-2 (including National Annexes NA-NG) and BS EN 12056-5.
2. Drainage from appliances: Quick, quiet and complete, without blockage, crossflow, backfall, leakage, odours, noise nuisance or risk to health.

3. Components: From same manufacturer for each type of pipework.
4. Access: Provide access fittings in convenient locations to permit cleaning and testing of pipework.
5. Thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
6. Fixings: Allow the pipe to slide.
   6.1. Finish: Plated, sherardized, galvanized or other nonferrous.
   6.2. Compatibility: Suitable for the purpose, material being fixed and substrate.

## 60 Pipework

1. Fixing: Securely plumb and/ or true to line. Fix lengths of discharge stack pipes at or just below socket collar or coupling.
   1.1. Additional supports: Provide as necessary at junctions and changes in direction.
2. Cut ends of pipes: Clean and square with burrs and swarf removed.

## 70 Pipework test

1. Preparation: Temporarily seal open ends of pipework using plugs.
2. Testing: Connect a 'U' tube water gauge and pump air into pipework until gauge registers 38 mm.
3. Required performance: Allow a period for temperature stabilisation, after which the pressure of 38 mm is to be maintained without loss for at least 3 minutes.

Ω End of Section

# R12
# Below ground drainage systems

## Clauses

### 2 Existing drains

1. Setting out: Before starting work, check levels and positions of existing drains, inspection chambers and manholes against drawings. Report discrepancies.

### 4 In situ concrete for use in drainage below ground

1. Standard: To BS 8500-2.
2. Concrete: Designated, GEN1, as section E10

### 11 Clay pipelines

1. Pipes, bends and junctions: Vitrified clay to BS EN 295-1, with flexible joints, Kitemark certified.
    1.1. Manufacturer: Contractor's Choice
        1.1.1. Product reference: Contractor's choice
2. Strength: FN 40
3. Sizes: DN 100
4. Type of subsoil: TBC
5. Bedding class: As appropriate to relevant standards and loading.
6. Warning marker tape: Red

### 14 Plastics pipelines

1. Pipes, bends and junctions: PVC-U to BS EN 1401-1.
    1.1. Manufacturer: Contractor's choice
        1.1.1. Product reference: Contractor's choice
2. Sizes: DN 110
3. Bedding class: P/Q
4. Warning marker tape: Red

### 15 Perforated Pipelines

1. Pipes, bends and junctions: PVC-U to BS EN 1401-1.
    1.1. Manufacturer: Contractor's choice
        1.1.1. Product reference: Contractor's choice
2. Sizes: DN 110

### 19 Excavating pipe trenches

1. Trench from bottom up to 300 mm above crown of pipe: With vertical sides.
    1.1. Width: As small as practicable but not less than external diameter of pipe plus 300 mm.
2. Type of subsoil: Where the type of subsoil at the level of the crown of the pipe differs from that stated for the type of pipeline, give notice.
3. Timing: Excavate to formation immediately before laying beds or pipes.
4. Mud, rock projections, boulders and hard spots: Remove. Replace with bedding material, well consolidated.
5. Local soft spots: Harden by tamping in bedding material.

## 21 Bedding and jointing

1. Laying pipes: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient.
2. Jointing: Lubricate. Leave gaps at ends of spigots to allow for movement.

## 27 Class P full depth granular support

1. Bedding: Granular material, compacted to a thickness of 100 mm (minimum). Scoop out locally at couplings and sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
2. Granular support: After initial testing, lay and compact by hand more granular material uniformly to 100 mm above crown of pipe.

## 29 Class Q granular surround with protection

1. Bedding: Granular material, compacted to a thickness of 100 mm (minimum). Scoop out locally at couplings and sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
2. Granular surround: After initial testing, lay and compact by hand more granular material to 100 mm above crown of pipe.
3. Backfilling: Soil or topsoil as appropriate.

## 41 Trenches less than 1 m from foundations

1. Class Z concrete surround: Provide in locations where bottom of trench is lower than bottom of foundation.
    1.1. Top of concrete: Higher than bottom of foundation.

## 44 Bends at base of soil stacks

1. Bends: 90° nominal rest bend with a minimum radius of 200 mm to centreline of the pipe.
2. Height of invert of horizontal drain at base of stack below centreline of lowest branch pipe (minimum): 450 mm.
3. Stabilizing bends: Bed in concrete without impairing flexibility of couplings.

## 50 Gullies

1. Description: To downpipes
2. Standards
    2.1. Clay: To BS EN 295-1 and Kitemark certified, or Agrément certified.
    2.2. Plastics: To BS 4660 and Kitemark certified, or Agrément certified.
3. Material: Clay
4. Manufacturer: Contractor's choice
    4.1. Product reference: Contractor's choice - Roddable gulley.
5. Sizes: As supplied
6. Outlet sizes: DN 100
7. Covers: Black plastic grating
    7.1. Product reference: Contractor's choice
    7.2. Type: Loose grating
    7.3. Material: PVC
    7.4. Sizes: 150 x 150 mm
    7.5. Loading grade to BS EN 124: A15
8. Silt buckets: Plastics

8.1. Product reference: Contractor's choice

## 54 Access points – plastics

1. Description: Combined drainage
2. Standard: To BS 4660 and Kitemark certified, to BS EN 13589-1, or Agrément certified.
3. Manufacturer: Contractor's choice
4. Nominal diameter: DN110
5. Bases
   5.1. Product reference: Contractor's choice
6. Raising pieces
   6.1. Product reference: Contractor's choice
   6.2. Heights: As required by ground profile
7. Access covers and frames
   7.1. Product reference: Contractor's choice - Cast iron or steel.
   7.2. Loading grades to BS EN 124: B125 or as appropriate for light vehicular use.

## 58 Installation of fittings

1. Appearance: Square with and tightly jointed to adjacent construction as appropriate.
2. Bedding and surround of fittings, traps, etc: Concrete, 150 mm thick.
3. Permissible deviation in level of gullies: +0 to -10mm.

## 69 Conventional channels, branches and benching

1. Main channel: Bedded solid in 1:3 cement:sand mortar, branches connected to main channel at or slightly above invert level, but not higher than half channel level, so that discharge flows smoothly in direction of main flow.
2. Benching: Concrete rising vertically from main channel to a height not lower than soffit of outlet pipe, then sloping upwards at 10% to walls, and with dense smooth uniform finish.

## 71 Preformed plastics channels, branches and benching

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice
2. Sizes and integral branches: To suit each manhole.
3. Bedding: 1:3 cement:sand mortar.
4. Benching: Concrete, with 10% fall from manhole walls to component rim, and with dense smooth uniform finish.

## 84 Testing and inspection generally

1. Obstructions and debris: Remove. Check that the installation is clear before testing.

## 85 Initial testing of pipelines

1. Before testing
   1.1. Cement mortar jointing: Leave 24 h.
   1.2. Solvent welded pipelines: Leave 1 h.
2. Timing: Before surround and backfilling
   Immediately after surround and backfilling
3. Method: Block open ends of pipelines to be tested and pressurise. Air test short lengths to BS EN 1610

## 88 Final testing of drains

1. Before testing
   1.1. Cement mortar jointing: Leave 24 h.
   1.2. Solvent welded pipelines: Leave 1 h.
2. Method: Water

## 89 Water testing of manholes and inspection chambers

1. Timing: Before backfilling.
2. Standard
   2.1. Exfiltration: To BS EN 1610, water testing (method W).
   2.2. Infiltration: No identifiable flow of water penetrating the chamber.

## 91 Backfilling to pipelines generally

1. Backfill from top of surround or protective cushion: Material excavated from trench, compacted in 300 mm layers. Do not use heavy compactors before there is 600 mm of material over pipes.

## 94 Backfilling under roads and pavings

1. Backfill from top of specified surround or protective cushion up to formation level: Well graded gravel or hardcore passing a 75 mm sieve, well compacted in 150 mm layers.

## 97 Cleaning

1. General: Flush out the whole installation and remove silt and debris immediately before handing over.

Ω End of Section

# S90
# Hot and cold water supply systems

## General

### 10 Mains cold water supply

1. Description: Existing water supply altered to entire building
2. Position of incoming mains water supply: Believed in cellar
3. Pipelines: Polyethylene for underground use
   3.1. Accessories: Submit design and cost proposals
4. Valves: Submit design and cost proposals
5. Sanitary appliances: As shown on drawings.
6. Controls: Flush control devices
7. Accessories: Submit design and cost proposals
8. Completion: Test service pipelines; Commission full system and provide documentation of installation and locations of all pipework and fittings for includion in Building Manual

## System performance

### 20 Design

1. Description: MAINS COLD WATER SUPPLY & HOT WATER SUPPLY THROUGHOUT
2. Design: Complete the design of the hot and cold water supply system. The Contractor is to appoint his own Domestic Subcontractor to complete the design of the entire heating, plumbing, hot and cold water supply and ventilation installation.
3. Standard: To BS EN 806-2, BS 8558 and in accordance with HSE publication ‘The control of legionella bacteria in water systems. Approved code of practice and guidance’.
4. Proposals: Submit drawings (showing equipment positions and pipeline routes), technical information, calculations and manufacturers' literature.

## Products - Not Used

## Execution

### 70 Installation generally

1. Installation: To BS EN 806-4.
2. Performance: Free from leaks and the audible effects of expansion, vibration and water hammer.
3. Fixing of equipment, components and accessories: Fix securely, parallel or perpendicular to the structure of the building.
4. Preparation: Immediately before installing tanks and cisterns on a floor or platform, clear the surface completely of debris and projections.
5. Corrosion resistance: In locations where moisture is present or may occur, provide corrosion-resistant fittings/ fixings and avoid contact between dissimilar metals by use of suitable washers, gaskets, etc.

### 79 Pipelines installation

1. Appearance: Install pipes straight, and parallel or perpendicular to walls, floors, ceilings, and other building elements.
2. Pipelines finish: Smooth, consistent bore, clean, free from defects, e.g. external scratching, toolmarks, distortion, wrinkling, and cracks.
3. Concealment: Generally conceal pipelines within floor, ceiling and/ or roof voids.

4. Access: Locate runs to facilitate installation of equipment, accessories and insulation and allow access for maintenance.
5. Arrangement of hot and cold pipelines: Run hot pipelines above cold where routed together horizontally. Do not run cold water pipelines near to heating pipelines or through heated spaces.
6. Electrical equipment: Install pipelines clear of electrical equipment. Do not run pipelines through electrical enclosures or above switch gear distribution boards or the like.
7. Insulation allowance: Provide space around pipelines to fit insulation without compression.

## 80 Pipelines fixing

1. Fixing: Secure and neat.
2. Joints, bends and offsets: Minimize.
3. Pipeline support: Prevent strain, e.g. from the operation of taps or valves.
4. Drains and vents: Fix pipelines to falls. Fit draining taps at low points and vents at high points.
5. Thermal expansion and contraction: Allow for thermal movement of pipelines. Isolate from structure. Prevent noise or abrasion of pipelines caused by movement. Sleeve pipelines passing through walls, floors or other building elements.
6. Dirt, insects or rodents: Prevent ingress.

## 85 Pipelines entering buildings

1. Depth: Lay pipes at least 750 mm and no more than 1350 mm below finished ground level.
2. Pipelines rising into building within 750 mm of the external face of the external wall or passing through a ventilated void below floor level: Insulate from finished floor level to 600 mm beyond external face of building.
3. Ends of pipeducts: Seal both ends to a depth of at least 150 mm.

## 86 Installing insulation to pipelines

1. Standard: In accordance with BS 5970.
2. Cold water pipelines: Insulate in unheated spaces. Insulate potable cold water pipelines.
3. Hot water pipelines: Insulate, except for short lengths in prominent positions next to appliances.
4. External supply pipelines exposed to air or less than 750 mm below finished ground level: Insulate.
5. Appearance: Fix securely and neatly. Make continuous over fittings and at supports. Leave no gaps. Locate split on ‘blind’ side of pipeline.
6. Timing: Fit insulation after testing.

## 88 Installing valves

1. Isolation and regulation valves: Provide on equipment and subcircuits.
2. Access: Locate where valves can be readily operated and maintained and next to equipment which is to be isolated.
3. Connection to pipework: Fit with joints to suit the pipe material.

# Completion

## 90 Flushing and filling

1. Standard: To BS EN 806-4.

## 91 System disinfection

1. Disinfection: To BS EN 806-4.

## 92 Testing

1. Standard: To BS EN 806-4.
   1.1. Notice (minimum): Three days.
2. Preparation: Secure and clean pipework and equipment. Fit cistern and tank covers.
3. Leak testing: Start boiler and run the system until all parts are at normal operating temperatures and then allow them to cool down to cold condition for a period of three hours.
4. Pressure testing: At both hot and cold conditions joints, fittings and components must be free from leaks and signs of physical distress when tested for at least one hour as follows:
   4.1. Systems fed directly from the mains, and systems downstream of a booster pump: Apply a test pressure equal to 1.5 times the maximum pressure to which the installation or relevant part is designed to be subjected in operation.
   4.2. Systems fed from storage: Apply a test pressure equal to the pressure produced when the storage cistern is filled to its normal maximum operating level.
   4.3. Inaccessible or buried pipelines: Carry out hydraulic pressure test to twice the working pressure.

## 93 Commissioning

1. Standard: To BS EN 806-4.
2. Equipment: Check and adjust operation of equipment, controls and safety devices.
3. Outlets: Check operation of outlets for satisfactory rate of flow and temperature.

## 94 Testing service pipelines

1. Test method: Disconnect from the mains, fill with potable water, exclude air, and apply at least twice the working pressure for one hour.
2. Test criterion: No leakage.

## 95 Documentation

1. Manufacturers' operating and maintenance instructions: Submit for equipment and controls.
2. System operating and maintenance instructions: Submit for the system as a whole giving optimum settings for controls.
3. Record drawings: Submit drawings showing the location of circuits and operating controls.

## 96 Operating tools

1. Tools: Supply tools for operation, maintenance and cleaning purposes.
2. Valve keys: Supply keys for valves and vents.

## 97 Labels

1. Valve labels: Provide labels on isolating and regulating valves on primary circuits, stating their function.

Ω End of Section

# T90
# Heating systems

## General - Not Used

## System performance

### 20 Design

1. Design: Complete the design of the heating system.
2. Proposals: Submit drawings (showing equipment positions and pipeline routes), technical information, calculations and manufacturer's literature.
3. Specialist Design: The Contractor is to employ a Specialist Heating and Plumbing Subcontractors, as his Domestic Subcontractor, to complete the design and install the new heating, plumbing, hot & cold water supply and ventilation installations as the Contractor's Design Portion.

   The selected Specialist Sub-Contractor is to be responsible for working up the Architect's Conceptual Proposals shown in Drawings Nos. S/01 & S/02.

   The Sub-Contractor will be responsible for the design and installation of the proposals for the heating, plumbing, hot & cold water supply and ventilation.

### 21 Basic design temperatures

1. Room temperatures: Design the system to provide the following temperatures for the specified air change rates and an external air temperature of -4°C:
   1.1. Living rooms: 21°C, for 1.5 air changes per hour.
   1.2. Dining rooms: 21°C, for 1.5 air changes per hour.
   1.3. Bedsitting rooms: 21°C, for 1.5 air changes per hour.
   1.4. Bedrooms: 18°C, for 1 air changes per hour.
   1.5. Halls and landings: 18°C, for 1.5 air changes per hour.
   1.6. Kitchens: 18°C, for 2 air changes per hour.
   1.7. Bathrooms: 22°C, for 2 air changes per hour.
   1.8. Toilets: 18°C, for 2 air changes per hour.
2. Submittals: Submit heat loss calculations for each room using BS EN 12831-1

## Products

### 61 Radiators

1. Manufacturer: Stelrad Radiators
   1.1. Web: www.stelrad.com
   1.2. Email: info@stelrad.com
2. Product reference: Stelrad Vertical Line K1 Radiator
3. Size (h x l): To suit required outputs; to be specified by Contarctor's Heating and Plumbing Subcontractor to provide the required output. Henerally in locations shown on drawings 98218/09 & 98218/10.
4. Colour: White
5. Accessories: Wall mounting brackets

### 64 Programmers

1. Description: For heating and hot water
2. Standards: To BS EN 60730-1, -2-7, -2-10, -2-14 and BS EN 61058-1, -2-5. BEAB approved.

3. Manufacturer: Honeywell or equivalent.
   3.1. Product reference: Contractor's Choice
4. Features: To be controllable remotely by mobile phone app.

### 65 Thermostats

1. Description: For heating
2. Standards: To BS EN 60730-1, -2-7, -2-8, -2-9, -2-14 and BS EN 61058-1, -2-5. BEAB approved.
3. Manufacturer: Contractor's choice
   3.1. Product reference: To be controllable remotely by mobile phone app.

### 66 Timers

1. Description: For heating and hot water
2. Standards: To BS EN 60730-1, -2-7, -2-10, -2-14 and BS EN 61058-1, -2-5. BEAB approved.
3. Manufacturer: Contractor's choice
   3.1. Product reference: Contractor's choice
4. Features: To be controllable remotely by mobile phone app.

## Execution

### 72 Stripping out

1. Extent of stripping out: Remove existing heating units.

### 73 Installation generally

1. Standard: To BS EN 14336.
2. Performance: Free from leaks and the audible effects of expansion, vibration and water hammer.
3. Fixing of equipment, components and accessories: Fix securely, parallel or perpendicular to the structure of the building.
4. Preparation: Immediately before installing tanks and cisterns on a floor or platform, clear the surface completely of debris and projections.
5. Corrosion resistance: In locations where moisture is present or may occur, use corrosion resistant fittings/ fixings and avoid contact between dissimilar metals by use of suitable washers, gaskets, etc.

## Completion

### 90 Testing

1. Standard: To BS EN 14336.
2. Notice (minimum): 3 days.
3. Preparation: Secure and clean pipework and equipment. Fit cistern/ tank covers.
4. Leak testing: Start boiler and run the system until parts are at normal operating temperatures and then allow to cool to cold condition for a period of 3 h.
5. Gas pipelines: Test and purge to BS 6891.
6. Pressure testing: At both hot and cold conditions joints, fittings and components must be free from leaks and signs of physical distress when tested for at least 1 h as follows:
   6.1. Systems fed directly from the mains and systems downstream of a booster pump: Apply a test pressure equal to 1.5 times the maximum pressure to which the installation or relevant part is designed to be subjected in operation.
   6.2. Systems fed from storage: Apply a test pressure equal to the pressure produced when the storage cistern is filled to its normal maximum operating level.

6.3. Inaccessible or buried pipelines: Carry out hydraulic pressure test to twice the working pressure.

## 91 Setting to work and commissioning

1. Equipment: Check and adjust operation of equipment, controls and safety devices.
2. Outlets: Check operation of outlets for satisfactory rate of flow and temperature.

## 92 Documentation

1. Manufacturers' operating and maintenance instructions: Submit for equipment and controls.
2. System operating and maintenance instructions: Submit for the system as a whole giving optimum settings for controls.
3. Record drawings: Submit drawings showing the location of circuits and operating controls.
4. EPC: Supply an EPC for the building

## 93 Labels

1. Valve labels: Provide labels on isolating and regulating valves on primary circuits, stating their function.

Ω End of Section

# U90
# General ventilation

## General

### 10 Ventilation for heating appliances

1. Description: No proposed to be changed from existing.

### 14 Local extract fan ventilation - Kitchens & W/c's

1. Description: High level in walls.
2. Room extract terminals: External grille, via ducting
3. Fan units: As Clause 42
4. Air ductwork: Rigid ductwork, as provisionally shown on Architect's drawings 98218/09 & 98218/10. Submit design and cost proposals
5. Air ductwork accessories: Submit design and cost proposals
6. External exhaust air terminals: Utilise existing vents and external grill vents. New to match where required.
7. Controls: Connected to light - 15 minute overrun.
8. Completion: Commissioning

### 16 Mechanical supply ventilation

1. Description: Air supply to inner rooms
2. Air inlet terminals: Submit design and cost proposals
3. Fan units: Submit design and cost proposals
4. Air ductwork: Submit design and cost proposals
5. Air ductwork accessories: Submit design and cost proposals
6. Air supply terminals: Submit design and cost proposals
7. Controls: Sensors, air quality
8. Completion: Commissioning

## System performance

### 20 Design

1. Description: Design of air extraction/ventilation and air supply system
2. Design: The Contractor's Heating and Plumbing Subcontractor (as T90/20) is to complete the design of the ventilation and air supply system, as indicatively shown on Architect's drawings 98218/09 & 98218/10.
3. Ventilation rate: Ventilation:
   6l/s to W/c's (15l/s to Shower Room AWC)
   60l/s to Kitchens.

   Air Intake:
   0.5 l/s to corridors, lobby areas, stairwells.
   10 litres per second per person, or 1 litre per second per m2/ of floor area to office rooms and meeting rooms.
4. Proposals: Submit drawings (showing equipment positions and ductwork routes), technical information, calculations and manufacturers' literature.

## Products

### 31 External air intake grilles

1. Description: As small and discreet as possible.
2. Type: Submit proposals
3. Manufacturer: Contractor's choice
   3.1. Product reference: Contractor's choice
4. Size: Submit proposals
5. Colour: Submit proposals
6. Finish: Submit proposals

### 34 Through wall ventilator ducts

1. Description: Ducting through walls for extract vents.
2. Type: Plastic, connecting to back of air bricks.
3. Manufacturer: Contractor's choice
   3.1. Product reference: Contractor's choice
4. Size: As required for extractor fans.
5. Free area: Submit proposals
6. Colour: Submit proposals
7. Finish: Painted as section M60.

### 37 Range hoods

1. Description: Ceiling mounted cooker hood extract to be supplied by Client and installed by Contractor (or his subcontractors)

### 41 Multipoint ventilation fan units

1. Description: Central or in-line fans in ventilation systems, serving multiple rooms/spaces to supplement silent extractors withint rooms.
2. Standard: To BS EN 60335-2-80, and BEAB approved.
3. Manufacturer: Contractor's choice
   3.1. Product reference: Contractor's choice
4. Performance: Submit proposals
5. Controls: Submit proposals
6. Accessories: Anti-vibration mountings

### 48 Condensation traps

1. Description: If deemed required by Contractor's Design to meet current standards/regulations.

### 50 Dampers, fire

1. Description: Smoke and Fire dampers where penetrating fire protected corridor walls.
2. Manufacturer: Submit proposals
   2.1. Product reference: Submit proposals

### 68 Pull cord switches with overrun device

1. Description: To W/c's
2. Standard: To BS EN 61058-2-1.
3. Manufacturer reference: Contractor's choice

3.1. Product reference: Contractor's choice

## Execution

### 84 Installing ventilation fans

1. Mounting: Generally as shown on Architect's drawings

### 85 Flexible ductwork

1. Installation: Fully extend without overstretching.
2. Support: Form smooth flowing curves without kinking, sagging or slumping.

### 86 Rigid ductwork generally

1. Joints: Seal. Provide a robust airtight installation.
2. Support: Do not distort ductwork or reduce cross-sectional area. Do not strain joints.
3. Falls: Fall away from fans, dampers and other in-line accessories.
4. Sleeves: Locate where ducts pass through building fabric. Bed solidly to the surrounding construction. Leave a gap of 10-20 mm between sleeve and duct and fill completely.

### 88 Site applied insulation

1. Location: Fit insulation to ductwork in unheated spaces.
2. Installation: Fix securely. Leave no gaps. Make continuous.

## Completion

### 91 Operation and maintenance

1. Operating and maintenance instructions: Submit copies of manufacturers' operating and maintenance instructions for equipment and controls.
2. Tools: Supply tools for operation, maintenance and cleaning purposes, including keys for valves and vents.

Ω End of Section

# V90
# Electrical systems

## General

### 5 Low-voltage supply

1. Nature of current: Alternating.
2. Phase: Three-phase
3. Voltage: 230 V.
4. Source: Existing
5. Metering: Existing single meter in cellar.

### 10 Generally

1. Description: The below electrical subcontractor has undertaken considerable work at the property, including a full electrical test and repair works. TIt is reocmmended that the Contractor employs them as his Domestic Subcontractor, to design and install the new electrical, power and lighting installations and to provide and install the proposed new electrical services as the Contractor's Design Portion.

   The selected Specialist Sub-Contractor is to be responsible for working up the Architect's Conceptual Proposals shown in drawings.

   The Sub-Contractor will be responsible for the design and installation of the proposals for the lighting and power.

   1.1. Robert Holler Electrical: 170a King Street
   Hoyland
   Barnsley
   S74 9LL
   T: 07970831714 / 01226 744 148
   E: roberthollerelectrical@gmail.com

### 20 Design of low-voltage electrical installation generally

1. Design and detailing: Complete for the electrical installation.
2. Standards: In accordance with BS 7671 and the requirements of the electricity distributor.
3. Design information: Submit calculations, manufacturer's literature and drawings showing equipment positions and routes.

### 22 Earthing and bonding design

1. Design: Complete the design of the earthing and bonding systems.
2. Earthing, main protective bonding, supplementary bonding and protective conductors: In accordance with BS 7671.
3. Requirements: Submit proposals.

### 23 LV distribution system design

1. Design: To cater for the complete working building.
2. Spare capacity of distribution equipment: 10% of total DB ways free
3. Equipment: Provide electrical supplies to all equipment requiring power.

### 24 Design of general lighting system

1. Purpose: To illuminate the property for office and general public administration use.

2. Design and detailing: Complete for the general lighting system.
3. Standard: To SLL 'Code for lighting'.
4. Room: All Rooms
   4.1. Maintained average illuminance: Achieve as a minimum CIBSE recommended lighting levels.
   4.2. Controls: Wall mounted stitches; all to be dimmable.
5. Maintenance: Submit proposals for the maintenance/ relamping regime.

## 25 Design of external lighting system

1. Purpose: To provide safe access around the building
2. Design and detailing: Complete for the external lighting system.
3. Standards: To SLL 'Code for lighting' and CIBSE 'Lighting guide 6'.

## 26 Design and lighting calculations

1. Design: Complete for the following lighting systems: As ilustrated on Architect's drawings S/01 & S/02 for internal and external lighting.
2. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.
3. Lighting calculations
   3.1. Type: Computer generated point calculations.
4. Submit the following
   4.1. Luminaire layout drawings.
   4.2. Luminaire photometric data including flux fraction ratios and polar intensity curves.
   4.3. Lamp technical information.
   4.4. Maintenance factor calculations, including proposals for luminaire maintenance and lamp replacement.
   4.5. Reflectance values used for all wall, ceiling and floor surfaces.
   4.6. Isolux contour plots for the working plane.
   4.7. Schedule of design and calculated maintained average illuminance values.
   4.8. Schedule of design and calculated uniformity values.

## 27 Small power system design

1. Purpose: To cater for the demands of the property and ensuring appropriate continuity of the neighbouring property's service.
2. Small power outlets: Provide to serve the building and its equipment, all as shown on Architect's indicative drawings S/01 & S/02.
3. Fixed equipment: Provide supplies.

# Products

## 30 Products generally

1. Standard: To BS 7671.
2. CE marking: Required.

## 32 Distribution boards

1. Standards: To BS EN 61439-1 and BS EN 61439-3.
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Third-party certification: ASTA certified.

4. Rating: Submit proposals
5. Enclosure
   5.1. Ingress protection to BS EN 60529: Submit proposals suitable for environment.

## 39 Cables

1. Approval: British Approvals Service for Cables (BASEC) certified.
2. Cable sizes not stated: Submit proposals and calculations.

## 45 Luminaires Type A - Recessed Spots

1. Description: Ceiling Lights
2. Standard: To BS EN 60598-1.
   2.1. Approval: Kitemark certified
3. Manufacturer: Contractor's choice
   3.1. Product reference: Contractor's choice
4. Colour: White
5. Mounting: Ceiling
6. Lamp: Light-emitting diodes (LEDs)
   6.1. Wattage: Contractor to determine
7. Accessories: Emergency versions where shown on Architect's drawings.

## 45 Luminaires Type B - Wall/Ceiling Mounted Lights

1. Description: Ceiling Lights
2. Standard: To BS EN 60598-1.
   2.1. Approval: Kitemark certified
3. Manufacturer: ANSELL LIGHTING WARRINGTON, Unit 6B Stonecross Ind. Park, Yew Tree Way, Warrington, Cheshire, WA3 3JD
   Tel: 01942 433433, Email: saleswarrington@anselluk.com.
   3.1. Product reference: Eclipse MultiLED CCT
   Integral Microwave Sensor, Corridor Function to store rooms and w/c's
4. Colour: Satin Chrome
5. Mounting: Ceiling/Walls
6. Lamp: Light-emitting diodes (LEDs) - selector switch allows the installer to choose the CCT between 3000K, 4000K and 6500K
   6.1. Wattage: 25W
7. Accessories: Emergency versions where shown on Architect's drawings.

## 45 Luminaires Type C - Ceiling Mounted Lights

1. Description: Suspended Ceiling Lights
2. Standard: To BS EN 60598-1.
   2.1. Approval: Kitemark certified
3. Manufacturer: ANSELL LIGHTING WARRINGTON, Unit 6B Stonecross Ind. Park, Yew Tree Way, Warrington, Cheshire, WA3 3JD
   Tel: 01942 433433, Email: saleswarrington@anselluk.com.
   3.1. Product reference: Millau LED CCT Suspended Linear 1200mm
4. Colour: White
5. Mounting: Ceiling (on cables)
6. Lamp: Light-emitting diodes (LEDs) - selector switch allows the installer to choose the CCT between 3000K and 4000K

6.1. Wattage: 38W

7. Accessories: Emergency versions where shown on Architect's drawings.

## 45 Luminaires Type D - Angled Spot

1. Description: Angled spot to illuminate alcoves in first floor meeting room.
2. Standard: To BS EN 60598-1.
   2.1. Approval: Kitemark certified
3. Manufacturer: Contractor's Choice
   3.1. Product reference: Contractor's Choice
4. Colour: White
5. Mounting: Ceiling/Wall
6. Lamp: Light-emitting diodes (LEDs)
   6.1. Wattage: Contractor's Choice

## 45 Luminaires Type E - External Wall Lights

1. Description: Downlights, mounted on low-level walls.
2. Standard: To BS EN 60598-1.
   IP65 Rated
   2.1. Approval: Kitemark certified
3. Manufacturer: Ansell Lighting
   3.1. Contact details
      3.1.1. Address: Unit 6B Stonecross Ind. Park
      Yew Tree Way
      Warrington
      Cheshire
      WA3 3JD
      3.1.2. Telephone: +44(0)1942 433333
      3.1.3. Web: www.anselluk.com
      3.1.4. Email: saleswarrington@anselluk.com
   3.2. Product reference: Doppio Graphite
4. Mounting: Wall
5. Lamp: Light-emitting diodes (LEDs) 3000K
   5.1. Wattage: 34W

## 47 Lamps generally

1. Standards
   1.1. Compact fluorescent lamps: To BS EN 60901 and BS EN 61199.
   1.2. High-pressure mercury lamps: To BS EN 60188 and BS EN 62035.
   1.3. High-pressure sodium lamps: To BS EN 62035.
   1.4. Light-emitting diodes (LEDs): To BS EN 62031.
   1.5. Metal halide lamps: To BS EN 62035.
   1.6. Tubular fluorescent lamps
      1.6.1. Single-capped lamps: To BS EN 60901 and BS EN 61199.
      1.6.2. Double-capped lamps: To BS EN 60081 and BS EN 61195.
   1.7. Tungsten halogen lamps: To BS EN 60432-2 and BS EN 60357.

## 54 Mains Powered Smoke Detection

1. Manufacturer: Contractor's choice
   1.1. Product reference: Contractor's choice
2. Module mounting: On ceiling. Not be located directly above heaters or any other place where condensation, steam or fumes could create a false alarm.

   All alarms should be easily accessible to be tested and carry out routine maintenance.
3. Colour: White

# Execution

## 60 General execution

1. Standard: In accordance with BS 7671.

## 63 Installing conduit and fittings

1. Fixing: Fix securely. Fix boxes independently of conduit.
2. Drainage outlets: Locate at lowest points in conduit installed externally, and where condensation may occur.
3. Location: Position vertically and horizontally in line with equipment served, and parallel with building lines. Locate where accessible.
4. Jointing
   4.1. Number of joints: Minimize.
   4.2. Lengths of conduit: Maximize.
   4.3. Cut ends: Remove burrs, and plug during building works.
   4.4. Movement joints in structure: Manufactured expansion coupling.
   4.5. Threaded steel conduits: Tightly screw to ensure electrical continuity, with no thread showing.
   4.6. Conduit connections to boxes and items of equipment, other than those with threaded entries: Earthing coupling/ male brass bush and protective conductor.
5. Changes of direction: Site machine-formed bends, junction boxes and proprietary components. Do not use elbows or tees. Alternatively, use conduit boxes.
   5.1. Connections to boxes, trunking, equipment and accessories: Screwed couplings, adaptors, connectors and glands, with rubber bushes at open ends.

## 64 Installing trunking and ducting

1. Positioning: Accurate with respect to equipment served, and parallel with other services and, where relevant, floor level and other building lines.
2. Access: Provide space encompassing cable trunking to permit access for installing and maintaining cables.
3. Jointing
   3.1. Number of joints: Minimize.
   3.2. Lengths of trunking: Maximize.
   3.3. Steel systems: Mechanical couplings. Do not weld. Fit a copper link at each joint to ensure that satisfactory electrical continuity is maintained between the separate sections of trunking, equipment and accessories.
4. Movement: Fix securely. Restrain floor mounted systems during screeding.
5. Junctions and changes of direction: Proprietary jointing units.
6. Cable entries: Fit grommets, bushes or liners.
7. Internal fire barriers: Provide to maintain integrity of fire compartment.

8. Protection: Fit temporary blanking plates. Prevent ingress of screed and other extraneous materials.
9. Service outlet units: Fit when cables are installed.

## 66 Cable routes

1. Cables generally: Conceal wherever possible.
   1.1. Concealed cable runs to wall switches and outlets: Align vertically or horizontally with the accessory.
2. Exposed cable runs: Submit proposals.
   2.1. Orientation: Straight, vertical and/ or horizontal and parallel to walls.
3. Distance from other services running parallel: 150 mm minimum.
   3.1. Heating pipes: Position cables below.

## 70 Installing final connections

1. Size: Determine.
2. Cable: Heat resisting white flex.
3. Length: Allow for equipment removal and maintenance.

## 72 Installing luminaires

1. Location: All lights
2. Supports: Adequate for weight of luminaire.
3. Locations: Submit proposals.

## 74 Equipment labelling

1. Electrical equipment: Install labels indicating purpose.
2. Voltage warning notices
   2.1. Location: Apply to equipment in a position where it can be seen prior to gaining access to live parts when the voltage exceeds 230 V.
   2.2. Format: To BS EN ISO 7010, functional reference number W012, include warnings of the voltage present.
3. Distribution boards: Card circuit chart within a reusable clear plastic cover. Fit to the inside of each unit. Include typed information identifying the outgoing circuit references, their device rating, cable type, size, circuit location and details. Label each outgoing way corresponding to the circuit chart.
4. Sub-main cables: Label at both ends, with circuit reference using proprietary cable marker sleeves.

## 78 Final fix

1. Accessory faceplates, luminaires and other equipment: Fit after completion of building painting.

## 79 Cleaning

1. Electrical equipment: Clean immediately before handover.
2. Equipment not supplied but installed under the electrical works: Clean immediately before handover.

# Completion

## 85 Inspection and testing generally

1. Standard: In accordance with BS 7671.

2. Notice before commencing tests (minimum): 24 hours.
3. Labels and signs: Fix securely before system is tested.
4. Certificates: Submit.

Ω End of Section

# X12
# Vertical lifting platform and homelift systems

## General

### 110 Vertical lifting platforms

1. System manufacturer: Stannah Lifts
   1.1. Contact details
      1.1.1. Address: Watt Close
      Andover
      Hampshire
      United Kingdom
      SP10 3SD
      1.1.2. Telephone: +44 (0)1264 343777
      1.1.3. Web: www.stannahlifts.co.uk
      1.1.4. Email: contact@stannah.co.uk
2. Standard: To BS EN 81-41.
3. Rated load (minimum): 400 kg.
4. Drive type: Direct-acting hydraulic.
5. Carrier
   5.1. Infill material: Steel infill panels.
   5.2. Infill finish: Not required.
   5.3. Insert colour: Not required.
6. Doors
   6.1. Arrangement: As shown on drawings.
   6.2. Type: Timber fire rated - 30 minutes.
   6.3. Clear opening width (minimum): 800 mm.
   6.4. Fire classification: E30.
7. Carrier floor
   7.1. Dimensions
      7.1.1. Width (minimum): 950 mm.
      7.1.2. Depth (minimum): 1400 mm.
   7.2. Material: Vinyl.
   7.3. Colour: Wood effect vinyl.
8. Electrical supply: 240 V a.c.
9. Control device type: Push button.
10. Control features: Audible and visual notification of floor level and travel direction on ground floor.
11. Accessories: Digital position indicators at each landing.
    Auto dialler with induction loop.
    Auto dialler telephone.
    Mid-height handrail.
    Mirror on rear wall.
12. Lifting platform: Powder coated in RAL 7035 light grey with RAL 7016 dark grey mid-panel.
13. Handrail finish/ colour: Satin stainless steel.
14. Speed: 0.08 m/s.
15. Aperture size: 1240 x 1560 mm.
16. Headroom: TBC

17. Depth: 70 mm.
18. Third-party certification: Machinery directive 2006/42/EC and QA certificate.
19. Product reference: 5 Person Medium Rise Platform Lift – The Midilift SL & GL (950 x 1250 mm)

## System performance - Not Used

## Products - Not Used

## Execution - Not Used

## Completion

### 910 Testing and commissioning

1. Standards: To BS EN 81-41
2. Operational tests: Undertake.
3. Test certificate: Submit.
   3.1. Number of copies: Two

### 920 Electrical inspection and testing

1. Electrical inspection and testing: In accordance with BS 7671.

### 935 Equipment labelling

1. Switches, controls, enclosures and terminations: Clearly and indelibly label describing their purpose. Identify the off position.

### 970 Documentation

1. Standard: To BS EN 81-41
2. Operation and maintenance instructions: Submit.
3. Record drawings: Submit.
4. Certificates: Submit.
   4.1. Number of copies: Two
5. Instruction manual: Submit.
   5.1. Number of copies: Two
6. Log book: Individual for each lift.
   6.1. Type: Hardback cover embossed with the lift name and unique lift identification reference with A4 lined paper, minimum 100 pages.

### 975 Training

1. Timing: Before completion.
2. Scope to include
   2.1. Daily lift operation.
   2.2. Routine and general maintenance.
   2.3. Emergency passenger release procedure.

Ω End of Section

# Z20
# Fixings and adhesives

## Clauses

### 10 Fixings and fasteners generally

1. Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
2. Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers or sleeves to avoid bimetallic corrosion.
3. General usage: To recommendations of fastener manufacturers and/ or manufacturers of components, products or materials fixed and fixed to.
4. Fixings: To be in straight lines, at regular centres.

### 25 Fastener durability

1. Materials: To have:
   1.1. Bimetallic corrosion resistance appropriate to items being fixed.
   1.2. Atmospheric corrosion resistance appropriate to fixing location.
2. Appearance: Submit samples on request.

### 30 Fixings through finishes

1. Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

### 35 Packings

1. Materials: Noncompressible, corrosion proof.
2. Area of packings: Sufficient to transfer loads.

### 40 Cramp fixings

1. Fasteners: Fix cramps to frames with screws of same material as cramps.
2. Fixings in masonry work: Fully bed in mortar.

### 50 Pelleted countersunk screw fixings

1. Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
2. Pellets: Cut from matching timber, grain matched, glued in to full depth of hole.
3. Finished level of pellets: Flush with surface.

### 55 Plugged countersunk screw fixing

1. Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
2. Plugs: Glue in to full depth of hole.
3. Finished level of plugs: Projecting above surface.

### 60 Applying adhesives

1. Surfaces: Clean. Regularity and texture to suit bonding and gap filling characteristics of adhesive.
2. Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
3. Finished adhesive joints: Fully bonded. Free of surplus adhesive.

Ω End of Section

# Z21
# Mortars

## Clauses

### 10 Mortar mixes

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

### 20 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 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.

### 25 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.

### 30 Ready-Mixed lime:sand for cement gauged masonry mortars

1. Standard: To BS EN 998-2.
2. Lime: Nonhydraulic to BS EN 459-1.
   2.1. Type: CL 90S.
3. Pigments for coloured mortars: To BS EN 12878.

### 40 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-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.

## 50 Admixtures for site made mortars

1. Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
2. Other admixtures: Submit proposals.
3. Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

## 60 Making mortars generally

1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
2. Mix proportions: Based on dry sand. Allow for bulking of damp sand.
3. Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
   3.1. Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
4. Contamination: Prevent intermixing with other materials.

## 70 Making hydraulic lime:sand mortars

1. Mixing hydrated hydraulic lime:sand: Follow the lime manufacturer's recommendations for each stage of the mix.
   1.1. Water quantity: Only sufficient to produce a workable mix.

Ω End of Section

# Z22
# Sealants

## Clauses - Not Used

## Execution

### 61 Suitability of joints

1. Presealing checks
   1.1. Joint dimensions: Within limits specified for the sealant.
   1.2. Substrate quality: Surfaces regular, undamaged and stable.

### 62 Preparing joints

1. Surfaces to which sealant must adhere
   1.1. Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.
   1.2. Clean using materials and methods recommended by sealant manufacturer.
2. Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.
3. Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
4. Protection: Keep joints clean and protect from damage until sealant is applied.

### 63 Applying sealants

1. Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
2. Environmental conditions: Do not dry or raise temperature of joints by heating.
3. Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
4. Sealant profiles
   4.1. Butt and lap joints: Slightly concave.
   4.2. Fillet joints: Flat or slightly convex.
5. Protection: Protect finished joints from contamination or damage until sealant has cured.

Ω End of Section