

Warren Cottage Thetford

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Table of Contents

Title		Page
C40	Cleaning masonry/ concrete	3
C41	Repairing/ Renovating/ Conserving masonry	5
C42	Repairing/ Renovating/ Conserving concrete	9
C51	Repairing/ Renovating/ Conserving timber	11
F10	Brick/ block walling	14
F30	Accessories/ sundry items for brick/ block/ stone walling	15
G20	Carpentry/ timber framing/ first fixing	16
H65	Single lap roof tiling	17
H71	Lead sheet coverings/ flashings	18
J30	Liquid applied tanking/ damp proofing	19
K10	Gypsum board dry linings/ partitions/ ceilings	21
L10	Windows/ Rooflights/ Screens/ Louvres	24
L20	Doors/ shutters/ hatches	26
M20	Plastered/ Rendered/ Roughcast coatings	29
M40	Stone/ concrete/ quarry/ ceramic tiling/ mosaic	32
M50	Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting	35
M60	Painting/ clear finishing	39
N11	Domestic kitchen fittings, furnishings and equipment	42
N13	Sanitary appliances and fittings	45
P10	Sundry insulation/ proofing work	49
P11	Foamed/ fibre/ bead cavity wall insulation	50
P20	Unframed isolated trims/ skirtings/ sundry items	52
P21	Door/ window ironmongery	53
P31	Holes, chases, covers and supports for services	54
Q40	Fencing	56
R10	Rainwater drainage systems	58
R11	Above ground foul drainage systems	61
R12	Below ground drainage systems	64

C40 Cleaning masonry/ concrete

To be read with Preliminaries/ General conditions.

GENERAL/ PREPARATION

110 SCOPE OF WORK

- Cleaning of roof slopes and masonry walls .

120 RELATED REPAIR AND REMEDIAL WORKS

- Work to be carried out before cleaning work: Remove vegetation.

160 PROTECTION

- Surfaces not designated for cleaning: Prevent damage, including marking and staining.
- Openings: Prevent ingress of water, cleaning agents, and detritus.
 - Vents and grilles: Seek instructions before sealing up.
- Temporary mechanical fastenings:
 - In masonry: Locate in joints.
 - In other surfaces: Seek instructions.
- Additional protection: None .

175 CONTROL AND DISPOSAL OF WASH WATER AND DETRITUS

- Disposal: Safely. Obtain approvals from relevant Authority.
- Control of wash water: Collect and divert to prevent ingress and damage to building fabric and adjacent areas.
- Above and below ground drainage systems: Keep free from detritus and maintain normal operation.

190 CLEANING GENERALLY

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

312 SURFACE BIOCIDES

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

APPLICATION

412 REMOVAL OF LOOSELY ADHERED DEPOSITS

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

462 WATER SPRAYED CLEANING (MOUNTED NOZZLES)

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

472 PRESSURIZED WATER CLEANING

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

482 STEAM CLEANING

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

500 CHEMICAL CLEANING

- Surfaces: Prevent damage, including discolouration, bleaching and efflorescence.
- Product variables (including concentrations, dwell times and number of applications): Adjust for each surface to achieve optimum cleaning performance.
- Application: To wetted surfaces.
 - Drying out: Prevent unless recommended otherwise by cleaning product manufacturer.
- Removal of chemicals and neutralization: As recommended by product manufacturer, including rinsing with clean water.
 - Additional treatment: Where water rinsing is insufficient to neutralize surface, apply compatible neutralizing agent.
 - Surfaces and joints: Minimize absorption of chemicals. Prevent damage, including abrasion.

C41 Repairing/ Renovating/ Conserving masonry

To be read with Preliminaries/ General conditions

GENERALLY/ PREPARATION

110 SCOPE OF WORK

- Schedule: Spot items as noted on drawings.
- Records of masonry to be repaired: Before starting work, use measurements and photographs as appropriate to record bonding patterns, joint widths, special features, etc.
- Identification of masonry units to be removed, replaced or repaired: Mark clearly, but not indelibly, on face of masonry units or parts of units to be cut out and replaced. Transcribe markings to drawings/ photographs.

130 REMOVAL OF PLANT GROWTHS FROM MASONRY

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

WORKMANSHIP GENERALLY

160 PROTECTION OF MASONRY UNITS AND MASONRY

- Masonry units: Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.
- Masonry: Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on facework. Protect using suitable nonstaining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

165 STRUCTURAL STABILITY

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

170 DISTURBANCE TO RETAINED MASONRY

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

180 WORKMANSHIP

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

185 ADVERSE WEATHER

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

MATERIAL/ PRODUCTION/ ACCESSORIES

260 BRICKS

- Manufacturer: To closely match existing.
 - Product reference: As above.
- Size: Standard size.
- Special shapes: N/r.
- Recycled content: Contractor's choice.

330 PREPARATION FOR REPLACEMENT MASONRY

- Defective material: Carefully remove to the extent agreed. Do not disturb, damage or mark adjacent retained masonry.
- Existing metal fixings, frame members, etc: Report when exposed.
- Redundant metal fixings: Remove.
- Recesses: Remove projections and loose material; leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather if units are not to be placed immediately.

365 REPLACEMENT OF BRICKS As noted on drawings

- Bricks: Clay as clause 260.
- Mortar: As section Z21.
 - Mix: 1:3:12 white cement:lime:sand.
 - Sand source/ type: Well graded crushed stone to approval.
- Fixings: Not required.
- Joints: Double-struck.
- Other requirements: None.

385 LAYING REPLACEMENT MASONRY UNITS

- Exposed faces of new material: Keep to agreed face lines.
- Faces, angles and features: Align accurately. Set out carefully to ensure satisfactory junctions with existing masonry and maintain existing joint widths.
- Joint surfaces: Dampen to control suction as necessary.
- Laying units: On a full bed of mortar, all joints filled.
- Exposed faces: Keep clear of mortar and grout.

390 GROUTING JOINTS

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

MORTAR REPAIRS

510 PREPARATION FOR MORTAR REPAIRS

- Repair area: Scribe area of masonry to be removed using straight horizontal and vertical lines parallel to joints. Where repair area abuts joints, maintain existing joint widths and do not bridge joints.
- Decayed masonry: Cut back carefully to a minimum depth of 20 mm to a sound background. Where the depth of removal exceeds 50 mm, seek instructions.
- Precautions: Do not weaken masonry by removing excessive material. Do not damage adjacent masonry.
- Top and vertical reveals of repair area: Undercut.

540 APPLYING MORTAR

- Surfaces to receive mortar: Clean, and free from dust and debris. Dampen to control suction.
- Applying coats: Build up in layers to specified thickness. Apply mortar firmly, ensuring good adhesion with no voids. Form a mechanical key to undercoats by combing or scratching to produce evenly spaced lines.
Allow each layer to achieve an initial set before applying subsequent coats. Prevent each layer from drying out rapidly by covering immediately with plastics sheeting and/ or dampening intermittently with clean water.
- Finishing mortar coat: Form accurately to required planes/ profiles, and finish flush with adjacent masonry.
- Protection: Protect completed repairs from adverse weather until mortar has set.

550 SCRAPED FINISH TO MORTAR REPAIRS

- Procedure: Finish final coat of repair mortar proud of existing masonry face. When mortar is set, but not too hard, scrape back to required face line using fine saw blade or other suitable means, to achieve required finish.

CRACK REPAIRS/ TIES/ REINFORCEMENT

610 MORTAR REPAIR OF CRACKS Noted on drawings

- Mortar: As section Z21.
 - Mix: 1:3:12 white cement:lime:sand.
 - Sand source/ type: Not applicable.
- Preparation: Clean out cracks to remove debris, dust and dirt. Dampen recesses, as necessary, to control suction.
- Applying mortar: Press well into cracks so that they are fully filled. Ensure that mortar does not encroach upon exposed faces. Finish mortar flush with masonry face.
- Other requirements: Exclude isolated hair line cracks (less than about 1.0 mm wide).

690 MAKING GOOD TO INJECTION AND INSERTION HOLES

- Preparation: Clean out holes thoroughly.
- Repair mortar: To match existing masonry units/ joints in colour and texture. Fill holes and finish mortar neatly and flush with surrounding masonry.
- Finished appearance: Obtain approval for first few holes before completing the remainder.

720 HAND GROUTING IN ASSOCIATION WITH REPOINTING C41/820

- Grout mix: 1:2:0.5:4 nonhydraulic lime: pulverised fuel ash: white cement:blended sands, subject to site trials.
- Method: Direct grout into open joints using clay cups formed against masonry surface. Pour grout to refusal; allow to set; break off excess mortar and brush down masonry face.

POINTING/ REPOINTING

810 PREPARATION FOR REPOINTING

- Existing mortar: Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a minimum depth of 30 mm.
 - Loose or friable mortar: Seek instructions when mortar beyond specified recess depth is loose or friable and/ or if cavities are found.
- Raked joints: Remove dust and debris.

820 POINTING Where noted on drawings

- Preparation of joints: Carefully brush away loose mortar and Dampen joints, as necessary, to control suction.
- Mortar: As section Z21.
 - Mix: 1:3:12 white cement:lime:sand.
 - Sand source/ type: Crushed stone fine pointing sand to approval.
- Joints profile/ finish: Double struck.
- Other requirements: Grout deep voids as clause 720.

840 POINTING WITH TOOLS/ IRONS

- General: Press mortar well into joints using pointing tools/ irons that fit into the joints, so that they are fully filled.
- Face of masonry: Keep clear of mortar. Use suitable temporary adhesive tape on each side of joints where necessary. Finish joints neatly.

860 BRUSHED FINISH TO JOINTS

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

C42 Repairing/ Renovating/ Conserving concrete

To be read with Preliminaries/ General conditions.

GENERAL

- 150 CONCRETE REPLACEMENT REPAIRS To Concrete Roof Deck
- Location: Flat Roof Extension.
 - Concrete removal:
 - Extent: Loose concrete.
 - Limitations on removal: As drawings.
 - Method: Contractor's choice but excluding percussive equipment.
 - Reinforcement replacement:
 - Extent: Not required.
 - Jointing: N/r.
 - Reinforcement treatment: Sika Monotop 610 cementitious bonding primer/reinforcement rust inhibitor.
 - Concrete replacement: To deck; Sika Rapid Repair Mortar hand applied upto 30mm depth To soffit; Sika Monotop 615 lightweight repair mortar .
 - Finish: Surface regularity compatible with existing adjacent concrete .
 - Other requirements: No .
- 155 CRACK REPAIRS To Ground Floor Slab
- Location: Where noted on drawing.
 - Crack types/ widths: 0.3mm to 5mm.
 - Primary function: Sealing against water and other adverse agents.
 - Grouting material: Sika Dur 52 epoxy based grout.
 - Application method: Pressure or gravity pouring to floor slabs.
 - Finish: Flush.
 - Other requirements: If cracks need cutting out and exceed 7mm use Sika Dur 31 and trowel apply.

PRODUCTS

- 305 PROPRIETARY REPAIR SYSTEMS
- Products: Compatible and supplied by the same manufacturer as part of a total repair system.

EXECUTION

- 605 EXECUTION GENERALLY
- Standard: To BS EN 1504-10.
 - Operatives' skill and experience: Appropriate for the types of preparation and application.
 - Evidence: Submit on request.
- 630 CLEANING CONCRETE SURFACES
- Extent: To reveal surface condition and aid investigation work. Minimize disruption to concrete surfaces and materials. Leave no harmful residual cleaning agents.
 - Methods: Submit proposals.
- 645 CLEANING REINFORCEMENT
- Standard of cleaning: To receive barrier type coatings - Sa2½ to BS EN ISO 8501-1.

660 PREPARATION OF CONCRETE SUBSTRATES

- Soundness: Remove loose or otherwise defective material and repair significant cracks and gaps.
- Preparation:
 - Roughening for key: Scabbling; thorough and even.
 - Wetting of substrate: As recommendations of replacement material manufacturer.
- Condition immediately before placing replacement material:
 - Cleanliness: Free from loose material, with no debris, tying wire clippings, and other matter that could adversely affect bond.
 - Surface condition: As recommendations of concrete replacement material manufacturer.

670 GROUTING CRACKS/ VOIDS

- Substrates: Clean. Keep free of detritus.
- Pressure: Minimum necessary to fill cracks completely. Leave no voids and prevent disruption to structure.

675 CURING CONCRETE/ MORTAR

- Requirement: Keep surface layers of concrete/ mortar moist throughout curing period, including perimeters and abutments, by either restricting evaporation or continuously wetting surfaces of concrete/ mortar.
 - Surfaces covered by formwork: Retain formwork in position and, where necessary to satisfy curing period, cover surfaces immediately after striking.
 - Top surfaces: If covering is removed for finishing operations, replace it immediately afterwards

C51 Repairing/ Renovating/ Conserving timber

To be read with Preliminaries/ General conditions

GENERAL

150 TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests and/ or plantations in accordance with:
 - The laws governing forest management in the producer country or countries.
 - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
 - Documentary evidence (that has been or can be independently verified) regarding the provenance of all timber supplied.
 - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood based products.
- Certification scheme: Forest Stewardship Council (FSA).
 - Other evidence: None.

160 TIMBER SUPPLIER

- Supplier: Contractor's choice.

STRUCTURAL REPAIRS/ ALTERATIONS

250 TIMBER SECTION REPAIRS - EXTERNAL SPLICE

- Defective timber: Cut out to clean, regular profile.
- Replacement timber: Softwood to match existing.
- Splice plates:
 - Material: Timber.
 - Size: Plywood, used with bolts and toothed plate connectors, should normally be at least 16 mm thick..
- Fixing to existing timber: 4 mm diameter x 100 mm long nails.

PRODUCTS

320 STRUCTURAL SOFTWOOD (STRENGTH CLASS NOT SPECIFIED) FOR JOISTS, PURLINS & RAFTERS

- Species: Douglas fir-larch.
- Grading standard: To the appropriate standard or rules for the specified grade and so marked.
 - Grade: GS to BS 4978.
- Treatment:
 - Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8.
Design service life: 30 years.
 - Fire retardant treatment: None required.
- Moisture content (maximum) at time of installation: 20%.
- Other requirements: Wane not permitted.

- 350 UNGRADED SOFTWOOD FOR INTERNAL NONSTRUCTURAL USE
- Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
 - Surface finish: Sawn.
 - Treatment:
 - Preservative treatment: Organic solvent impregnation to NBS section Z12 and Wood Protection Association Commodity Specification C8.
Design service life: 30 years.
 - Fire retardant treatment: None required.
- 360 SOFTWOOD FOR JOINERY REPAIRS Internal use
- Species: Douglas fir.
 - Quality: Generally to BS EN 942; free from decay and insect attack (except pinhole borers).
 - Appearance class: Class J2.
 - Treatment: None required.
 - Moisture content on delivery: 9-13%.

EXECUTION

- 600 WORKMANSHIP
- Skill and experience of site operatives: Appropriate for types of work on which they are employed.
 - Documentary evidence: Submit on request.
- 610 TEMPORARY SUPPORTS/ PROPPING
- General: Provide adequate temporary support at each stage of repair work to prevent damage, overstressing or uncontrolled collapse of any part of the structure.
 - Bearings for temporary supports/ propping: Suitable to carry loads throughout repair operations.
- 620 PROTECTION OF TIMBER AND WOOD COMPONENTS BEFORE AND DURING INSTALLATION
- Storage: Keep dry, under cover, clear of the ground and with good ventilation. Support sections/ components on regularly spaced, level bearers on a dry, firm base.
 - Handling: Do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.
- 650 DIMENSIONS GENERALLY
- Site dimensions: Take as necessary before starting fabrication.
 - Discrepancies with drawings: Report without delay and obtain instructions before proceeding.
- 660 CROSS SECTION DIMENSIONS OF STRUCTURAL SOFTWOOD AND HARDWOOD
- Dimensions: Dimensions in this specification and shown on drawings are target sizes as defined in BS EN 336.
 - Tolerances: The tolerance indicators (T1) and (T2) specify the maximum permitted deviations from target sizes as stated in BS EN 336, clause 4.3:
 - Tolerance class 1 (T1) for sawn surfaces.
 - Tolerance class 2 (T2) for further processed surfaces.
- 665 CROSS SECTION DIMENSIONS OF NON-STRUCTURAL SOFTWOOD
- Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
 - Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1, clause 6 for sawn sections.

- 680 WARPING OF TIMBER
- Bow, spring, twist and cup: Not greater than the limits set down in BS 4978 or BS EN 14081-1 for softwood, or BS 5756 for hardwood.
- 690 PROCESSING TREATED TIMBER
- Cutting and machining: Carry out as much as possible before treatment.
 - Extensively processed timber: Retreat timber sawn lengthways, thickened, planed, ploughed, etc.
 - Surfaces exposed by minor cutting and/ or drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.
- 750 CLEANING DIRTY OR STAINED WOOD
- Generally: Scrub with neutral pH soap and clean, warm water.
 - Old varnish: Remove using mixture of turpentine (not turpentine substitute) and acetone in proportions determined by experiment, followed by washing down.
- 760 REPAIR OF MEMBERS - CUTTING OUT MEMBERS
- Extent of timber removal: Cut out full cross section of member where wood is defective or decayed, plus 300 mm of sound wood.
 - Distance from face of support to cut end of existing timber: Obtain instructions if dimension exceeds 600 mm.
 - Joint profile: Square cut.
- 780 REPAIR OF DISTORTED TIMBER MEMBERS
- Generally: Repair to shape that member has assumed.
- 860 MOISTURE CONTENT CHECKING
- Procedure: When instructed, check moisture content of timber sections with an approved electrical moisture meter.
 - Test results: Keep records of all tests. If moisture content falls outside specified range obtain instructions.
- 870 MOISTURE CONTENT TESTING
- Procedure: When instructed, test timber sections with an electrical moisture meter with deep probes, that has been carefully calibrated against oven drying tests or otherwise guaranteed by an independent testing authority.
 - Test sample: Test 5% but not less than 10 lengths of each cross-section in the centre of the length.
 - Test results: 90% of values obtained to be within the specified range. Provide records of all tests.

COMPLETION

- 910 MECHANICALLY FASTENED JOINTS
- General: Inspect accessible bolted, coach screwed and timber pegged joints and tighten fasteners if necessary.
 - Timing: On Completion and at end of Defects Liability Period or Rectification Period.
- 920 DATING TIMBERS USED IN STRUCTURAL REPAIRS
- Principal replacement members: Mark by carving or branding with date of repair and, when appropriate, initials of carpenter, in characters 20-25 mm high.
 - Location of marks: Unobtrusive.

F10 Brick/ block walling

- 90 **CRACKED BRICKS IN EXISTING FACEWORK**
- Replacement: Prior to repointing adjacent cracked joints, cut out and replace with matching sound bricks to approval.
 - Jointing mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand.
- 91 **CRACKED JOINTS IN EXISTING FACEWORK WHICH IS NOT TO BE REPOINTED**
- Crack width determining need for joint remedial work: 2.0 mm.
 - Preparation: Cut out joints to form a rectangular recess of 15-20 mm depth. Clean and dampen joints sufficiently to control suction.
 - Joint profile: To match existing.
 - Repointing mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand.
- 95 **REPOINTING**
- Preparation: Cut out joints to form a rectangular recess of 15-20 mm depth. Clean and dampen joints sufficiently to control suction.
 - Joint profile: Bucket handle .
 - Mortar: As section Z21.
 - Standard: To BS EN 998-2.
 - Mix: 1:1:6 cement:lime:sand.

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

- 17 VENTILATION DUCTS IN EXTERNAL WALLING
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Placement: Across cavity, sloping away from inner leaf. Full mortar joints to seal cavity.

- 18 CAVITY CLOSERS To all existing openings receiving new Windows/doors
 - Manufacturer: Thermabate.
 - Product reference: Submit proposals.
 - Accessories: To include integral insulation.

G20 Carpentry/ timber framing/ first fixing

97 EAVES SOFFIT VENTILATORS

- Manufacturer: Glidevale.
 - Product reference: SV2000.
- Type: Twist and lock.
- Colour: White.
- Airway: The equivalent of a continuous opening of not less than 25 mm for full length of eaves.

99 FASCIAS/ BARGES/ SOFFITS - PVC-U

- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Material: Cellular PVC-U core with impact modified PVC-U skin and containing no lead or cadmium.
- Finish: Milled.
- Colour: White.
- Nominal depth: Fascias 25mm, Soffits 6mm.
- Edge profile: Square.
- Accessories/ Other requirements: Box end board, joint trims etc.
- Support: 50 x 38 mm preservative treated softwood at maximum 600 mm centres.
 - Provide additional support at joints.
- Fixings: 35 mm screws with colour matched heads.
- Installer: A contractor approved by the system manufacturer.

H65 Single lap roof tiling

40 MORTAR BEDDING/ POINTING

- Mortar: As section Z21, 1:3 cement: sand, with plasticizing admixtures permitted.
 - Bond strength: To BS 5534.
- Weather: Do not use in wet or frosty conditions or when imminent.
- Appearance: Finish neatly and remove residue.

H71 Lead sheet coverings/ flashings

52 CHIMNEY FLASHINGS

- Lead:
 - Thickness: 1.75 or 1.80 mm (Code 4).
- Front apron:
 - Dimensions:
 - Length: Width of chimney plus not less than 150 mm underlap to each side flashing.
 - Upstand: Not less than 75 mm.
 - Cover to roof: Not less than 220 mm.
 - Fixing: Lead wedges into bed joint.
- Back gutter:
 - Dimensions:
 - Length: Width of chimney plus not less than 100 mm overlap to each side flashing.
 - Upstand: Not less than 100 mm.
 - Gutter Sole: Not less than 150 mm.
 - Cover up roof: Not less than 225 mm.
- Back gutter cover flashing:
 - Dimensions:
 - Length: Width of chimney plus not less than 100 mm overlap to each side flashing.
 - Cover: Overlap to back gutter upstand not less than 75 mm.
 - Fixing: Lead wedges into bed joint.

60 MATERIALS AND WORKMANSHIP GENERALLY

- Lead production method:
 - Rolled, to BS EN 12588.
 - Machine cast: BBA certified.
- Identification: Colour marked for thickness/ code, weight and type.
- Workmanship standard: To BS 6915 and latest editions of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Association.
- Fabrication and fixing: To provide a secure, free draining and weathertight installation.
- Marking out: Do not use scribers or other sharp instruments to mark out lead without approval.
- Solder: Use only where specified.
- Finished leadwork: Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
- Patination oil: Apply smear coating to all visible lead, evenly in one direction and in dry conditions.

62 LEADWELDING

- In situ leadwelding: Not permitted.

78 FIXING LEAD SHEET

- Top edge: Secured with two rows of fixings, 25 and 50 mm from edge.
- Fixings:
 - Nails to timber substrates: Copper clout nails to BS1202-2 , or stainless steel (austenitic) clout nails to BS 1202-1.
 - Shank type: Annular ringed, helical threaded or serrated.
 - Length: Not less than 20 mm or equal to substrate thickness.
 - Screws to concrete or masonry substrates: Brass or stainless steel to BS 1210.
 - Diameter: Not less than 3.35 mm.
 - Length: Not less than 19 mm.
 - Washers and plastics plugs: Compatible with screws.

J30 Liquid applied tanking/ damp proofing

To be read with Preliminaries/General conditions

TYPES OF TANKING/ DAMP PROOFING

- 130 COLD APPLIED DAMP PROOFING To floors with no apparent DPM
- Substrate: Existing concrete.
 - Primer: As coating manufacturer's recommendations.
 - Coating: Bituminous.
 - Manufacturer: Ardex.
 - Product reference: Ardex DPM 1C.
 - Application: As coating manufacturer's recommendations.
 - Reinforcement: Not required and As coating manufacturer's recommendations.
 - Blinding: As coating manufacturer's recommendations.

EXECUTION

- 205 SUITABILITY OF SUBSTRATE
- Substrates generally:
 - Smooth, even textured, clean, dry and frost free.
 - Within tolerances for level and surface regularity.
 - Vertical and horizontal surfaces: Correctly prepared and free from irregularities.
 - Curing period for concrete substrates (minimum): 7 days.
 - Moisture content and stability of substrate: Must not impair integrity of finished tanking/ damp proofing.
 - Preliminary work: Complete including:
 - Chases.
 - External angles.
 - Formation of upstands and kerbs.
 - Movement joints.
 - Penetrations/ Outlets.
- 207 PRIMERS
- Application: Uniform, continuous coverage.
- 210 COATING APPLICATION
- Adjacent surfaces exposed to view in finished work: Protect.
 - Coatings:
 - Apply in dry atmospheric conditions when recommended by manufacturer.
 - Uniform, continuous coverage. Do not allow to pool in hollows.
 - Firmly adhered to substrate and free from imperfections.
 - Prevent damage to finished coatings.
 - Penetrations: Impervious.
 - Final covering: Apply as soon as possible after coating has hardened.
- 260 JUNCTIONS WITH DPCS
- Dpcs: Clean, all edges fully exposed.
 - Application: Fully coat dpc and overlap adjacent surfaces by (minimum) 75 mm .

COMPLETION

310 INSPECTION

- Interim and final inspections: Submit reports.

K10 Gypsum board dry linings/ partitions/ ceilings

To be read with Preliminaries/ General conditions.

TYPES OF DRY LINING

245 CEILING LINING ON TIMBER New/Replacement Ceilings

- Background: Timber Joists.
- Metal resilient (acoustic) bars: Not required.
- Linings: 12.5 mm Gyproc Fireline plasterboard.
 - Fixings: Contractor's choice.
- Finishing: Skim coat plaster.
 - Primer/ Sealer: Not required.
 - Accessories: Metal beads/ stops recommended by board manufacturer .
- Other requirements: Fire stopping around service penetrations as section P12.

INSTALLATION

305 GYPSUM BOARDS GENERALLY

- Standard:
 - Gypsum plasterboard to BS EN 520.
 - Fibre reinforced gypsum board to BS EN 15283-2.
 - Evidence of compliance: All sheets to be CE marked. Submit Declaration of Performance (DoP).

335 ADDITIONAL SUPPORTS

- Framing: Accurately position and securely fix to give full support to:
 - Partition heads running parallel with, but offset from main structural supports.
 - Fixtures, fittings and service outlets. Mark framing positions clearly and accurately on linings.
 - Board edges and lining perimeters, as recommended by board manufacturer to suit type and performance of lining.

435 DRY LININGS GENERALLY

- General: Use fixing, jointing, sealing and finishing materials, components and installation methods recommended by board manufacturer.
- Cutting gypsum boards: Neatly and accurately without damaging core or tearing paper facing.
 - Cut edges: Minimize and position at internal angles wherever possible. Mask with bound edges of adjacent boards at external corners.
- Fixings boards: Securely and firmly to suitably prepared and accurately levelled backgrounds.
- Finishing: Neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.

445 CEILINGS

- Sequence: Fix boards to ceilings before installing dry lined walls and partitions.
- Orientation of boards: Fix with bound edges at right angles to supports and with ends staggered in adjacent rows.
- Two layer boarding: Stagger joints between layers.

510 SEALING GAPS AND AIR PATHS

- Location of sealant: To perimeter abutments and around openings.
 - Pressurized shafts and ducts: At board-to-board and board-to-metal frame junctions.
- Application: To clean, dry and dust free surfaces as a continuous bead with no gaps.
 - Gaps greater than 6 mm between floor and underside of gypsum board: After sealing, fill with jointing compound.

560 JOINTS BETWEEN BOARDS

- Tapered edged gypsum boards:
 - Bound edges: Lightly butted.
 - Cut/ unbound edges: 3 mm gap.
- Square edged plasterboards: 3 mm gap.
- Square edged gypsum fibre boards: 5 mm gap.

610 FIXING GYPSUM BOARD TO TIMBER

- Fixing to timber: Securely at the following centres (maximum):
 - Nails: 150 mm.
 - Screws to partitions/ wall linings: 300 mm. Reduce to 200 mm at external angles.
 - Screws to ceilings: 230 mm.
- Position of nails/ screws from edges of boards (minimum):
 - Bound edges: 10 mm.
 - Cut/ unbound edges: 13 mm.
- Position of nails/ screws from edges of timber supports (minimum): 6 mm.

FINISHING

650 LEVEL OF DRY LINING ACROSS JOINTS

- Sudden irregularities: Not permitted.
- Joint deviations: Measure from faces of adjacent boards using methods and straightedges (450 mm long with feet/ pads) to BS 8212, clause 3.3.5.
 - Tapered edge joints:
 - Permissible deviation (maximum) across joints when measured with feet resting on boards: 3 mm.
 - External angles:
 - Permissible deviation (maximum) for both faces: 4 mm.
 - Internal angles:
 - Permissible deviation (maximum) for both faces: 5 mm.

670 SEAMLESS JOINTING TO GYPSUM BOARDS

- Cut edges of boards: Lightly sand to remove paper burrs.
- Filling and taping: Fill joints, gaps and internal angles with jointing compound and cover with continuous lengths of paper tape, fully bedded.
- Protection of edges/ corners: Reinforce external angles, stop ends, etc. with specified edge/ angle bead.
- Finishing: Apply jointing compound. Feather out each application beyond previous application to give a flush, smooth, seamless surface.
- Nail/ screw depressions: Fill with jointing compound to give a flush surface.
- Minor imperfections: Remove by light sanding.

680 SKIM COAT PLASTER FINISH

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

695 INSTALLING BEADS/ STOPS

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

725 REPAIRS TO EXISTING GYPSUM BOARD

- Filling small areas with broken cores: Cut away paper facing, remove loose core material and fill with jointing compound.
 - Finish: Flush, smooth surface suitable for redecoration.
- Large patch repairs: Cut out damaged area and form neat hole with rectangular sides. Replace with matching gypsum board.
 - Fixing: Use methods to suit type of dry lining, ensuring full support to all edges of existing and new gypsum board.
 - Finishing: Fill joints, tape and apply jointing compound to give a flush, smooth surface suitable for redecoration.

L10 Windows/ Rooflights/ Screens/ Louvres

To be read with Preliminaries/ General conditions.

GENERAL

110 EVIDENCE OF PERFORMANCE

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

120 SITE DIMENSIONS

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items: All existing window openings .

PRODUCTS

205 WINDOW MATERIALS SPECIFICATION

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

350 PVC-U WINDOWS

- Manufacturer: Liniar.
 - Product reference: Min. 70m.
 - Colour/ Texture: Chamfered, min. 70mm steel reinforced sections, energy rating 'A'.
- Thermal performance (U-value maximum): 1.6 W/m²K.
- Glazing details: Double glazed to achieve 'u' value and safety requirements, Wc's and Bathroom to have obscured glass.
 - Beading: Internal.
- Ironmongery/ Accessories:
 - Locking handle;
 - Horizontal friction pivot; and
 - Trickle ventilator.
- Fixing: Through frame fixing as clause 783.

EXECUTION

710 PROTECTION OF COMPONENTS

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

755 PVC-U WINDOW INSTALLATION

- Standard: In accordance with clause 783 and British Plastics Federation 'Code of practice for the survey and installation of windows and external doorsets'.

760 REPLACEMENT WINDOW INSTALLATION

- Standard: To BS 8213-4.

765 WINDOW INSTALLATION GENERALLY

- Installation: Into prepared openings.
- Gap between frame edge and surrounding construction:
 - Minimum: 6mm.
 - Maximum: 10mm.
- Distortion: Install windows without twist or diagonal racking.

783 FIXING OF PVC-U FRAMES

- Standard: As section Z20.
- Fasteners: 10 mm phosphor bronze expanding bolts.
 - Spacing: When not predrilled or specified otherwise, position fasteners 150-250 mm from ends of each jamb, adjacent to each hanging point of opening lights, but no closer than 150 mm to a transom or mullion centre line, and at maximum 600 mm centres.

810 SEALANT JOINTS

- Sealant:
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Colour: White.
 - Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 IRONMONGERY

- 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.
- Checking/ Adjusting/ Lubricating: Carry out at completion and ensure correct functioning.

L20 Doors/ shutters/ hatches

To be read with Preliminaries/ General conditions.

GENERAL

110 EVIDENCE OF PERFORMANCE

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

115 FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

- Door products: As defined in BS EN 12519.
- Evidence of fire performance: Provide certified evidence, in the form of a product conformity certificate, directly relevant fire test report or engineering assessment, that each door/ door assembly/ doorset supplied will comply with the specified requirements for fire or smoke resistance if tested to BS 476-22, BS EN 1634-1 or BS EN 1634-3. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
- Components and assemblies will be marked to the relevant product standard and/ or third party certification rating.

120 NON FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

- Provide certified evidence, in the form of a product conformity certificate or engineering assessment, that each door/ doorset/ assembly supplied will comply with the specified requirements to BS EN 14351-1. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
- Components and assemblies will be marked to the relevant product standard and/ or third party certification rating.

150 SITE DIMENSIONS

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items: Door noted on drawings.

PRODUCTS

230 WOOD FLUSH DOORS Internal

- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Facings: Interior grade plywood.
- Lippings: Exposed lippings to long edges.
- Preservative treatment: Not required.
- Finish as delivered: Prepared and primed, as section M60.
- Glazing/ Infill details: Not applicable.
 - Manifestation: Not applicable.
 - Beading: Not required.
- Thermal performance (U-value maximum): N/a.
- Other requirements: Pair SS hinges and good quality lever handle/latch.

370 DOOR FRAMES LININGS AND ARCHITRAVES

- Manufacturer: Contractor's choice.
 - Product reference: To suite wall thickness and door application, architrave MDF to match existing size/profile.
- Perimeter seals: Not required..
- Finish as delivered: Un finished.
- Thermal performance: N/a.
- Fixing: Plugged and screwed.

480 DOORSETS PVC-U

- Manufacturer: Liniar.
 - Product reference: Residential.
- Door leaf: Single, 4 or 6-chamber.
 - Finish as delivered: White.
- Frame and architraves: Manufacturer's standard.
 - Finish as delivered: White.
- Glazing/ Infill details: Clear double glazing.
 - Manifestation: Not applicable.
 - Beading: External.
- Ironmongery: Chrome.
- Perimeter seals: EPDM weatherseal.
- Thermal performance (U-value maximum): 1.6 W/m²K .
- Other requirements: PAS 24:2012 and Secured by Design.
- Fixing: Plugged and screwed.

EXECUTION

710 PROTECTION OF COMPONENTS

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

730 PRIMING/ SEALING

- Wood surfaces inaccessible after installation: Primed or sealed as specified before fixing components.

770 DAMP PROOF COURSES ASSOCIATED WITH BUILT IN WOOD FRAMES

- Method of fixing: To backs of frames using galvanized clout nails.

790 FIXING OF WOOD FRAMES

- Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb and at 600 mm maximum centres.

809 FIRE RESISTING/ SMOKE CONTROL DOORS/ DOORSETS/ ROLLER SHUTTERS/ CURTAINS

- Installation: By a firm currently registered under a third party accredited fire door installer scheme in accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.

810 FIRE RESISTING/ SMOKE CONTROL DOORS/ DOORSETS/ ROLLER SHUTTERS/ CURTAINS

- Gaps between frames and supporting construction: Filled as necessary in accordance with requirements for certification and/ or door/ doorset manufacturer's instructions.

820 SEALANT JOINTS

- Sealant:
 - Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
 - Colour: White .
 - Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

830 FIXING IRONMONGERY GENERALLY

- Fasteners: Supplied by ironmongery manufacturer.
 - Finish/ Corrosion resistance: To match ironmongery.
- Holes for components: No larger than required for satisfactory fit/ operation.
- Adjacent surfaces: Undamaged.
- Moving parts: Adjusted, lubricated and functioning correctly at completion.

840 FIXING IRONMONGERY TO FIRE RESISTING DOOR ASSEMBLIES

- General: All items fixed in accordance with door leaf manufacturer's recommendations ensuring that integrity of the assembly, as established by testing, is not compromised.
- Holes for through fixings and components: Accurately cut.
 - Clearances: Not more than 8 mm unless protected by intumescent paste or similar.
 - Lock/ Latch cases for fire 60 doors requiring \geq 60 minutes integrity performance: Coated with intumescent paint or paste before installation.

850 LOCATION OF HINGES

- Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
- Third hinge: Where specified, positioned on centre line of door leaf .
- Hinges for fire resisting doors: Positioned in accordance with door leaf manufacturer's recommendations.

M20 Plastered/ Rendered/ Roughcast coatings

To be read with Preliminaries/ General conditions.

TYPES OF COATING

- 240 ONE COAT PROPRIETARY PLASTER Patch repairs to existing walls
- Substrate: Existing masonry walls.
 - Preparation: Bonding agent recommended by plaster manufacturer.
 - Manufacturer: Permagard.
 - Product reference: Renovating Plaster.
 - Thickness (excluding dubbing out and keys): As manufacturer's recommendations.
 - Finish: Smooth.
 - Accessories: Beads and stops .
- 280 GYPSUM PLASTER SKIM COAT ON PLASTERBOARD
- Plasterboard: 12.5 mm.
 - Preparation: Bonding agent recommended by plaster manufacturer.
 - Plaster: Board finish/ finish plaster to BS EN 13279-1, class B.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Thickness: 2-5mm.
 - Finish: Smooth.
 - Accessories: Beads and stops .
- 430 READY-TO-USE CEMENT GAUGED MORTARS
- Time and temperature limitations: Use within limits prescribed by mortar manufacturer.
 - Retempering: Restore workability with water only within prescribed time limits.
- 497 COLD WEATHER
- General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
 - External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising. Maintain temperature of work above freezing until coatings have fully hardened.
 - Internal work: Take precautions to enable internal coating work to proceed without damage when air temperature is below 3°C.
- 510 SUITABILITY OF SUBSTRATES
- Soundness: Free from loose areas and significant cracks and gaps.
 - Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
 - Tolerances: Permitting specified flatness/ regularity of finished coatings.
 - Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.
- 541 BONDING AGENT APPLICATION
- General: Apply evenly to substrate to achieve effective bond of plaster/ render coat. Protect adjacent surfaces.

556 REMOVING DEFECTIVE EXISTING RENDER

- Render for removal: Detached, hollow, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
 - Removing defective render: Cut out to regular rectangular areas with straight edges.
 - Horizontal and vertical edges: Square cut or slightly undercut.
 - Bottom edges to external render: Do not undercut.
 - Render with imitation joints: Cut back to joint lines.
 - Cracks:
 - Fine hairline cracking/ crazing: Leave.
 - Other cracks: Cut out to a width of 75 mm (minimum).
- Dust and loose material: Remove from exposed substrates and edges.

568 EXISTING DAMP AFFECTED PLASTER/ RENDER

- 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.
- Perished and salt contaminated masonry:
 - Mortar joints: Rake out.
 - Masonry units: Submit proposals.
- Faults in substrate (structural deficiencies, additional sources of damp, etc.): Submit proposals.
- Drying out substrate: Established drying conditions. Leave walls to dry for as long as possible before plastering.
- Dust and loose material: Remove from exposed substrate and edges.

630 BEADS/ STOPS FOR INTERNAL USE

- Material: Galvanized steel to BS 13658-1.

640 BEADS/ STOPS GENERALLY

- Location: External angles and stop ends, except where specified otherwise.
- Corners: Neat mitres at return angles.
- Fixing: Secure, using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
 - Beads/ stops for external render: Fix mechanically.
- Finishing: After coatings have been applied remove surplus material, while still wet, from surfaces of beads/ stops exposed to view.

INTERNAL PLASTERING

710 APPLICATION GENERALLY

- Application of coatings: Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
- Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
 - Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
- Drying out: Prevent excessively rapid or localised drying out.

715 FLATNESS/ SURFACE REGULARITY

- Sudden irregularities: Not permitted.
- Deviation of plaster surface: Measure from underside of a straight edge placed anywhere on surface.
 - Permissible deviation (maximum) for plaster not less than 13 mm thick: 3 mm in any consecutive length of 1800 mm.

777 SMOOTH FINISH

- Appearance: A tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks. Avoid water brush, excessive trowelling and over polishing.

M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic

To be read with Preliminaries/ General conditions.

TYPES OF TILING/ MOSAIC

- 110 TILING TO Splash backs
- Tiles: Glazed Ceramic Type.
 - Manufacturer/ Supplier: Johnsons.
Product reference: Prismatic.
 - Colour: Client choice from standard range.
 - Finish: Glazed.
 - Size: 150x150.
 - Thickness: 6mm.
 - Slip potential:
 - Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: Not applicable .
 - Surface roughness (Rz) (minimum) BS 1134: Not applicable .
 - Ramp test class: Not applicable.
 - Recycled content: None permitted.
 - Background/ Base: Existing plastered masonry.
 - Preparation: Hacking off of existing tiles and making good of plaster work.
 - Intermediate substrate: Not required.
 - Bedding: Adhesive bed - notched trowel method, as clause ???..
 - Reinforcement: Not applicable.
 - Adhesive to BS EN 12004: Contractor's choice.
 - Joint width: As spacer lugs.
 - Grout: Hygienic type.
 - Type/ classification: Not applicable.
 - Admixture: None.
 - Movement joints: N/R.
 - Accessories: None.

GENERAL

- 210 SUITABILITY OF BACKGROUNDS/ BASES
- Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
 - New background drying times (minimum):
 - Concrete walls: 6 weeks.
 - Brick/ block walls: 6 weeks.
 - Rendering: 2 weeks.
 - Gypsum plaster: 4 weeks.
 - New base drying times (minimum):
 - Concrete slabs: 6 weeks.
 - Cement:sand screeds: 3 weeks.

PREPARATION

- 330 EXISTING PLASTER
- Defective areas: Remove plaster that is loose, soft, friable, badly cracked or affected by efflorescence. Cut back to straight horizontal and vertical edges.
 - Making good: Use plaster or nonshrinking filler.

350A EXISTING TILES

- All existing wall tiling: Remove.
- Making good: as section M20 .

360 EXISTING PAINT

- Paint with unsatisfactory adhesion: Remove so as not to impair bedding adhesion.

380 NEW PLASTER

- Plaster: Dry, solidly bedded, free from dust and friable matter.
- Plaster primer: Apply if recommended by adhesive manufacturer.

460 SMOOTHING UNDERLAYMENT

- Type: Recommended by adhesive manufacturer.
- Condition: Allow to dry before tiling.

FIXING

510 FIXING GENERALLY

- Colour/ shade: Unintended variations within tiles for use in each area/ room are not permitted.
 - Variegated tiles: Mix thoroughly.
- Adhesive: Compatible with background/ base. Prime if recommended by adhesive manufacturer.
- Use of admixtures with cementitious adhesives: Only admixtures approved by adhesive manufacturer.
- Cut tiles: Neat and accurate.
- Fixing: Provide adhesion over entire background/ base and tile backs.
- Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
- Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

530 SETTING OUT

- Joints: True to line, continuous and without steps.
 - Joints on walls: Horizontal, vertical and aligned round corners.
 - Joints in floors: Parallel to the main axis of the space or specified features.
- Cut tiles: Minimise number, maximise size and locate unobtrusively.
- Joints in adjoining floors and walls: Align.
- Joints in adjoining floors and skirtings: Align.
- Movement joints: Where locations are not indicated, submit proposals.
- Setting out of N/a: Drawing references: N/a.
- Setting out of N/a: Submit proposals.

550 FLATNESS/ REGULARITY OF TILING/ MOSAICS

- Sudden irregularities: Not permitted.
- 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 and no gap should be greater than 6 mm, i.e. a tolerance of \pm 3 mm.

560 LEVEL OF TILING ACROSS JOINTS

- Deviation (maximum) between tile surfaces either side of any type of joint:
 - 1 mm for joints less than 6 mm wide.
 - 2 mm for joints 6 mm or greater in width.

- 651 ADHESIVE BED - NOTCHED TROWEL AND BUTTERING METHOD (WALLS)
- Application: By floated coat of adhesive to dry background in areas of about 1 m². Comb surface.
 - Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto float coat.
 - Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.
- 652 ADHESIVE BED - BUTTERING METHOD (WALLS)
- Tiling: Apply even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles.
 - Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.
- 875 GROUTING
- Sequence: Grout when bed/adhesive has set sufficient to prevent disturbance of tiles.
 - Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
 - Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
 - Profile: Slightly concave.
 - Polishing: When grout is hard, polish tiling with a dry cloth.
- 885 COLOURED GROUT
- Staining of tiles: Not permitted.
 - Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a protective sealer to tiles and repeat trial.

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

To be read with Preliminaries/ General conditions.

TYPES OF COVERING

- 150 SHEETING Vinyl
- Location: Refer to Schedule.
 - Base: Existing concrete slab or first floor timber floorboards.
 - Preparation: As recommended by manufacturer.
 - Fabricated underlay: N/r.
 - Flooring roll: PVC with PVC felt backing to BS EN 651.
 - Manufacturer: CFS.
 - Product reference: Cozitex Wood & Stone Cushion Vinyl.
 - BS EN ISO 10874 class: 22.
 - Slip potential:
 - Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: Not applicable.
 - Surface roughness (Rz) (minimum) to BS 1134: Not applicable.
 - Recycled content: None permitted.
 - Width: 2,3, or 4m.
 - Thickness: Manufacturers standard.
 - Colour/ pattern: Client to chose from standard range.
 - Adhesive (and primer if recommended by manufacturer): As recommended by manufacturer.
 - Seam welding: Solvent welding.
 - Accessories: None.
 - Finishing: as below.
 - Other requirements: 10 year domestic warranty.

170 CARPETING

- Location: Refer to schedule.
- Base: Existing concrete slab/timber stairs and timber boarded first floor.
 - Preparation: As recommended by .
- Fabricated underlay: N/R, carpet underlay to first floor.
- Carpet underlay to BS 5808 and BS EN 14499:
 - Manufacturer: Carpenter.
Product reference: Midas 10 - 10mm thick.
 - Type: General Domestic.
 - Class: BS5808:1991 (2005).
 - Recycled content: Not specified.
- Underlay adhesive (and primer if recommended by manufacturer): -.
- Carpet:
 - Manufacturer: www.carpetandflooring.co.uk.
Product reference: Noble Heathers range.
 - Type: Saxony.
 - BS EN 1307 classification:
Levels of use class: 22.
Luxury rating class: LC2.
Additional performance properties to BS EN 1307: 10 year domestic warranty).
 - Recycled content: Not specified.
 - Width: 4000 mm.
 - Colour/ pattern: Client to choose from standard range.
- Carpet adhesive (and primer if recommended by manufacturer): As recommended by floor covering manufacturer.
- Accessories: Edging strip at thresholds.
- Other requirements: Suitable for stairs.

GENERAL REQUIREMENTS

210 WORKMANSHIP GENERALLY

- Base condition after preparation: Rigid, dry, sound, smooth and free from grease, dirt and other contaminants.
- Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks and stains.

330 COMMENCEMENT

- Required condition of works prior to laying materials:
 - Building is weathertight and well dried out.
 - Wet trades have finished work.
 - Paintwork is finished and dry.
 - Conflicting overhead work is complete.
 - Floor service outlets, duct covers and other fixtures around which materials are to be cut are fixed.
- Notification: Submit not less than 48 hours before commencing laying.

340 CONDITIONING

- Prior to laying: Condition materials by unpacking and separating in spaces where they are to be laid. Maintain resilient flooring rolls in an upright position. Unroll carpet and keep flat on a supporting surface.
- Conditioning time and temperature (minimum): As recommended by manufacturer with time extended by a factor of two for materials stored or transported at a temperature of less than 10°C immediately prior to laying.

350 ENVIRONMENT

- Temperature and humidity: Before, during and after laying, maintain approximately at levels which will prevail after building is occupied.
- Ventilation: Before during and after laying, maintain adequate provision.

PREPARING BASES

410 NEW BASES

- Suitability of bases and conditions within any area: Commencement of laying of coverings will be taken as acceptance of suitability.

420 EXISTING BASES

- Notification: Before commencing work, confirm that existing bases will, after preparation, be suitable to receive coverings.
- Suitability of bases and conditions within any area: Commencement of laying of coverings will be taken as acceptance of suitability.

430 NEW WET LAID BASES

- Base drying aids: Not used for at least four days prior to moisture content testing.
- Base moisture content test: Carry out in accordance with BS 5325, Annexe A or BS 8203, Annexe A.
 - Locations for readings: In all corners, along edges, and at various points over area being tested.
- Commencement of laying coverings: Not until all readings show 75% relative humidity or less.

460 SMOOTHING/ LEVELLING UNDERLAYMENT COMPOUND

- Type: Latex cement.
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.

470 BASES FROM WHICH EXISTING FLOOR COVERINGS HAVE BEEN REMOVED

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

480 EXISTING FLOOR COVERINGS TO BE OVERLAID

- Substrate: Make good by local resticking and patching or filling with smoothing underlayment compound to give smooth, even surface.

LAYING COVERINGS

640 ADHESIVE FIXING GENERALLY

- Adhesive type: As specified, as recommended by covering/ underlay manufacturer or as approved.
- Primer: Type and usage as recommended by adhesive manufacturer.
- Application: As necessary to achieve good bond.
- Finished surface: Free from trowel ridges, high spots caused by particles on the substrate, and other irregularities.

720 DOORWAYS

- Joint location: On centre line of door leaf.

740 EDGINGS AND COVER STRIPS

- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
- Material/ finish: - .
- Fixing: Secure with edge of covering gripped. Use matching fasteners where exposed to view.

COMPLETION

820 FINISHING PLASTICS FLOORING

- Cleaning operations:
 - Wash floor with water containing neutral (pH 6-9) detergent. If necessary, lightly scrub heavily soiled areas.
 - Rinse with clean water, removing surplus to prevent damage to adhesive. Allow to dry.
- Emulsion polish: Two coats of a type recommended by covering manufacturer.

880 WASTE

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

M60 Painting/ clear finishing

GENERAL

210 COATING MATERIALS

- Manufacturer: Obtain materials from any of the following: Contractor's choice.
- Selected manufacturers: Submit names before commencement of any coating work.

215 HANDLING AND STORAGE

- Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
- Materials from more than one batch: Store separately.

280 PROTECTION

- 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

PREPARATION

400 PREPARATION GENERALLY

- Standard: In accordance with BS 6150.
- Refer to any pre-existing CDM Health and Safety File.
- Refer to CDM Construction Phase Plan where applicable.
- Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
- Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
- Substrates: Sufficiently dry in depth to suit coating.
- Efflorescence salts: Remove.
- Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
- Surface irregularities: Remove.
- Joints, cracks, holes and other depressions: Fill flush with surface, provide smooth finish.
- Dust, particles and residues from preparation: Remove and dispose of safely.
- Water based stoppers and fillers:
 - Apply before priming unless recommended otherwise by manufacturer.
 - If applied after priming: Patch prime.
- Oil based stoppers and fillers: Apply after priming.
- Doors, opening windows and other moving parts:
 - Ease, if necessary, before coating.
 - Prime resulting bare areas.

420 FIXTURES AND FITTINGS

- Removal: Before commencing work remove: Coverplates, grilles, wall clocks, and other surface mounted fixtures .
- Replacement: Refurbishment as necessary, refit when coating is dry.

425 IRONMONGERY

- Removal: Before commencing work remove ironmongery from surfaces to be coated.
- Hinges: Do not remove.
- Replacement: Refurbish as necessary; refit when coating is dry.

- 430 EXISTING IRONMONGERY
- Refurbishment: Remove old coating marks. Clean and polish.
- 440 PREVIOUSLY COATED SURFACES GENERALLY
- Preparation: In accordance with BS 6150, clause 11.5.
 - Contaminated or hazardous surfaces: Give notice of:
 - Coatings suspected of containing lead.
 - Substrates suspected of containing asbestos or other hazardous materials.
 - Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
 - Significant rot, corrosion or other degradation of substrates.
 - Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
 - Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
 - Alkali affected coatings: Completely remove.
 - Retained coatings:
 - Thoroughly clean to remove dirt, grease and contaminants.
 - Gloss coated surfaces: Provide key.
 - Partly removed coatings:
 - Additional preparatory coats: Apply to restore original coating thicknesses.
 - Junctions: Provide flush surface.
 - Completely stripped surfaces: Prepare as for uncoated surfaces.
- 461 PREVIOUSLY COATED WOOD
- Degraded or weathered surface wood: Take back to provide suitable substrate.
 - Degraded substrate wood: Repair with sound material of same species.
 - Exposed resinous areas and knots: Apply two coats of knotting.
- 471 PREPRIMED WOOD
- Areas of defective primer: Take back to bare timber.
- 481 UNCOATED WOOD
- General: Provide smooth, even finish with arrises and moulding edges lightly rounded or eased.
 - Heads of fasteners: Countersink sufficient to hold stoppers/fillers.
 - Resinous areas and knots: Apply two coats of knotting.
- 490 PREVIOUSLY COATED STEEL
- Defective paintwork: Remove to leave a firm edge and clean bright metal.
 - Sound paintwork: Provide key for subsequent coats.
 - Corrosion and loose scale: Take back to bare metal.
 - Residual rust: Treat with a proprietary removal solution.
 - Bare metal: Apply primer as soon as possible.
 - Remaining areas: Degrease.
- 500 PREPRIMED STEEL
- Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.
- 521 UNCOATED STEEL - MANUAL CLEANING
- Oil and grease: Remove.
 - Corrosion, loose scale, welding slag and spatter: Remove.
 - Residual rust: Treat with a proprietary removal solution.
 - Primer: Apply as soon as possible.

- 541 UNCOATED ALUMINIUM/ COPPER/ LEAD
 - Surface corrosion: Remove and lightly key surface.
 - Pretreatment: Etching primer if recommended by coating system manufacturer.
- 552 UNCOATED PVC-U
 - Dirt and grease: Remove. Do not abrade surface.
- 570 UNCOATED MASONRY/ RENDERING
 - Loose and flaking material: Remove.
- 580 UNCOATED PLASTER
 - Nibs, trowel marks and plaster splashes: Scrape off.
 - Overtrowelled 'polished' areas: Key lightly.
- 590 UNCOATED PLASTERBOARD
 - Depressions around fixings: Fill with stoppers/ fillers.
- 622 ORGANIC GROWTHS
 - Dead and loose growths and infected coatings: Scrape off and remove from site
 - Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
 - Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

APPLICATION

- 711 COATING GENERALLY
 - Application standard: In accordance with BS 6150, clause 9.
 - Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
 - Surfaces: Clean and dry at time of application.
 - Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
 - Overpainting: Do not paint over intumescent strips or silicone mastics.
 - Priming coats:
 - Thickness: To suit surface porosity.
 - Application: As soon as possible on same day as preparation is completed.
 - Finish:
 - Even, smooth and of uniform colour.
 - Free from brush marks, sags, runs and other defects.
 - Cut in neatly.
 - Doors, opening windows and other moving parts: Ease before coating and between coats.
- 751 STAINING WOOD
 - Primer: Apply, if recommended by stain manufacturer.
 - Application: Apply in flowing coats and brush out excess stain to produce uniform appearance.
- 760 VARNISHING WOOD
 - First coat: Thin with white spirit .
 - Brush well in and lay off avoiding aeration.
 - Subsequent coats: Provide light key along the grain between coats.
- 770 EXTERNAL DOORS
 - Bottom edges: Prime and coat before hanging doors.

N11 Domestic kitchen fittings, furnishings and equipment

To be read with Preliminaries/ General conditions.

PRODUCTS

- 310 FITTED BASE UNITS GENERALLY
- Standard: To BS 6222-2 and -3, and BS EN 14749.
 - Manufacturer: B&Q.
 - Product reference: Sandford Ivory Style Slab.
 - Structural performance: To BS 6222-2, test level G.
 - Dimensions: To BS EN 1116.
 - Surface finishes: To BS 6222-3.
 - Doors and drawer fronts:
 - Material: Plastics laminate.
 - Finish and colour: Client to choose.
 - Edges: Plastics strip.
 - Other requirements: None.
 - Side panels, plinths and shelves:
 - Material: Plastics laminate.
 - Finish and colour: Client to choose.
 - Edges: Plastics strip.
 - Accessories: None.
- 320 FITTED WALL UNITS GENERALLY
- Standard: To BS 6222-2 and -3, and BS EN 14749.
 - Manufacturer: B&Q.
 - Product reference: Sandford Ivory Style Slab.
 - Structural performance: To BS 6222-2, test level G.
 - Dimensions: To BS EN 1116.
 - Surface finishes: To BS 6222-3.
 - Doors and drawer fronts:
 - Material: Plastics laminate.
 - Finish and colour: Client to choose.
 - Edges: Plastics strip.
 - Other requirements: None.
 - Side panels and shelves:
 - Material: Plastics laminate.
 - Finish and colour: Client to choose.
 - Edges: Plastics strip.
 - Accessories: None.
- 340 WORKTOPS GENERALLY
- Standard: To BS 6222-3.
 - Manufacturer: B&Q.
 - Product reference: Sandford Ivory Style Slab.
 - Material: Laminate covered particle board.
 - Dimensions: Refer to drawings.
 - Exposed edges: Laminate.
 - Support: Base units.
 - Other requirements: None.

350 SINKS, TAPS, TRAPS AND WASTES GENERALLY

- Sinks:
 - Standard: To BS EN 13310.
 - Manufacturer: B&Q.
Product reference: Stainless steel inset type.
 - Configuration: Sink and a half with double drainer.
 - Overall size: 1000 x 600.
 - Material: Stainless steel .
Colour and finish: Brushed steel .
- Tap/ chainstay/ overflow holes: Client to choose.
- Taps: Client to choose.
 - Manufacturer: B&Q.
Product reference: Client to choose.
 - Operation: -.
 - Material: Chromed steel.
- Wastes: Plug and chain.
 - Standard: To BS EN 274-1, -2 and -3.
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Size: DN40.
 - Material: Chromed steel.
 - Tail: -.
- Traps: Tubular, P type.
 - Standard: To BS EN 274-1, -2 and -3.
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Size: DN40.
 - Material: Plastic.
 - Depth of seal (minimum): 75 mm.
- Accessories: Standing tube overflow and Support brackets.

390 SEALANT

- Standard: To BS EN ISO 11600, class F20 HM.
- Type: One part silicone.
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
- Colour: White.

EXECUTION

610 MOISTURE CONTENT OF WOOD AND WOOD BASED BOARDS

- Control and monitoring:
 - Method statement: Submit.

620 INSTALLATION GENERALLY

- Fixings and adhesives: As section Z20.
- Services: As Engineering Services specification.

630 INSTALLING UNITS AND WORKTOPS

- General: Well fitting, stable and secure.

640 INSTALLING APPLIANCES

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

650 INSTALLING SINKS, TAPS AND WASTES

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

660 SEALANT BEDDING AND POINTING

- Application: As section Z22.
- Bedding: Sink to top of worktop.
- Pointing: Between units and floors/splash backs.

670 INSTALLING TRIMS AND MOULDINGS

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

COMPLETION

910 GENERAL

- Doors and drawers: Accurately aligned, not binding. Adjusted to ensure smooth operation.
- Ironmongery: Checked, adjusted and lubricated to ensure correct functioning.

920 APPLIANCE COMMISSIONING

- Appliance operation, functions and controls: Verify.
- Documentation: Submit guarantees, instruction manuals, etc

N13 Sanitary appliances and fittings

To be read with Preliminaries/ General conditions.

PRODUCTS

300 WCS AND CISTERNS GENERALLY

- WC standard: To Defra WC suite performance specification or equivalent approved by relevant water company.
- Type: Close coupled cistern.
- Pan:
 - Standards: To BS EN 33 and BS EN 997, Class 2.
 - Manufacturer: Contractor's choice.
Product reference: Submit proposals.
 - Material: Vitreous china, white.
- Seat and cover:
 - Standard: To BS 1254.
 - Manufacturer: Contractor's choice.
Product reference: Submit proposals.
 - Material: MDF, veneered.
 - Finish/ Colour: Client to choose.
 - Soft close: Not required.
- Pan connector:
 - Standard: To BS 5627.
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Colour: White.
- Cistern:
 - Standard: To BS EN 997, Class 2.
 - Manufacturer: Contractor's choice.
Product reference: Submit proposals.
 - Material: Vitreous china.
 - Finish/ Colour: To match pan.
- Inlet valve: Cistern manufacturer's standard.
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Water supply connection: To suit application.
- Flushing arrangement: Cistern manufacturer's standard.
 - Manufacturer: Contractor's choice.
Product reference: Submit proposals.
 - Operating control: Push button, chrome plated.
 - Flush volume: Dual flush 6 or 4 L.
- Flush pipe: As applicable.
 - Manufacturer: Contractor's choice.
Product reference: Contractor's choice.
 - Material: Not applicable.
- Accessories: Overflow standpipe and connector.

335 WASH BASINS GENERALLY

- Standard: To BS EN 14688.
 - Overflow class: Contractor's choice.
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Size: 500 x 400 mm & 350 x 250mm.
- Material: Vitreous china, white.
- Configuration: Bracket-mounted.
- Tap/ Chainstay/ Overflow holes:
 - Two tap holes;
 - Chainstay hole; and
 - Overflow hole.
- Water supply fittings: Pillar taps.
 - Water supply temperature (maximum): User controlled.
 - Flow rate (maximum): 6 L/ min. at 3 bar.
 - Manufacturer: Contractor's choice.
 - Product reference: Submit proposals.
 - Operation: Manual.
- Wastes: Chain and plug.
 - Standards: To BS EN 274-1, -2 and -3.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Size: DN 30.
 - Material: Plastics, chrome plated.
 - Tail: -.
- Traps: Bottle.
 - Standards: To BS EN 274-1, -2 and -3.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Size: DN 30.
 - Material: Plastics, self colour.
 - Depth of seal (minimum): 75 mm.
- Accessories: None.

- 355 BATHS – RECTANGULAR
- Standard: To BS EN 14516, Class 1.
 - Manufacturer: Contractor's choice.
 - Product reference: Submit proposals.
 - Size: 1700 x 700 mm.
 - Volume to overflow (maximum): Manufacturer's standard.
 - Material: Cast acrylic, white.
 - Tap/ Chainstay/ Overflow holes: Two tap holes and Chainstay hole.
 - Water supply fittings: Pillar taps.
 - Water supply temperature (maximum): User controlled.
 - Flow rate (maximum): 6 L/ min. at 3 bar.
 - Manufacturer: Contractor's choice.
 - Product reference: Submit proposals.
 - Wastes: Chain and plug.
 - Standards: To BS EN 274-1, -2 and -3.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Size: DN 40.
 - Material: Plastics, self colour.
 - Tail: -.
 - Traps: Bottle.
 - Standards: To BS EN 274-1, -2 and -3.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Size: DN 40.
 - Material: Plastics, self colour.
 - Depth of seal (minimum): 50 mm.
 - Accessories: None.
- 447 BATH PANEL To Bathroom
- Manufacturer: Screwfix.
 - Product reference: Grove Grove bath front panel to go - 1700mm.
 - Material: Acrylic.
 - Finish/ Colour: White.
- 448 COOKER SPLASHBACK To Kitchen Cooker Position
- Manufacturer: Screfix.
 - Product reference: 600mm x 750mm x 6mm adhesive fixed toughened glass splash back.
 - Material: Impact Glass.
 - Finish/ Colour: Client to choose.
- 449 BATH SHOWER SCREEN To Bathroom
- Manufacturer: Screwfix.
 - Product reference: Raduis Edge semi-framed bath screen 1400mm x 6mm toughened safety glass.
 - Material: Aluminium/glass.
 - Finish/ Colour: Silver/clear.
- 580 SEALANT POINTING
- Standard: To BS EN ISO 11600..
 - Class: F20 HM.
 - Type: Silicone.
 - Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
 - Colour: White.

EXECUTION

610 INSTALLATION GENERALLY

- Assembly and fixing: Surfaces designed to falls to drain as intended.
- Fasteners: Nonferrous or stainless steel.
- Supply and discharge pipework: Fix before appliances.
- Fixing: Fix appliances securely to structure. Do not support on pipework.
- Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes being jointed or bedded.
- Appliances: Do not use. Do not stand on appliances.
- On completion: Components and accessories working correctly with no leaks.
- Labels and stickers: Remove.

620 NOGGINGS AND BEARERS

- Noggings, bearers, etc. to support sanitary appliances and fittings: Position accurately. Fix securely.

630 TILED BACKGROUNDS OTHER THAN SPLASHBACKS

- Timing: Complete before fixing appliances.
- Fixing appliances: Do not overstress tiles.

670 INSTALLING CISTERNS

- Cistern operating components: Obtain from cistern manufacturer.
- Inlet and flushing valves: Match to pressure of water supply.
- Internal overflows: Into pan, to give visible warning of discharge.
- External overflows: Fix pipes to falls and locate to give visible warning of discharge. Agree location where not shown on drawings.

710 INSTALLING TAPS

- Fixing: Secure against twisting.
- Seal with appliance: Watertight.
- Positioning: Hot tap to left of cold tap as viewed by user of appliance.

720 INSTALLING WASTES AND OVERFLOWS

- Bedding: Waterproof jointing compound.
- Fixing: With resilient washer between appliance and backnut.

755 SEALANT BEDDING AND POINTING

- Bedding: -.
- Pointing: Joints between appliances and splashbacks.
Joints between appliances and walls..

P10 Sundry insulation/ proofing work

- 5 EAVES ROOF VENTILATORS FOR EXISTING ROOFS
 - Manufacturer: Glidevale.
 - Product reference: SV2000 soffit & RV655 rafter tray.
 - Eaves free air space (minimum): As recommended in BRE Report 262.

- 10 LOFT INSULATION
 - Material: Rockwool.
 - Manufacturer: Rockwool.
 - Product reference: Rockwool Thermal insulation (split) roll.
 - Recycled content: Manufacturer's standard.
 - Depth/ Thickness: 100+200.
 - Installation: To manufacturer's instructions.

- 20 INSULATION TO LOFT ACCESS HATCHES
 - Material: Same as loft insulation.
 - Recycled content: Not applicable.
 - Thickness: Same as the loft insulation.
 - Installation requirements:
 - Fit: No gaps and securely fixed.
 - Edges of hatch: Sealed with a compressible draught excluder.

P11 Foamed/ fibre/ bead cavity wall insulation

To be read with Preliminaries/ General conditions.

- 130 SURVEY OF EXISTING WALLS
- Timing: Before starting insulation work.
 - Purpose: To confirm suitability for filling.
 - Report: Submit, stating:
 - Form of construction, materials used.
 - General condition of walls.
 - Thickness of walls.
 - Width and condition of cavity.
 - Exposure to wind driven rain.
 - Nature and extent of remedial work and other work required to ensure suitability.
 - Other information considered relevant.
- 140 REMEDIAL WORK TO EXISTING WALLS
- Responsibility: Contractor .
 - Work to be carried out: Rake/ Cut out recessed pointing and repoint with flush joints as C41 .
 - Approval: Obtain before starting insulation work.
- 170 SUITABILITY OF WALLS
- Timing: Before and during filling of cavities.
 - Defects: Report immediately.
- 230 CAVITY FILL
- Material: Expanded polystyrene granules or beads.
 - Type: Currently certified as suitable for the purpose and exposure situation by the British Board of Agrément (BBA).
 - U value before installation: estimated at 1.4W/m²k.
 - Required U value after installation: 0.55 W/m²k or better.
 - Recycled content: Not applicable.
 - Installer: Approved in accordance with the BBA Surveillance Scheme.
- 310 GAPS AND OPENINGS
- Gaps: Seal with tightly packed mineral wool to prevent loss of fill.
 - Openings: Fit approved sleeve to keep openings permanently clear.
 - Air bricks/ grilles of untrunked vents: Remove and seal openings into cavity.
- 320 INJECTION HOLES
- Arrangement: Form neatly to a regular pattern and to sizes recommended by cavity fill manufacturer.
 - Before commencing filling of each wall: Form all holes in that wall.
 - Precautions: Avoid damage to dpcs, cavity trays, flues, etc.
 - Debris: Prevent from falling into cavity.
- 330 MAKING GOOD
- Blockages: Remove from vents and refix or replace any air bricks.
 - Injection holes: Fill, replacing existing materials where possible.
 - Finished appearance: Obtain approval of first few holes before completing the remainder.

340 FLUES WITH NO APPLIANCE

- Blockages: Remove.
- Smoke test: Carry out if full inspection cannot be made.
 - Purpose: To ensure there is no leakage of gases from flue walls/ joints.

350 FLUES WITH AN APPLIANCE FITTED

- Test: Before and after filling cavities. Give notice before testing.
 - Purpose: To ensure there is no leakage of gases from flue walls/ joints.
- Blockages: Remove and retest until performance is satisfactory.

360 RECORDS

- Record of installation: Include survey results, materials, weather conditions and any unusual features.

370 DOCUMENTATION

- Certificates, records, guarantees and other documents: Submit on completion.

P20 Unframed isolated trims/ skirtings/ sundry items

To be read with Preliminaries/General conditions

200 MEDIUM DENSITY FIBREBOARD WINDOW SILL BOARDS

- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Standard: To BS EN 622-5.
 - Type: MDF.
 - Formaldehyde class: To BS EN 622-1, Class E1.
- Fire rating: Not applicable.
- Thickness: 25mm.
- Edges: Quarter rounded.
- Finish: Bullnosed.
- Recycled content: Contractor's choice.
- Support/ Fixing: Fix to softwood grounds with lost head nails at 600 mm centres..

510 INSTALLATION GENERALLY

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

P21 Door/ window ironmongery

To be read with Preliminaries/ General conditions.

PRE-TENDER

10 QUANTITIES AND LOCATIONS

- Quantities and locations of ironmongery are given in the schedules .
- Fixing: As sections L10 and L20.

GENERAL

120 IRONMONGERY RANGE SELECTED BY CONTRACTOR

- Source: Single coordinated range.
- Notification: Submit details of selected range, manufacturer and/ or supplier.
- Principal material/ finish: Anodized aluminium, colour chrome.
- Items unavailable within selected range: Submit proposals.

121 IRONMONGERY FROM SINGLE PROPRIETARY RANGE

- Manufacturer: Contractor's choice .
 - Product reference: Submit proposals .
- Principal material/ finish: Anodized aluminium .
- Items unavailable within selected range: Submit proposals.

180 STRENGTH CLASS OR CATEGORY OF DUTY FOR DOOR IRONMONGERY

- Requirement: To BS EN 1192, Class 1 - Light/private use.
- General: Durability of ironmongery components to be compatible with stated category of duty of each door leaf.
 - Exclusions: Ironmongery with specific duty or 'category of use' defined elsewhere.
 - Documentation: Before placing orders with suppliers submit documentation showing product compliance with stated category of duty.

P31 Holes, chases, covers and supports for services

To be read with Preliminaries/General conditions.

PRODUCTS

EXECUTION

- 620 HOLES, RECESSES AND CHASES IN IN SITU CONCRETE
- Cast in: Holes larger than 10 mm diameter, recesses and chases.
 - Cutting and drilling:
 - Permitted for holes not larger than 10 mm diameter.
 - Not permitted for holes larger than 10 mm diameter except as indicated on drawings.
- 650 HOLES, RECESSES AND CHASES IN MASONRY
- Locations: To maintain integrity of strength, stability and sound resistance of construction.
 - Sizes: Minimum needed to accommodate services.
 - Holes (maximum): 300 mm².
 - Walls of hollow or cellular blocks: Do not chase.
 - Walls of other materials:
 - Vertical chases: No deeper than one third of single leaf thickness, excluding finishes.
 - Horizontal or raking chases: No longer than 1 m. No deeper than one sixth of the single leaf thickness, excluding finishes.
 - Chases and recesses: Do not set back to back. Offset by a clear distance at least equal to the wall thickness.
 - Cutting: Do not cut until mortar is fully set. Cut carefully and neatly. Avoid spalling, cracking and other damage to surrounding structure.
- 670 NOTCHES AND HOLES IN STRUCTURAL TIMBER
- General: Avoid if possible.
 - Sizes: Minimum needed to accommodate services.
 - Position: Do not locate near knots or other defects.
 - Notches and holes in the same joist: Minimum 100 mm apart horizontally.
 - Notches in joists:
 - Position: Locate at top. Form by sawing down to a drilled hole.
 - Depth (maximum): 0.15 x joist depth.
 - Distance from supports: Between 0.1 and 0.2 x span.
 - Holes in joists:
 - Position: Locate on neutral axis.
 - Diameter (maximum): 0.25 x joist depth.
 - Centres (minimum): 3 x diameter of largest hole.
 - Distance from supports: Between 0.25 and 0.4 of span.
 - Notches in roof rafters, struts and truss members: Not permitted.
 - Holes in struts and columns: Locate on neutral axis.
 - Diameter (maximum): 0.25 x minimum width of member.
 - Centres (minimum): 3 x diameter of largest hole.
 - Distance from ends: Between 0.25 and 0.4 of span.

690 INSTALLING PIPE SLEEVES

- Sleeves: Fit to pipes passing through building fabric.
- Material: Match pipeline.
- Size: One or two sizes larger than pipe to allow clearance.
- Finish: Install sleeves flush with building finish. In areas where floors are washed down, install protruding 100 mm above floor finish.
- Masking plates: Fit at visible penetrations, including through false ceilings of occupied rooms.

710 SEALING Services Penetrations

- Service: All.
- Location: Pipe sleeves through walls and floors.
- Sealing material: Expanding foam.
- Method: Injection.
- Performance requirement: Moisture vapour and airtight.

Q40 Fencing

To be read with Preliminaries/ General conditions.

FENCING SYSTEMS

310 CLOSE BOARDED FENCING

- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Standard: To BS 1722-5, type -.
- Height: 1000 mm.
- Wood: Softwood.
 - Treatment: To provide a 15 year service life.
 - Finish: None.
- Boards/ rails: Softwood feather edged boards on arris rails.
- Posts: Concrete.
- Centres of posts (maximum): 1.83 m.
- Method of setting posts: 300 mm square or round holes, 600 mm deep filled to not less than half the depth with concrete .
- Accessories: Concrete gravel board and Single leaf gate.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-5.

EXECUTION

710 INSTALLATION GENERALLY

- Set out and erect:
 - Alignment: Straight lines or smoothly flowing curves.
 - Tops of posts: Following profile of the ground.
 - Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
 - Fixings: All components securely fixed.

715 COMPETENCE

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training.
 - NHSS Sector Scheme 2A sub categories: (a) and (c).
 - NHSS Sector Scheme 2C sub categories: Not required.

720 SETTING POSTS IN CONCRETE

- Standard: To BS 8500-2.
- Mix: Designated concrete not less than GEN1 or Standard prescribed concrete not less than ST2.
- Admixtures: Do not use.
- Holes: Excavate neatly and with vertical sides.
- Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

730 EXPOSED CONCRETE FOUNDATIONS

- Filling: Compact until air bubbles cease to appear on the upper surface.
- Finishing: Weathered to shed water and trowelled smooth.

766 ARRIS RAILS

- Fixing:
 - Rail end section: Shaped to adequately fill the post mortice or recess.
 - Recessed posts: Rails bolted to each post.
 - Top rails: Fixed at both ends using One 8 mm diameter bolt.
- Rails with split ends: Replace.

770 SITE CUTTING OF WOOD

- General: Kept to a minimum.
- Below or near ground level: Cutting prohibited.
- Treatment of surfaces exposed by minor cutting and drilling: Two flood coats of solution recommended for the purpose by main treatment solution manufacturer.

780 MAKING GOOD GALVANIZED SURFACES

- Treatment of minor damage (including on fasteners and fittings): Low melting point zinc alloy repair rods or powders made for this purpose, or at least two coats of zinc-rich paint to BS 4652.
- Thickness: Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

R10 Rainwater drainage systems

To be read with Preliminaries/ General conditions.

GENERAL

110 GRAVITY RAINWATER DRAINAGE SYSTEM

- Rainwater outlets: None.
- Gutters: PVC-U.
- Pipework: PVC-U, external.
- Below ground drainage: Existing.
- Disposal: To existing surface water drainage.
- Controls: Not applicable.
- Accessories: None.

SYSTEM PERFORMANCE

210 DESIGN

- Design: Complete the design of the rainwater drainage system.
- Standard:
 - To BS EN 12056-3, clauses 3–7, Annex A and National Annexes.
 - To BS EN 12056-5, clauses 3, 4, 6 and 11.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

221 COLLECTION AND DISTRIBUTION OF RAINWATER

- General: Complete, and without leakage or noise nuisance.

230 DESIGN PARAMETERS - GENERAL

- Roof and gutter construction and finish: Drainage of existing pitch and flat roofs.
- Design rate of rainfall: As BS EN 12056-3, National Annex NB.2.
 - Category: Domestic.
- Design life of building: 30 years.
- Available capacity of existing below ground drainage (maximum): Not known.

PRODUCTS

350 PVC-U GUTTERS

- Standard: To the relevant parts of BS EN 607 and BS EN 1462, Kitemark certified.
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Recycled content: None permitted.
- Profile: Half round.
- Nominal size: 100 mm.
- Colour: Black.
- Brackets: As recommended by manufacturer.
 - Fixings: Stainless steel screws.
 - Size: As recommended by manufacturer.
- Accessories: Gutter stop ends.

360 SEALANT FOR GUTTERS

- Type: As recommended by manufacturer.

EXECUTION

600 PREPARATION

- Work to be completed before commencing work specified in this section:
 - Below ground drainage. Alternatively, make temporary arrangements for dispersal of rainwater without damage or disfigurement of the building fabric and surroundings.
 - Painting of surfaces which will be concealed or inaccessible.

605 INSTALLATION GENERALLY

- Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
- Plastics and galvanized steel pipes: Do not bend.
- Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Protection:
 - Fit purpose made temporary caps to prevent ingress of debris.
 - Fit access covers, cleaning eyes and blanking plates as the work proceeds.

610 FIXING AND JOINTING GUTTERS

- Joints: Watertight .
- Brackets: Securely fixed.
 - Fixings: Screwed into softwood fascia board .
 - Fixing centres: 600 mm .
 - Additional brackets: Where necessary to maintain support and stability, provide at joints in gutters and near angles and outlets.
- Roofing underlay: Dressed into gutter.

615 SETTING OUT EAVES GUTTERS - TO FALLS

- Setting out: To true line and even gradient to prevent ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Outlets: Align with connections to below ground drainage.

630 INSTALLING RAINWATER OUTLETS

- Fixing: Secure. Fix before connecting pipework.
 - Method: Support plate and clamp.
- Junctions between outlets and pipework: Accommodate movement in structure and pipework.

635 FIXING PIPEWORK

- Pipework: Fix securely, plumb and/ or true to line.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
- Vertical pipes:
 - Provide a loadbearing support at least at every storey level.
 - Tighten fixings as work proceeds so that every storey is self supporting.
 - Wedge joints in unsealed metal pipes to prevent rattling.
- Wall and floor penetrations: Isolate pipework from structure.
 - Pipe sleeves: As section P31.
 - Masking plates: Fix at penetrations if visible in the finished work.
- Expansion joint pipe sockets: Fix rigidly to buildings. Elsewhere, provide brackets and fixings that allow pipes to slide.

640 FIXING VERTICAL PIPEWORK

- Bracket fixings: Plugged and screwed into masonry.
- Distance between bracket fixing centres (maximum): 1800 mm.

650 JOINTING PIPEWORK AND GUTTERS

- General: Joint with materials and fittings that will make effective and durable connections.
- Jointing differing pipework and gutter systems: Use adaptors intended for the purpose.
- Cut ends of pipes and gutters: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Strike off flush. Do not allow it to project into bore of pipes and fittings.
- Surplus flux, solvent jointing materials and cement: Remove.

685 IDENTIFICATION OF INTERNAL RAINWATER PIPEWORK

- Standard: In accordance with Water Regulations Advisory Scheme (WRAS) Information and guidance note 9-02-05 and BS 8515.

COMPLETION

910 GUTTER TEST

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

R11 Above ground foul drainage systems

To be read with Preliminaries/ General conditions.

GENERAL

SYSTEM PERFORMANCE

210 DESIGN

- Design: Complete the design of the above ground foul drainage system.
- Standards: To BS EN 12056-1 and BS EN 12056-2, and in accordance with BS EN 12056-2 National Annexes NA-NG.
 - System type to BS EN 12056-2: System III.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

220 COLLECTION AND DISTRIBUTION OF FOUL WATER

- General: Quick, quiet and complete, self-cleansing in normal use, without blockage, crossflow, backfall, leakage, odours, noise nuisance or risk to health.
- Pressure fluctuations in pipework (maximum): ± 38 mm water gauge.
- Water seal retained in traps (minimum): 25 mm.

PRODUCTS

350 MUPVC OR PVC-C PIPEWORK Waste pipes

- Material and standard:
 - MUPVC: To BS 5255 and Kitemark certified; or
 - PVC-C: To BS EN 1566-1, and Kitemark certified.Application area code: B.
Opening dimensions of access fittings, design of swept fittings, stand off dimensions of pipe and fitting brackets and requirements for adaptors and plugs: To BS 4514.
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Nominal sizes: DN 32 for basins and DN50 for Kitchen/Utility Room sinks.
- Colour: White where exposed internally.
- Brackets: Plastics pipe clips, colour to match pipes.
 - Fixings: Plated steel woodscrews.
Size: 25 x 4 mm.
- Accessories: As drawings.

365 PVC-U PIPEWORK - FOR DISCHARGE STACKS

- Standard: To BS EN 1329-1, Kitemark certified.
 - Weather resistance, connectors to WC pans, opening dimensions of access fittings, design of swept fittings, stand off dimensions of pipe and fitting brackets and requirements for adaptors and plugs: To BS 4514.
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Nominal size: DN 110.
- Colour: Black.
- Brackets: Plastics pipe clips, colour to match pipes.
 - Fixings: Stainless steel screws.
Size: 50 x 5 mm.
- Accessories: Access fittings and Plastics cages.

EXECUTION

601 INSTALLATION GENERALLY

- Standard: To BS EN 12056-5.
- Components: From the same manufacturer for each type of pipework.
- Electrolytic corrosion: Avoid contact between dissimilar metals where corrosion may occur.
- Plastics and galvanized steel pipes: Do not bend.
- Allowance for thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Concealed or inaccessible surfaces: Decorate before starting work specified in this section.
- Protection:
 - Purpose made temporary caps: Fit to prevent ingress of debris.
 - Access covers, cleaning eyes and blanking plates: Fit as the work proceeds.

605 PIPE ROUTES

- General: The shortest practical, with as few bends as possible.
 - Bends in wet portion of soil stacks: Not permitted.
 - Routes not shown on drawings: Submit proposals before commencing work.

610 FIXING PIPEWORK

- Pipework: Fix securely plumb and/ or true to line. Fix discharge stack pipes at or close below socket collar or coupling.
- Branches and low gradient sections: Fix with uniform and adequate falls to drain efficiently.
- Externally socketed pipes and fittings: Fix with sockets facing upstream.
- Additional supports: Provide as necessary to support junctions and changes in direction.
- Vertical pipes: Provide a load bearing support not less than every storey level. Tighten fixings as work proceeds so that every storey is self supporting.
- Wall and floor penetrations: Isolate pipework from structure, e.g. with pipe sleeves.
 - Masking plates: Fix at penetrations if visible in the finished work.
- Expansion joint sockets: Fix rigidly to the building.
- Fixings: Allow the pipe to slide.

630 JOINTING PIPEWORK - GENERALLY

- General: Joint with materials, fittings and techniques that will make effective and durable connections.
- Jointing differing pipework systems: With adaptors intended for the purpose.
- Cut ends of pipes: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Junctions: Form with fittings intended for the purpose.
- Jointing material: Do not allow it to project into bore of pipes and fittings.
- Surplus flux, solvent jointing materials and cement: Remove from joints.

660 JOINTING PIPEWORK - ABS, MUPVC, PVC-C AND PVC-U

- Jointing: Solvent welded.

695 DISCHARGE AND VENTILATING STACKS

- Terminations: Perforated cover or cage that does not restrict airflow.
 - Material: Plastics, as discharge stack.

COMPLETION

905 PIPEWORK AIRTIGHTNESS TEST

- Preparation:
 - Open ends of pipework: Temporarily seal using plugs.
 - Test apparatus: Connect a 'U' tube water gauge and air pump to pipework via a plug or through trap of an appliance.
- Testing: Pump air into pipework until gauge registers 38 mm.
- Required performance: Pressure of 38 mm is to be maintained without loss for at least three minutes.

915 PREHANDOVER CHECKS

- Temporary caps: Remove.
- Permanent blanking caps, access covers, rodding eyes, floor gratings and the like: Secure complete with fixings.

R12 Below ground drainage systems

To be read with Preliminaries/ General conditions.

GENERAL

SYSTEM PERFORMANCE

PRODUCTS

313 ONE PIECE GULLIES - BACK INLET

- Standards: To BS EN 1253-1, -2, -3, -4 and -5; or
 - Cast iron: To BS 437 and Kitemark certified, or Agrément certified.
 - Clay: To BS EN 295-1 and Kitemark certified, or Agrément certified.
 - Concrete: To BS 5911-6 and Kitemark certified, or Agrément certified.
 - Plastics: To BS 4660 and Kitemark certified, or Agrément certified.
 - Polypropylene: To BS EN 1852-1.
- Material: Plastics.
- Manufacturer: Contractor's choice.
 - Product reference: Contractor's choice.
- Sizes: Contractor's choice.
- Outlet sizes: DN 100.
- Silt buckets: Plastics.
 - Product reference: Contractor's choice.

EXECUTION

610 STRIPPING OUT

- Extent of stripping out: Local to building.
- Exposed ends of existing drainage to be abandoned: Seal with concrete.

611 EXISTING DRAINS

- Setting out: Before starting work, check invert levels and positions of existing drains, sewers, inspection chambers and manholes against drawings. Report discrepancies.
- Protection: Protect existing drains to be retained and maintain normal operation if in use.

613 EXCAVATED MATERIAL

- Turf, topsoil, hardcore, etc: Set aside for use in reinstatement.

616 SELECTED FILL FOR BACKFILLING

- Selected fill: As-dug material, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve.
 - Compaction: By hand in 100 mm layers.

623 LOWER PART OF TRENCH - GENERAL

- Trench up to 300 mm above crown of pipe: Vertical sides, width as small as practicable.
 - Width (minimum): External diameter of pipe plus 300 mm.

631 TYPE OF SUBSOIL

- General: Where type of subsoil at level of crown of pipe differs from that stated for the type of bedding, surround or support, give notice.

635 FORMATION FOR BEDDINGS

- Timing: Excavate to formation immediately before laying beddings or pipes.
- Mud, rock projections, boulders and hard spots: Remove. Replace with consolidated bedding material.
- Local soft spots: Harden by tamping in bedding material.
- Inspection of excavated formations: Give notice.

680 CONCRETE SURROUND FOR PIPE RUNS NEAR FOUNDATIONS

- Class Z surround: Provide in locations where bottom of trench is lower than bottom of foundation and as follows (horizontal clear distance between nearest edges of foundations and pipe trenches):
 - Trenches less than 1 m from foundations: Top of concrete surround not lower than bottom of foundation.
 - Trenches more than 1 m from foundations: Top of concrete surround not lower than D mm below bottom of foundation, where D mm is horizontal distance of trench from foundation, less 150 mm.

683 LAYING PIPELINES

- Laying pipes: To true line and regular gradient on even bed for full length of barrel with sockets (if any) facing up the gradient.
- Ingress of debris: Seal exposed ends during construction.
- Timing: Minimize time between laying and testing.

685 JOINTING PIPELINES

- Connections: Durable, effective and free from leakage.
- Junctions, including to differing pipework systems: With adaptors intended for the purpose.
- Cut ends of pipes: Clean and square. Remove burrs and swarf. Chamfer pipe ends before inserting into ring seal sockets.
- Jointing or mating surfaces: Clean and, where necessary, lubricate immediately before assembly.
- Allowance for movement: Provide and maintain appropriate clearance at ends of spigots as fixing and jointing proceeds.
- Jointing material: Do not allow to project into bore of pipes and fittings.

689 PIPELINES PASSING THROUGH STRUCTURES

- Pipelines that must be cast in or fixed to structures (including manholes, catchpits and inspection chambers): Provide 600 mm long rocker pipes adjacent to the external face of the structure (or both faces where appropriate, e.g. walls to footings), with flexible joints at both ends.
 - Distance to rocker pipe from structure (maximum): 150 mm.
- Provision for movement for pipelines that need not be cast in or fixed to structures (e.g. walls to footings):
 - Rocker pipes as specified above; or
 - Openings in the structures to give 50 mm minimum clearance around the pipeline. Closely fit a rigid sheet to each side of opening to prevent ingress of fill or vermin.

691 BENDS AT BASE OF SOIL STACKS

- Type: Nominal 90° rest bends.
 - Radius to centreline of pipe (minimum): 800 mm.
- Height of invert of horizontal drain at base of stack below centreline of lowest branch pipe (minimum): 450 mm.
- Bedding: Do not impair flexibility of pipe couplings.
 - Material: Concrete.

697 INSTALLING FLEXIBLE COUPLINGS

- Ends of pipes to be joined: Cut cleanly and square.
- Outer surfaces of pipes to be joined: Clean and smooth. Where necessary, e.g. on concrete or iron pipes, smooth out mould lines and/ or apply a cement grout over the sealing area.
- Clamping bands: Tighten carefully to make gastight and watertight seals.

705 INITIAL TESTING OF PIPELINES

- Before testing:
 - Cement mortar jointing: Leave 24 h.
 - Solvent welded pipelines: Leave 1 h.
- Method: Block open ends of pipelines to be tested and pressurise. Air test short lengths to BS EN 1610.

715 BACKFILLING TO PIPELINES

- Backfilling above top of surround or protective cushion: Material excavated from trench, compacted in layers 300 mm (maximum) thick.
- Heavy compactors: Do not use before there is 600 mm (total) of material over pipes.

720 BACKFILLING UNDER ROADS AND PAVINGS

- Backfilling from top of surround or protective cushion up to formation level: Granular sub-base material, laid and compacted in 150 mm layers.

734 INSTALLING ACCESS POINTS AND GULLIES

- Bedding:
 - Material: Granular - manufactured, size 4/10 to BS EN 13242 .
 - Thickness (minimum): 150 mm.
- Surround:
 - Material: Concrete.
 - Thickness (minimum): 100 mm.
 - Height: Full height.
- Backfilling:
 - Material: Granular - manufactured, size 4/10 to BS EN 13242, to 100 mm above crown of pipes, then selected fill.
 - Compaction: By hand in 100 mm layers.
- Setting out relative to adjacent construction features: Square and tightly jointed.
- Permissible deviation in level of external covers and gratings: +0 to -6 mm.
- Raising pieces (clay and concrete units): Joint with 1:3 cement:sand mortar.
- Exposed openings: Fit purpose made temporary caps. Protect from site traffic.

COMPLETION

901 REMOVAL OF DEBRIS AND CLEANING

- Preparation: Lift covers to manholes, inspection chambers and access points. Remove mortar droppings, debris and loose wrappings.
 - Timing: Before cleaning, final testing, CCTV inspection if specified, and immediately before handover.
- Cleaning: Thoroughly flush pipelines with water to remove silt and check for blockages. Rod pipelines between access points if there is any indication that they may be obstructed.
- Washings and detritus: Do not discharge into sewers or watercourses.
- Covers: Securely replace after cleaning and testing.