The Almonry-10205- S1-Materials & workmanship Specification

20 December 2019

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Masonry

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Accessories/ sundry items for brick/ block/ stone walling

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

1 TO BE READ WITH STRUCTURAL ENGINEER'S SPECIFCATION

5 CAVITIES

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

6 PREVENTION OF THERMAL BRIDGE

Foamglas (Load Bearing) Perimeter Insulation - Perinsul HL

" Manufacturer: FOAMGLAS®
Web: www.foamglas.co.uk
Email: info@foamglas.co.uk
Tel: +44 (0)20 7492 1731
Fax: +44 (0)20 7492 1730
Address: 31-35 Kirby Street, Hatton Garden, London EC1N 8TE

" Product reference: 5.2 Walls - Prevention of Thermal Bridging - Foamglas Perimeter Insulation - Perinsul HL

" Mounting bituminous waterproofing membrane: As section J40

" Insulation:
- Type: Foamglas® Perinsul HL, laid in a bed of mortar
- Dimensions: 140 mm x 140 mm

7 PERPEND JOINT WEEP HOLES

- Form: Open clear perpend joint.
- Locations: Through outer leaf, immediately above base of cavity, at cavity trays, stepped dpcs and over openings. 75 mm above top of cavity fill at base of cavity.
- Provision: At not greater than 1000 mm centres and not less than two over openings.

15 AIR BRICKS IN EXTERNAL WALLING

- Standard: To BS 493, class 1.
- Manufacturer: Broughtons.
  - Product reference: Cast Iron Honeycomb.
- Apertures: Hexagonal.
- Work sizes: 232 mm x 80 mm.
- Material/ colour: cast iorn.
- Placement: Built in with no gaps at joints.

15A DUCT ADAPTER FOR AIR BRICKS IN EXTERNAL WALLING

- Manufacturer: Manrose.
  - Product reference: Round to rectangular adaptor ref #: 55700.
- Work sizes: 204 mm x 60 mm.
- Placement: Sealed to back of air brick.

18B CAVITY CLOSERS

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Kingspan Thermabate 110.
- Accessories: Standard flange clip.

44A DAMP PROOF COURSE

- Manufacturer: Visqueen.
  - Web: www.visqueen.com.
  - Product reference: Visqueen Zedex Bitumen DPC
- Width: 150mm.
- Accessories:
  - Detailing Strip;
  - DPC Jointing Tape;
  - High performance tanking primer; and
  - Surface Fixing System.

62 SITE FORMED DPC/ CAVITY TRAY JUNCTIONS/ STOP ENDS

- Three dimensional changes in shape: Form to provide a free draining and watertight installation.
- Alternative use of preformed cloaks/ stop ends: Submit proposals.

66 INSTALLATION OF HORIZONTAL DPCS

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

68 SEALING OF DPCS GENERALLY

- Overlaps and junctions: Seal with Adhesive recommended by dpc manufacturer .

74 INSTALLATION OF VERTICAL DPCS

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

86 TILE SILLS

- Tiles: Plain clay to BS EN 1304.
  - Manufacturer: Submit proposals.
    Product reference: To match existing.
  - Size: To match existing.
- Placement: Two courses, broken jointed on full bed of 1:¼:3 cement:lime:sand mortar as section Z21.
- Joints: Full and finished flush.

H
Cladding/Covering

H60
Plain roof tiling

H60 Plain roof tiling

3A ROOF TILING To recovered roofs

- Substrate: Existing timber roof structure.
- Pitch: As existing.
- Underlay: Reinforced bitumen membrane to BS 8747, type 1F.
  - Recycled content: Submit proposals.
  - Head-lap (minimum): 100 mm.
- Battens:
  - Size: 38 x 25 mm.
  - Fixing: 65 x 3.5mm stainless steel annular ring shank nails.
- Tiles: Clay to BS EN 1304.
  - Manufacturer:
    Aldershaw
    Pokehold Wood
    Kent Street
    Sedlescombe
    Nr. Battle
    East Sussex
    TN33 0SD

    Tel: 01424 756777.
    Product reference: Dark antique 66%, Medium antique 33%.
  - Pattern: Well mixed.
  - Colour: Terracotta.
  - Size: as existing.
  - Recycled content: Not applicable .
  - Head-lap (minimum): 65 mm.
  - Fixing:
    Fixing of local areas: Two nails per tile in every course .
    Fixing of general areas: Two nails per tile in every fourth course .

10A VERTICAL TILING Generally

- Substrate: Existing timber frame.
- Underlay: Reinforced bitumen membrane to BS 8747, type 1F.
  - Recycled content: 0% (minimum) to BS EN ISO 14021.
  - Head-lap (minimum): 100 mm.
- Battens:
  - Size: 38 x 25 mm.
  - Fixing: 65 x 3.35 mm stainless steel annular ring shank nails.
- Tiles: Clay to BS EN 1304.
  - Manufacturer:
    Aldershaw
    Pokehold Wood
    Kent Street
    Sedlescombe
    Nr. Battle
    East Sussex
    TN33 0SD

    Tel: 01424 756777.
    Product reference: Restoration Red to match existing.
  - Pattern: None.
  - Colour: Terracotta.
  - Size: To match existing.
  - Recycled content: Retain as many of the original tiles as possible.
  - Head-lap (minimum): As existing.
  - Fixing: Two nails each tile.

    New tiling should be laid in accordance with BS5534 parts I and II Code of Practice for Slating and Tiling, and BS8000 Part 6 Code of Practice for workmanship on building sites for roof, slate, tile coverings and cladding. Tiles to be laid across the elevation horizontally not vertically.

    Install new battens (and counter battens if necessary), dimensions, species and cut (riven or sawn) to match existing.
    Breather membrane: Type 1F
    Install new treated softwood tilting fillet and code 5 lead flashing. Flashing to be dressed under breather membrane and over tilting fillet

    At abutments which finish square, the tiles should be cut and weathered with lead soakers or cover flashings as necessary, leaving a neat narrow parallel gap between the tiling and the abutment. At raking abutments, which would be found on a gable wall for example, the tiles should be splay cut.

20 REMOVE EXISTING TILING

- General: Carefully remove tiles, battens, underlay, etc. with minimum disturbance of adjacent retained tiling.
- Undamaged tiles: Set aside for reuse.

25 UNDERLAY

- Laying: Maintain consistent tautness.
- Vertical laps (minimum): 100 mm wide, coinciding with supports.
- Fixing: Galvanized steel, copper or aluminium 20 x 3 mm extra large clout head nails.
- Eaves: Where exposed, use an external grade (UV resistant) underlay or a proprietary eaves support product.
- Penetrations: Use proprietary underlay seals or cut underlay neatly.

30 BATTENS/ COUNTERBATTENS

- Timber: Sawn softwood.
  - Standard: In accordance with BS 5534, Annex D.
  - Moisture content at time of fixing and covering (maximum): 22%.
- Preservative treatment: As section Z12 Wood Protection Association Commodity Specification C8.
  - Type: Copper-organic.

32 BATTEN FIXING

- Batten length (minimum): Sufficient to span over three supports.
- Joints in length: Butt centrally on supports. Joints must not occur more than once in any group of four battens on one support.
- Additional battens: Provide where unsupported laps in underlay occur between battens.

35 TILE FIXING

- General: Fix tiling and accessories to make the whole sound and weathertight at earliest opportunity.
- Exposed fittings and accessories: To match tile colour and finish.
- Setting out: To true lines and regular appearance. Lay tiles to a half lap bond with joints slightly open. Align tails.
- Cut tiles: Cut only where necessary, to give straight, clean edges.
- Ends of courses: Use tile and a half tiles to maintain bond and to ensure that cut tiles are as large as possible.
- Top and bottom courses: Use eaves/ tops tiles to maintain gauge.
- Perimeter tiles: Twice nail end tile in every course. Twice nail or clip two courses of tiles at eaves and top edges.
- Fixings: Nails/ clips as recommended by tile manufacturer.

37 LOCAL AND GENERAL FIXING AREAS

- Definitions:
  - Local areas: Bands of tiling around all edges or obstructions of each plane of the roof. Calculate extent of each band in accordance with BS 5534, section 5.
  - General areas: Remaining areas of roof tiling.

40 MORTAR BEDDING/ POINTING

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

42 FIRE SEPARATING WALLS

- Separating wall: Completely fill space between top of wall and underside of tiles with mineral wool quilt to provide fire stopping.
- Boxed eaves: Completely seal air paths in plane of separating wall with wire reinforced mineral wool, not less than 50 mm thick, to provide fire stopping.

52 BEDDED VERGES WITH BEDDED UNDERCLOAK

- Underlay: Carry 50 mm onto outer leaf of gable wall and bed on mortar.
- Undercloak: Matching plain tiles, sloping towards verge and projecting 38-50 mm beyond face of wall.
  - Bedding: On mortar identical to that used in gable walling.
- Tiling battens: Carry onto undercloak and finish 100 mm from verge edge.
- Verge tiles: Bed flush with undercloak on 75 mm wide bed of mortar.

57 MORTAR BEDDED AND MECHANICALLY FIXED HIPS

- Underlay: Lay courses over hip. Overlap (minimum) 150 mm.
- Hip tile fixing battens: To suit bonnet hip.
- Roof tiles: Cut and fix closely at hip.
- Hip irons: Galvanized steel in accordance with BS 5534, clause 4.15.4. Fix to hip rafter or hip batten with galvanized steel screws.
- Hip tiles:
  - Manufacturer:
    Aldershaw
    Pokehold Wood
    Kent Street
    Sedlescombe
    Nr. Battle
    East Sussex
    TN33 0SD

    Tel: 01424 756777.
    Product reference: Bonnet Hip Tiles.
  - Bedding: On mortar, continuous to edges and solid to joints.
  - Fixing: Secure all hip tiles to hip rafters or hip fixing battens with self-sealing non-ferrous through fixings.
  - Bottom hip tiles: Shape neatly to align with corner of eaves and fill ends with mortar and slips of tile finished flush.

59 BONNET HIPS

- Underlay: Lay courses over hip. Overlap (minimum) 150 mm.
- Bonnet hip tiles:
  - Product reference: Aldershaw bonnet hips.
  - Bedding: In mortar, neatly struck back about 13 mm. Course in with roof tiling.
  - Fixing: Secure with nails.
  - Bottom hip tiles: Fill ends with mortar and tile slips finished flush.

67 CURVED PLAIN TILE VALLEYS

- Underlay: Lay strips not less than 600 mm wide centred on valleys. Overlap with general roof underlay.
- Curved valley tiles:
  - Product reference: Aldershaw valley tiles.
- Roof tiles: Cut adjacent tiles to fit neatly.

70 SIDE ABUTMENTS

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

71 TOP EDGE ABUTMENTS

- Underlay: Turn up not less than 100 mm at abutments.
- Top course tiles: Fix close to abutments.

75 DRY VENTILATED RIDGES

- Underlay: Lay top courses to provide an air gap at apex.
- Dry ridge tiles:
  - Manufacturer: Nicholsons.
    Product reference: Airtrak.
- Ridge terminals: Not required.

77 MORTAR BEDDED AND MECHANICALLY FIXEDRIDGES

- Underlay: Lay courses over ridge. Overlap (minimum) 100 mm.
- Ridge tile fixing battens: As recommended by Aldershaw.
- Ridge tiles:
  - Manufacturer: Aldershaw
    Pokehold Wood
    Kent Street
    Sedlescombe
    Nr. Battle
    East Sussex
    TN33 0SD

    Tel: 01424 756777.
    Product reference: Hogs back ridge with block ends.
  - Bedding: On mortar, continuous to edges and solid to joints.
  - Fixing: Secure all ridge tiles to ridge boards or ridge tile fixing battens with self-sealing non-ferrous fixings.
  - Gable end ridge tiles: Fill ends with mortar and slips of tiles finished flush.
- Ridge terminals: Not required.

90 VERTICAL TILING BOTTOM EDGES

- Tiling substrate work: Fix timber tilting fillet to support bottom course of tiles in correct vertical plane. Fix flashing to tilting fillet.
- Underlay: Dress over flashing.
- Undercourse and bottom course tiles: Fix with tails neatly aligned.

91 VERTICAL TILING TOP EDGES

- Top course tiles: Fix under abutment and make weathertight with flashing dressed down not less than 150 mm.

92 VERTICAL TILING SIDE ABUTMENTS

- Tiling substrate work: Chase abutment wall and insert metal stepped flashing.
  - Flashing: Return not less than 75 mm behind tiling, overlapping underlay and battens, turn back to form a vertical welt.
- Abutment tiles: Cut and fix neatly.

93 VERTICAL TILING ANGLE WITH ANGLE TILES

- Angle tiles: Fix right and left hand in alternate courses to break bond.
- Adjacent tiles: Cut and fix neatly.

H71
Lead sheet coverings/ flashings

H71 Lead sheet coverings/ flashings

2 ROOFING

- Underlay: Needle punched nonwoven polyester geotextile.
- Lead:
  - Thickness: 2.50 or 2.65 mm (Code 6).
- Joints in direction of fall: Wood cored roll with splash lap.
  - Spacing: 600 mm.
- Cross joints: 150 mm laps with copper clips at bay centres.
  - Spacing: Regular, not more than 2250 mm.
- Intermediate fixings: not required.
- Accessories: Apply chalk slurry coat to underside of lead and allow to dry before laying.

20 WEATHERING TO SHALLOW BAY WINDOWS

- Underlay: Waterproof building paper.
- Lead:
  - Thickness: 2.50 or 2.65 mm (Code 6).
- Joints: Welted.
  - Spacing: 300 mm.
- Edge details: Welted drip at front, upstand at rear with tuck in.
- Fixing: Lead clips at 500 centres.

25 RIDGE/ HIP ROLLS TO LEAD ROOFS

- Core: Rounded timber.
  - Size: 70 x 45 mm tapering to a flat base 30 mm wide.
  - Fixing: To ridge/ hip board with brass or stainless steel countersunk screws at 600 mm centres.
- Roof covering: Dress roofing sheets up roll.
- Capping: Lead of the same thickness as the roof, in lengths not more than roof sheet lengths. Wings to extend not less than 75 mm on to roof.
  - Laps in length: Not less than 150 mm for ridges, 100 mm for hips.
- Fixing: Secure wings with copper or stainless steel clips at roofing bay centres and laps.

27 SOAKERS FOR MITRED HIPS TO SLATE/ PLAIN TILE ROOFS

- Lead:
  - Thickness: 1.25 or 1.32 mm (Code 3).
- Dimensions:
  - Length: Slate/ tile gauge + lap + 25 mm.
  - Underlap: Not less than 150 mm.

30 APRON FLASHINGS AT LEAN-TO TOP ABUTMENT

- Lead:
  - Thickness: 1.75 or 1.80 mm (Code 4).
- Dimensions:
  - Lengths: Not more than 1500 mm.
  - End to end joints: Laps not less than 100 mm.
  - Upstand not less than 75 mm.
  - Cover to abutment: Not less than 150 mm.
- Fixing:
  - Top edge: Lead wedges into bed joint.
  - Bottom edge: Clips.
    Material: Lead.
    Spacing: At laps and 500 mm centres.

35 COVER FLASHINGS

- Lead:
  - Thickness: 1.75 or 1.80 mm (Code 4).
- Dimensions:
  - Lengths: Not more than 1500 mm.
  - End to end joints: Laps of not less than 100 mm.
  - Cover: Overlap to upstand not less than 75 mm.
- Fixing:
  - Top edge: Lead wedges into bed joint.
  - Bottom edge: Clips.
    Material: Lead.
    Spacing: 500 mm centres.

41 SOAKERS AND STEP FLASHINGS Generally

- Lead soakers:
  - Lead:
    Thickness: 1.25 or 1.32 mm (Code 3).
  - Dimensions:
    Length: Slate/ tile gauge + lap + 25 mm.
    Upstand: Not less than 75 mm.
    Underlap: Not less than 100 mm.
- Lead step flashings:
  - Lead:
    Thickness: 1.75 or 1.80 mm (Code 4).
  - Dimensions:
    Lengths: Not more than 1500 mm.
    End to end joints: Laps not less than 100 mm.
    Cover: Overlap to soaker upstands of not less than 65 mm.
  - Fixing: Lead wedges at every course.

50 FLASHINGS Generally

- Lead:
  - Thickness: 2.00 or 2.24 mm (Code 5).
- Dimensions:
  - Lengths: Not more than 1500 mm.
- Fixing: Nail top edge at 150 mm centres and welt edge. Clip bottom edge at laps and 500 mm centres..

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 150 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.

54 VERTICAL TILING/ SLATING BOTTOM EDGE FLASHINGS

- Lead:
  - Thickness: 1.75 or 1.80 mm (Code 4).
- Dimensions:
  - Lengths: Not more than 1500 mm.
  - End to end joints: Laps not less than 100 mm.
  - Width: Adequate for underlap to underlay, dressing over tilting fillet, and welted drip or straight cut bottom edge.

55 VERTICAL TILING/ SLATING TOP EDGE FLASHINGS

- Lead:
  - Thickness: 1.75 or 1.80 mm (Code 4).
- Dimensions:
  - Lengths not exceeding 1500 mm.
  - End to end joints: Laps not less than 100 mm.
  - Width: Adequate for underlap to abutment and dressing down over tiles/ slates not less than 150 mm.

56 VERTICAL TILING/ SLATING SIDE ABUTMENT STEP FLASHINGS

- Lead:
  - Thickness: 1.75 or 1.80 mm (Code 4).
- Dimensions:
  - Lengths: Not more than 1500 mm.
  - End to end joints: Laps not less than 100 mm.
- Width: Adequate for not less than 75 mm underlap with welted edge to tiles/ slates and not less than 50 mm cover to abutment.

57 VERTICAL SLATING ANGLE SOAKERS

- Lead:
  - Thickness: 1.25 or 1.32 mm (Code 3).
- Dimensions:
  - Length: Tile/ slate gauge + lap + 25 mm.
  - Underlaps: Not less than 150 mm at any point.

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.

64A GEOTEXTILES

- Manufacturer: Associated Lead Mills.
  - Web: www.associatedlead.co.uk.
  - Product reference: Geotec.

75 TIMBER FOR USE WITH LEADWORK

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

76 UNDERLAY

- Handling: Prevent tears and punctures.
- Laying: Butt or overlap jointed onto a dry substrate.
  - Fixing edges: With copper or stainless steel staples or clout nails.
  - Do not lay over roof edges.
  - Turn up at abutments.
- Wood core rolls: Fixed over underlay.
- Protection: Keep dry and cover with lead at the earliest opportunity.

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.

80 CLIPS

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

83 WEDGE FIXING INTO JOINTS/ CHASES

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

92 WOOD CORED ROLL JOINTS WITH SPLASH LAP

- Wood core:
  - Size: 45 x 45 mm round tapering to a flat base 25 mm wide.
  - Fixing to substrate: Brass or stainless steel screws at 300 mm centres.
- Undercloak: Dress three quarters around core.
  - Fixing: Nail to core at 150 mm centres for one third length of the sheet starting from the head.
- Overcloak: Dress around core and extend on to main surface to form a 40 mm splash lap.

96 DRIPS WITH SPLASH LAPS

- Underlap: Dress up full height of drip upstand.
  - Fixing: Two rows of nails to lower level substrate. Seal over nails with a soldered or leadwelded dot.
- Overlap: Dress over drip and form a 75 mm splash lap.
  - Fixing: Lead clips leadwelded to underlap at bay centres.

98 WELTED JOINTS

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

J
Waterproofing

J40
Flexible sheet waterproofing/ damp proofing

J40 Flexible sheet waterproofing/ damp proofing

10 SOFT BLINDING TO HARDCORE BEDS
- Material: Soft sand.
  - Thickness (minimum): 50 mm.
  - Finish on completion: Smooth, consolidated bed free of sharp projections.

20A LOOSE LAID POLYETHYLENE DAMP PROOFING
- Manufacturer: Visqueen.
  - Web: www.visqueen.com.
  - Product reference: Visqueen EcoMembrane®
- Membrane:
  - Thickness: 300 µm (1200 gauge).
- Accessories: Double Sided Jointing Tape and Foil Backed Lap Tape.

25 BITUMEN IMPREGNATED FIBREBOARD as
Manufacturer: Resapol
Product: Bitumen Impregnated Fibreboard
Sheet Dimensions: 1.22m x 2.2m x12mm

47A WATERPROOFING MEMBRANE
- Manufacturer: Newton Waterproofing Systems.
  - Web: www.newtonwaterproofing.co.uk.
  - Email: info@newtonwaterproofing.co.uk.
  - Product reference: Newton 508 (M1).

47B WATERPROOFING MEMBRANE
- Manufacturer: Newton Waterproofing Systems.
  - Web: www.newtonwaterproofing.co.uk.
  - Email: info@newtonwaterproofing.co.uk.
  - Product reference: Newton 503 Mesh (M11).

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

60A JUNCTIONS WITH PROJECTING DPCS/ CAVITY TRAYS
- Adjoining surfaces: Clean and dry.
- Dpcs/ cavity trays: Lap and fully bond/ seal with sheeting.
  - Laps (minimum): 150 mm.
  - Bonding/ Sealing: Waterseal tape.

65 JUNCTIONS WITH FLUSH DPCS/ CAVITY TRAYS

- Adjoining surfaces: Clean and dry.
- Dpcs/ Cavity trays:
  - Expose edge where concealed.
  - Lap and fully bond/ seal sheeting to wall.
  - Dressing of sheeting beyond dpc/ cavity tray (minimum): 50 mm.
  - Bonding/ Sealing: Waterseal tape.

J42
Single layer polymeric sheet roof coverings

J42 Single layer polymeric sheet roof coverings

To be read with Preliminaries/ General conditions.

TYPES OF ROOF COVERING

110A SINGLE PLY ROOFING SYSTEM

- Manufacturer: Sika Sarnafil.
  - Web: www.sarnafil.co.uk.
  - Email: sarnafilroofing@uk.sika.com.
  - Product reference: G410-EL Adhered Roof System – Sarnavap 1000E
- Primer: Primer 110.
- Waterproof membrane:
  - Type: Sarnafil G410-EL
  - Thickness: 1.5 mm.
  - Colour: Lead grey.
  - Attachment: Adhered
- Insulation:
  - Type: N/A.
  - Thickness: N/A.
  - Attachment: Mechanically Fastened
- Vapour control layer:
  - Type: Sarnavap 1000E
  - Attachment: Loose laid
- Accessories: Sarnafil G445 Protection layer.

EXECUTION GENERALLY

510 ADVERSE WEATHER

- General: Do not lay membrane at temperatures below 5°C or in wet or damp conditions unless effective temporary cover is provided over working area.
- Unfinished areas of roof: Keep dry and protect edges of laid membrane from wind action.

520 INCOMPLETE WORK

- End of working day: Provide temporary seal to prevent water infiltration.
- On resumption of work: Cut away tail of membrane from completed area and remove from roof.

530 APPLYING PRIMERS

- Coverage per coat (minimum): 0.1 L/m².
- Surface coverage: Even and full.
- Coats: Fully bonded. Allow volatiles to dry off thoroughly between coats.

SUBSTRATES/ AIR AND VAPOUR CONTROL LAYERS/ WARM DECK ROOF INSULATION

610 SUITABILITY OF SUBSTRATES

- Surfaces to be covered: Secure, clean, dry, smooth, free from frost, contaminants, voids and protrusions.
- Preliminary work: Complete, including:
  - Grading to correct falls.
  - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
  - Fixing of battens, fillets and anchoring plugs/ strips.
- Moisture content and stability of substrate: Must not impair integrity of roof.

660 JOINTS IN RIGID BOARD SUBSTRATES

- Cover strip: Lay centrally over substrate joints before laying air and vapour control layers or coverings. Adhere to substrate with bonding compound along edges only.

760 PERIMETER OF MEMBRANE

- General: Secure membrane at roof edge conditions, changes of plane, curb flashings, upstands to roof lights, etc. with mechanical fasteners.

765 PERIMETER DETAILS FOR THERMOPLASTIC MEMBRANES

- Upstands, edge trims, drips, kerbs, etc.: Secure preformed metal sections to roof structure with mechanical fasteners.
- Roof membrane: Dress over perimeter profile. Overlap beyond fasteners by minimum 50 mm.
  - Sealing: Weld together.

775 PERIMETER DETAILS FOR ELASTOMERIC MEMBRANES

- Upstands, edge trims, drips, kerbs, etc.: Preformed from waterproof membrane material.
- Reinforcing strip: Lay at edge of horizontal roof plane.
  - Securing: Mechanically fasten.
- Roof membrane: Dress over perimeter profiles.
  - Sealing: Bond to substrate and to secured perimeter reinforcing strip.

COMPLETION

910 INSPECTION

- Interim and final roof inspections: Submit reports.

940 COMPLETION

- Roof areas: Clean.
  - Outlets: Clear.
- Work necessary to provide a weathertight finish: Complete.
- Storage of materials on finished surface: Not permitted.
- Completed membrane: Do not damage. Protect from traffic and adjacent or high level working.

K
Linings/Sheathing/Dry partitioning

K10
Gypsum board dry linings/ partitions/ ceilings

K10 Gypsum board dry linings/ partitions/ ceilings

15B RIGID PHENOLIC INSULATED PLASTERBOARD To Timber frame wall lining in Community Area

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Kingspan Kooltherm® K118 Insulated Plasterboard
- Insulation thickness: 25mm.

15C RIGID PHENOLIC INSULATED PLASTERBOARD To Ceiling in Community Area

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Kingspan Kooltherm® K118 Insulated Plasterboard
- Insulation thickness: 30.

35A TIMBER STUD PARTITION To upgraded boiler house partition

- Manufacturer: James Hardie Building Products Ltd.
  - Web: www.jameshardie.co.uk.
  - Email: info@jameshardie.co.uk.
  - Product reference: Fermacell 1H13 Timber Stud Partition
- Timber studs: 75 x 50 mm as necessary in addition to the existing structure.
- Linings:
  - Type: One layer 15 mm Fermacell to internal face.
  - Fixings: 30 mm Fermacell screws at 250 mm centres.
  - External face to retain existing cementitious board and apply through coloured silicone render
- Insulation:
  - Type: 50mm Rockwool RW45
- Finishing:
  - Type: Fermacell Fine Surface Treatment (FST).
  - Joint treatment: Fermacell Joint Filler 5–7 mm filled joint.
- Accessories:
  Safelincs Fire Rated Intumescent Air Transfer Grilles with Faceplates 300x300mm

35B TIMBER STUD to partition adjacent to MP2

- Manufacturer: British Gypsum.
  - Web: www.british-gypsum.com.
  - Email: bgtechnical.enquiries@bpb.com.
  - Product reference: Timber stud (Non Loadbearing and Loadbering)
- Timber Studs: 50x150mm C16 sw studs @ 400mm centres
- Insulation: 50 mm Isover Acoustic Partition Roll (APR 1200).
- Linings:
  - Type: 2 x 12.5 mm Gyproc WallBoard to each side.
  - Fixing: 36 mm British Gypsum drywall screws.
- Finishing:
  - Type: Skim coat plaster finish.
  - Primer/ Sealer: One coat of Gyproc Drywall Primer.
  - Accessories: Rigid beads/ stops.
- Other requirements: None.

35C TIMBER STUD to partition adjacent to D23

- Manufacturer: British Gypsum.
  - Web: www.british-gypsum.com.
  - Email: bgtechnical.enquiries@bpb.com.
  - Product reference: Timber stud (Non Loadbearing and Loadbering)
- Timber Studs: 38x70mm C16 sw studs @ 400mm centres
- Insulation: 50 mm Isover Acoustic Partition Roll (APR 1200).
- Linings:
  - Type: 2 x 12.5 mm Gyproc WallBoard to each side.
  - Fixing: 36 mm British Gypsum drywall screws.
- Finishing:
  - Type: Skim coat plaster finish.
  - Primer/ Sealer: One coat of Gyproc Drywall Primer.
  - Accessories: Rigid beads/ stops.
- Other requirements: None.

47 WALL LINING ON ADHESIVE To Accessible WC

Schlüter®-KERDI-BOARD

" Manufacturer: Schlüter-Systems Ltd
Web: www.schluterspecifier.co.uk
Email: pr@schluter.co.uk
Tel: +44 (0)1530 813396
Fax: +44 (0)1530 813376
Address: Units 3-5, Bardon 22, Beveridge Lane, Coalville, Leicestershire LE67 1TE

" Product reference: Schlüter®-KERDI-BOARD

" Panel thickness: 5 mm

" Panel dimensions:625 x 2600 mm

50A SUSPENDED CEILING ON METAL FRAMING To Kitchenette

- Manufacturer: British Gypsum.
  - Web: www.british-gypsum.com.
  - Email: bgtechnical.enquiries@bpb.com.
  - Product reference: CasoLine MF suspended ceiling system
- Suspension system:
  - Hanger type: Gypframe MF8 strap hangers.
    Top fixings: Hangers twice screwed to sides of timber joists, using Gyproc Drywall Screws.
  - Primary grid centres: 900 mm.
    Hanger centres: 900 mm.
  - Secondary grid centres: 400 mm.
- Linings: 2 x 15 mm Gyproc FireLine.
- Insulation: 100 mm Isover general purpose roll.
- Access Units: Not required.
- Finishing: Skim coat plaster finish.
- Primer/ Sealer:
  - Type: One coat of Gyproc Drywall Primer.
- Accessories : None.

50B TIMBER STUD PARTITION

- Manufacturer: James Hardie Building Products Ltd.
  - Web: www.jameshardie.co.uk.
  - Email: info@jameshardie.co.uk.
  - Product reference: Fermacell 1H13 Timber Stud Partition
- Timber studs: 75 x 50 mm.
- Linings:
  - Type: One layer 15 mm Fermacell to internal side
    One layer 15mm power panel to external side .
  - Fixings: 40 mm Fermacell screws at 250 mm centres .
- Finishing:
  - Type: Intumescent sealant to all abutments .
  - Joint treatment: Fermacell Joint Filler 5–7 mm filled joint .

65 DRY LINING GENERALLY

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

67 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.

69 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.

70 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 services.
  - Board edges and lining perimeters.

75 NEW WET LAID BASES

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

85 MINERAL WOOL INSULATION

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

87 SEALING GAPS AND AIR PATHS

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

90 SEAMLESS JOINTING

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

L
Windows/Doors/Stairs

L10
Windows/ Rooflights/ Screens/ Louvres

L10 Windows/ Rooflights/ Screens/ Louvres

5 TIMBER PROCUREMENT

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

12 REPAIRS TO EXISTING WINDOW TIMBER FRAMES AND CILLS

Remove all decayed wood with the Desowood grinding machine using the Round Cutter.
Continue to remove the decayed wood until sound timber is reached. The sound timber can be recognised by the high pitch sound of the Desowood grinding machine; it is generally of larger structure of uniform colour.
Lightly sand the surface of the timber using a medium grade abrasive paper. Check that the moisture content is below 18% using the Desowood moisture meter.
Apply hot air using a Hot Air Blower at 60-80ºC.
Avoid burning the timber fibres, this ensures good adhesion of Desowood SAP / RAP
Ensure that the adjoining paint system is removed up to 10mm from the vicinity of the repair.
Mix the required quantity of Desowood SAP in the correct ratio.
Apply the Desowood SAP well into the surface using a small brush. Wipe off any excess Desowood SAP.
Leave for 15 minutes before applying the Desowood RAP.
Mix the Desowood RAP thoroughly until a butter-like mass of homogeneous colour is achieved.
Apply the Desowood RAP using a plastic application knife available from DESOFIL (U.K) Ltd. For more complex repairs use Perspex plates for shuttering.
Apply hot air to the surface of Desowood RAP for a few minutes. This is optional and is only recommended at times when wet weather can be anticipated or application at low temperatures.
Ensure that the Desowood RAP is completely dry (normally 24 hours are required at 20 degrees centigrade and longer periods when applied under low temperature conditions.
Use the Desowood Scraper to remove 'excess' cured Desowood RAP
Sand the repaired areas lightly to achieve an even, smooth surface before painting with an alkyd or water-based paint system.
A test application is advisable before commencing work.
Refer to the window repairs schedule for extent of repairs required.
Leaded lights and steel frames to be repaired by specialist window repair company. Refer to the report by Silver Stained Glass Windows

14 SECURITY TO ALL STEEL WINDOWS

Bramah R3 screw in window lock

15A WOOD WINDOWS Window W33

- Standard: To BS 644.
- Manufacturer: A firm currently registered under a third party quality assurance scheme.
- Timber: Generally to BS EN 942.
  - Species: European Oak.
  - Appearance class: J10 for glazing beads, drip mouldings and the like. J40 or better for all other members.
  - Moisture content on delivery: 12-19%.
- Finish as delivered: Osmo PolyX.
- Glazing details: 13.5mm thick Rwdb39 clear laminated toughened safety glass to specialist subcontracto's design.
  - Beading: External.
- Fixing: Screwed to timber framing.
  - Fastener spacing: When not predrilled or specified otherwise, position fasteners not more than 150 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 450 mm centres.

22 STEEL WINDOWS to windows W10, W30, W31 and W32

- Manufacturer: Steel Window Service and Supplies Limited,
  30 Oxford Road,
  London N4 3EY
  Tel: 020 7272 2294,
  Fax: 020 7281 2309,
  web: www.steelwindows.co.uk,
  email: post@steelwindows.co.uk
- Product reference: SMW+ range from the P3 series of mild steel window sections.
- Mild steel: To BS EN 10025-2 and cold straightened.
- Manufactured in accordance with BS 6510 and recognised good practice.
- Manufactured in the United Kingdom to ensure compliance with, and understanding of, relevant British Standards in addition to relevant harmonised European Standards.
- Weather tightness: To BS 6375-1 (1989 edition).
- Exposure category (design wind pressure): 1200 (Pa) unless otherwise specified.
- Air permeability, water-tightness and window resistance test data:

Window Type	Air	Water	Wind	Exposure
Fixed light	600 Pa	300 Pa	2400 Pa	2400 Pa
Top hung open out	300 Pa	200 Pa	2000 Pa	2000 Pa
Side hung open out	300 Pa	200 Pa	2000 Pa	2000 Pa
Bottom hung open in	200 Pa	100 Pa	1600 Pa	1200 Pa

- Operation and strength characteristics: To European harmonized testing methods specified in the window and door
  product standard BS EN 14351-1 and to BS 6375-2 Performance of Windows and Doors – Operation and Strength.
- Construction: Frames shall have welded corners, dressed square and flat, and be sized within tolerances of +/-
  2mm. Tee glazing bars shall be tenon riveted and/or welded to frames and interlock with rigid joints displaying face
  gaps of no more than 1mm.
- Hot dip galvanising: Frames and ancillary profiles (steel attachments, coupling members and ancillaries) shall be
  positively rustproofed by hot-dip galvanising to BS EN ISO 1461.
- Glazing details: 4-4-4 thin sealed krypton double glazed unit from the Original Glass Company
- Thermal insulation: SMW+ windows can be glazed with sealed double glazing units which offer a centre pane U
  value (Ug) of between 1.5W/m²K or 2.1W/m²K depending on glass types, gas fill types and spacer bar size.
- Acoustic insulation: Sound insulation of weather stripped windows/doors (approximate values averaged over a
  frequency range of 100 to 3150Hz) to be 28-30dB reduction (Double Glass) / 35-40dB reduction (with secondary
  window and 200mm cavity).
- Dual Weatherstripping: External and internal black EPDM self adhesive weather / air seals.
- Ironmongery / accessories: Refer to Steel Window Services for project specifics.
- Finish as delivered: Polyester colour coated to BS 6497 or BS EN 13438 in a standard RAL colour, or:
- Finish as delivered: Hot-dip galvanised to BS EN ISO 1461 ready for, if required, site priming (with Special Metals
  Primer suitable for galvanised steel surfaces), undercoating / final decorations by others.

- Sightlines (typical) of window range to be no more than:
- Fixed light: 32mm
- Opening window: 45mm
- Glazing bar (true steel □ section – not face applied): 19, 25 or 29mm.
- Section size (front to back): 25mm

IRONMONGERY / ACCESSORIES:
- Standard provisions: Refer to Steel Window Services.
- Hinged casements shall have rustproofed steel hinges, face mounted and welded. With handles, stays and openers, with locking options, in painted zinc alloy. Colour to match existing windows. Confirm with architect prior to ordering.

FINISH COATING
- Type / reference: Polyester powder coating to BS 6497 or BS EN 13438
- Preparation: Following galvanising, windows are chemically cleaned and pre-treated to provide a surface to which powder coating will adhere.
- Covering: Minimum 60 microns on all significant surfaces.
- Colours: Any standard RAL colour reference
- Gloss level: Standard matt (30% +/- 7% gloss level). Optional semi-gloss and full gloss levels available.
- Process: Coating will be undertaken by our specialised polyester powder coat applicator.

80 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

L20 Doors/ shutters/ hatches

10 TIMBER PROCUREMENT

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

20 WOOD FLUSH DOORS To WC

- Manufacturer: Submit proposals.
  - Product reference: Solid timber core.
- Facings: Oak Veneered.
- Lippings: 25 mm hardwood lipping all round.
- Preservative treatment: Not required.
- Finish as delivered: Full factory finish.
- Glazing/ Infill details: Not applicable.
  - Manifestation: Not required.
  - Beading: Not required.
- Thermal performance (U-value maximum): Manufacturer's standard.
- Other requirements: 3x stainless steel single axis, ball bearing butt hinges. SDS Lift To Lock Din Bathroom Lock Set - Black Product code: 78651.

21 SLIDING GLAZED DOOR To meeting room

Sunflex SF 20

Jamb: Brush Gasket

Glass Panels: 12mm toughened glass with vertical frame with brush gasket. Confirm glass thickness with specialist manufacturer before ordering.

Ironmongery: Confirm choice of ironmongery options with architect/client prior to ordering.

22 SLIDING STACKING PANEL PARTITION(S)

- Manufacturer: Becker (Sliding Partitions) Ltd
- WemcHouse,
  477 Whippendell Road
  Watford, Herts, WD18 7QY
  Tel: 01923 236906
  Telefax:01923 230149
  Email: sales@becker.uk.com
  www.becker.uk.com

- Product reference: Monoplan System Type: 100 Monoplan FR System 100
- System: Purpose made individually operated interlocking panels incorporating male and female aluminium edge profiles. The system includes rapid action retractable top and bottom seals. Pass door options available.
- Operation: Manual.
- Construction: High-density particleboard panels with internal aluminium frame. Acoustic backing and infill material fitted to achieve required level of sound reduction.
- Heavy duty extruded aluminium head track (satin anodized or powder coated to RAL 9010), including ceiling perimeter trim if required.
- Acoustic Performance:
  Type 100: 46 dB
- Track system: Single Point Suspension Track / 2 Point Suspension Track
- Parking: Single roller with parking tone side or both sides of opening.
  Double roller. Parking: insert requirements after consultation with Becker
  www.becker.uk.com/content/monoplan_panel_stacking.html
- Finish: Laminate or Melamine from standard range, veneer, wall covering, pinboard, or to your requirements.
- Fire Rating: Half hour fire resisting: (Monoplan FR System 39 dB)
- Size: 3525 mm wide x 2257 mm high (to be site checked before manufacture)
- Installation: (1) Survey; (2) preparation of drawings; (3) installation of track by Becker
  , supported from load bearing structure by others
  ; (4) baffles as required
  ; (5) installation of panels and wall abutments.
- Installation includes for all labour to offload and take to point of installation.

24 EXTERNAL TIMBER FRAMED DOOR To Door D24
Oak framed timber door with thin toughened double glazed unit 4-8-4 from the Original Glass Company
Rebate in frame for Schlegel QEZ-375 weatherstrip
Ironmongery: Eaton straight lever on rose in matt black from A&H Brass. Product code 33497
3 no. single axis heavy duty ball bearing hinges from A&H Brass 102mm x 76mm in matt black. Product code 17198/2
Left hand opening euro profile escape mortice lock from Union product code: L224405
High security euro profile cylinder, registered 15 pin key and 62mm key in matt black. From A&H Brass Product code: 24497/1
Kahawa Euro profile escutcheon 52mm diameter in matt black from A&H Brass. Product Code 17141

24A OPAQUE GLASS DOOR TO MEETING ROOM

To specialist sub-contractor design
12mm toughened opaque glass panel
Hydraulic self-close hinges
Bulb seal
1220mm x 32mm diameter ladder type handle in matt black finish fixed back to back

24B INTERNAL TIMBER FRAMED DOUBLE DOOR To Door D23

Softwood framed oak veneered colid core timber door
15 x 45mm rounded corner architrave
Ironmongery: 3 no. single axis heavy duty ball bearing hinges from A&H Brass 102mm x 76mm in satin stainless steel. Product code 11927/2
Electromechanical Door Closers: Assa Abloy DC300GHF Electromechanical Door Closer linked to the fire alarm

25A WOOD PANELLED DOORS To door D2

- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Wood species: Oak.
- Preservative treatment: Not required.
- Finish as delivered: Osmo PolyX.
- Glazing/ Infill details: Not applicable.
  - Manifestation: Not required.
  - Beading: Not required.
- Thermal performance (U-value maximum): Manufacturer's standard.
- Other requirements: 44mm solid core door blank with 18mm T&G oak boards
  RP76 Raven Seal
  60 x 104mm hardwood cill .
- Ironmongery:
  3 no. single axis heavy duty ball bearing hinges from A&H Brass 102mm x 76mm in matt black. Product code 17198/2 fire rated for 30 minutes
  BS8621 High Security Euro Profile Deadlock c/w Cylinder & Escutcheons 76mm/57mm (Key & Turn) in satin stainless steel from A&H Brass. Product code: 24513f
  Ribbed cylinder pull 76mm high x 48mm wide in satin chrome from A&H Brass. Product code: 11072/1
  Face fixed Pull Handle 254 mm in satin chrome from SDS London. Product code 28002

70 FIRE AND SMOKE RESISTANCE

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

75 FIRE RESISTING/ SMOKE CONTROL DOORS/ DOORSETS

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

80A SEALANT JOINTS

- Manufacturer: ROCKWOOL Ltd.
  - Web: www.rockwool.co.uk.
  - Email: info@rockwool.com.
  - Product reference: ROCKWOOL FIREPRO Acoustic Intumescent Sealant
- Colour: White.
- Size: 310 ml cartridge.

85 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.

L30

Stairs/ ladders/ walkways/ handrails/ balustrades

L30 Stairs/ ladders/ walkways/ handrails/ balustrades

15 TIMBER PROCUREMENT

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

50 PURPOSE-MADE BALUSTRADES To ramps in rear garden

- Component material, grade and finish as delivered:
  - Guarding: Low carbon steel - galvanized .
  - Handrails: Stainless steel - satin polished.
- Workmanship:
  - Joinery: As section Z10.
  - Metalwork: As section Z11.
- Other requirements: Polyester powder coated.
- Fixing: Anchor fixed to concrete.
  - Centres: 1.5m.

80 INSTALLATION GENERALLY

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

M
Surface finishes

M10
Cement based levelling/ wearing screeds

M10 Cement based levelling/ wearing screeds

4 CEMENT:SAND LEVELLING SCREEDS To New Build Community area and accessible WC

- Substrate: In situ concrete slab.
- Screed construction: Unbonded on dpm.
- Thickness:
  - Nominal: 70 mm.
  - Minimum: 65 mm.
- Mix:
  - Proportions (cement:sand): 1:3-4.5..
- Finish: Trowelled, as clause 75.
  - To receive: Cementitious top coat as M12.

12A SELF-LEVELLING SCREED Where exisitng partitions removed and timber floor installed
Manufacturer: Sika Limited.

- Web: www.sika.co.uk.
- Email: enquiries@uk.sika.com.
- Product reference: Sikafloor® Level-30

15C INSULATION BOARD To perimeter of screed

- Manufacturer: Celotex.
  - Web: www.celotex.co.uk.
  - Email: info@celotex.co.uk.
  - Product reference: Celotex TB4000
- Type : TB4020.

17A RIGID PHENOLIC INSULATED FLOORBOARD Below new screed in the Community Area and Accessible WC

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Kingspan Kooltherm® K103 Floorboard
- Insulation thickness: 70mm.

18 CEMENTITIOUS WEARING TOP TO SCREED In Community area, kitchenette and accessible WC

Types of finish Polished coloured, cementitious finish to concrete flatwork. Architop® is a high strength cementitious floor finish ranging at a thickness of 3-
4mm
Architop catalyst , Colour Hardener, Epoxy Coat, IW-EC
Manufacturer Ref.
Ideal Work S.R.L, Via Kennedy 52, 31030 Valla Di RiesePioX (TV) Italy
Tel: +39 0423 4535
Website: www.idealwork.com

1 SUB-BASE PREPARATION /FEATURES

- Substrate should remain stable and be provided with any expansion, contraction and crack inducement joints necessary as any cracking, unevenness and faults in the substrate may be reflected through surface treatment.
- Ensure surface is level, sound and free from any dust, laitance, dirt, oils and or loose materials. If necessary grind to ensure a good mechanical key.
- The existing joints must be mirrored through to the new surface.
- Badly damaged substrates/concrete or cracks need to be repaired prior to Architop ® being applied. Repair mortars and epoxies are used for such repairs.
- Prior to application on tiles grinding and joints-filling is required.
- MOVEMENT JOINTS: Form joints in substrate where necessary, with any joint in the coating to coincide with movement joints in background as architect's detail.
- Apply on the substrate Epoxy-coat mixed with 20% quartz-sand (0,2-0,5mm) as adhesion primer and cover thoroughly the surface with quartz-sand (0,7-1,2 mm). After 6-8 hours remove the lose excess sand and sand.

2 APPLICATION OF ARCHITOP®
Architop® 1st Finish Coat
I W Specification Architop® Rev 1 dated 25 Jan 2018
A set of Architop® material (6 litres Architop Catalyst® and 25kg of Ideal Colour Hardener®) will cover approximately 15m2. Consumption may vary depending on existing surface and final desired finish.

- Thoroughly mix the Architop Catalyst® for at least 2 minutes prior to use (use a paddle mixer if available).
- Thoroughly mix 25kg (x1 full pail) of Ideal Colour Hardener® with the 6 litres of Architop Catalyst®. Continue to mix until all lumps are dissipated.
- With a steel trowel, distribute the first coat evenly (it is important the thickness should not exceed the size of the aggregates in the cement mixture).
- Allow system to dry approximately 15-30 minutes (dependent on ambient temperature / humidity). Wet on Wet application.
- Architop® 2nd finish Coat
  Repeat the same process as the 1st finish coat. Be sure to wear spiked shoes when applying the second coat. Wet on Wet.
- While material is still wet and curing, it is recommended to start using the power trowel / helicopter
- Float the power trowel across the area while avoiding sudden movements or dragging the power trowel. Do not spend too much time in a single area, move smoothly between one area and the next.
- Be sure to keep tools clean during application. In particular the helicopter blades should be cleaned after each pass.
- The finishing time is dependent on temperature and can vary from 3-7 hours. With a temperature of 20ºc it generally cures in 5-6 hours.

- During floating continuously spray evaporation controller IW-EC on the surface. IW-EC reduces the evaporation from the concrete and aids in a correct and even curing process.
  Mix IW-EC®with water at a ratio of 1:9 (IW-EC®-Water).
  Consumption is 5-10m2 / litre of diluted product

  3 SEALING/PROTECTIVE COAT
- The Architop ® Finish Surface must be sealed and protected . The sealer will be selected based on the intended function of the area.
  When fully dry (48-72 hours) carry out the protective treatment with IDEALPU –WB EASYor IDEAL SEALER (acrylic, for exteriors) applied by roller or with airless paint sprayer.

  4 GENERAL REQUIREMENTS FOR WORKMANSHIP
  Before commencement of work, the contractors must make themselves familiar with and have read the latest Technical Data Sheet for the products, available on the IDEAL WORK website www.idealwork.com

  Control samples: Samples on site to be approved .They are sole responsibility of the applicator and should be made by site operatives carrying out main
  works.
  Uniformity of colour and texture
  Once samples of coatings have been approved, do not change type or proportion of constituent materials. Ensure that supplies and batch numbers of materials are sufficient and materials.
  Ensure that supplies and batch numbers of materials are sufficient and consistent to give uniformity of colour. Ensure uniformity of texture during application.
  Admixtures Do not use any admixtures other than those listed.
  Guarantee Rendering materials and workmanship guarantees should be submitted to Contract Administrator prior to work commencing on site.
  It is strongly recommended that this system be applied only by Ideal Work trained applicators.

  Install CAT timberline 2/22 antique brass trim at the transition between the timber floor and the cementitious floor

18A FLOOR TRIM between timber floor and cementitious floor finish

Timberline 2/22 in antique brass

C.A.T. LIMITED
UNITS 24 A,B,C
PARK AVENUE ESTATE
SUNDON PARK
LUTON
LU3 3BP
U.K.

T: +44(0)1582 561500 e: sales@cat-accs.com

40 FLOATING CONSTRUCTION

- Insulation:
  - Type: 70mm Kingspan K103.
  - Installation: Lay with tight butt joints. Continue up at perimeter abutments for full depth of screed.
- Separating layer:
  - Type: Polyethylene sheet.
  - Installation: Lay over insulation and turn up at perimeter abutments. Lap 100 mm at joints.

45 AGGREGATES AND CEMENTS

- Sand: To BS EN 13139.
  - Grading limits: In accordance with BS 8204-1, Table B.1.
- Coarse aggregates:
  - Standard: To BS EN 12620.
- Cement:
  - Cement types: In accordance with BS 8204-1, clause 5.1.3.

47 ADMIXTURES

- Standards; In accordance with BS 8204-1, Table 1.
- Calcium chloride: Do not use in admixtures.

50 MIXING

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

52 COMPACTION

- General: Compact thoroughly over entire area.
- Screeds over 50 mm thick: Lay in two layers of equal thickness. Roughen surface of compacted lower layer then immediately lay upper layer.

55 JOINTS IN LEVELLING SCREEDS

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

70 SMOOTH FLOATED FINISH

- Finish: Even texture with no ridges or steps.

75 TROWELLED FINISH TO LEVELLING SCREEDS

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

80 TROWELLED FINISH TO WEARING SCREEDS

- Floating: To an even texture with no ridges or steps.
- Trowelling: Successively trowel at intervals, applying sufficient pressure to close surface and give a uniform, smooth finish free from trowel marks and other blemishes.

90 CURING

- Curing period (minimum): As soon as screed has set sufficiently, closely cover with polyethylene sheeting for period recommended by screed manufacturer.
- Drying after curing: Allow screeds to dry gradually.

M20
Plastered/ Rendered/ Roughcast coatings

M20 Plastered/ Rendered/ Roughcast coatings

7 LIME PLASTER For repairs and replastering

Carry out repairs to existing plaster where disturbed in lime mortar
Mix: 3 parts washed sandgate sand : 1 part 3.5 NHL moderately hydraulic lime.
Plastering to be carried out in successive coats to be max. 9mm thick.
New plaster to match and be flush with the adjoining, finished with a wooden float or sponge to Architect's approval.
Replastering to include hair reinforcement, well beaten in, quantity 7kg/m^3 in base coats.
Allow to roughen surfaces with lath scratcher between coats.
Where laths are missing or damaged, fit new laths to match the existing. Allow for riven oak laths.
Laths to be spaced about 10mm apart.

9 LIME MORTAR For new brickwork to southwest and northwest facade of inner courtyard and repointing

Please allow for the prepapration of two 1m x 1m sample panels of repointing, to be completed at the start of the project and to be tended as required and let cure with one of each of the following mortars:

Panel # 1:

Premixed hot lime as supplied by Chalkdown Lime

Preparation:
Lime Mortar may require remixing (knocking up) before use. Drain off excess water for a stiffer mix and turn over mortar until workable, re-add excess water to plasticise (if needed). Re-agitating with a power mixer or whisk is also suitable. Rake out old mortar joints up to 25mm (1") depth and clean off any loose material. Spray dry and porous substrates with water to accept the new lime mortar.

Method:
Spray wall or masonry with water so it has fully soaked in. Apply a stiff mortar mix with a suitable narrow pointing iron or small tool pushing it right to the back of the bed. Start with the Perpends or 'Perps' (the vertical mortar joints) then the mortar 'Bed' (the horizontal mortar joint). Leave the mortar joint flush to the brick face. When the mortar has started to partially set and carbonise, tamp with a stiff
brush to fill any voids and brush off to expose the aggregate to finish. Use a jointing tool or pointing iron to further compress the mortar for a tooled decorative finish.

NB. Do not over trowel mortar joints as this will weaken the mortar.

NB. Do not add cement, gypsum, PVA, modern additives or plasticisers.

Aftercare:
- New lime mortars will need certain protection dependent on various weather conditions, i.e: wet, windy, high heat or frost. Damp hessian or plastic sheeting may be required to avoid mortar drying out too fast. Spray work with water routinely during spring/summer months and periods of hot/dry weather.
  NB. Do not carry out external works after October 1st and before April 1st.

  Panel # 2:

  Final aggregate mix for mortar to be agreed with architect on site but allow for a mix of:

  " 1.5 parts washed building sand
  " 1.5 parts sharp sand
  " 1 part 2 NHL feebly hydraulic lime.

  Pointing to match exactly the pointing of the brickwork against which the new extension is to be built to Architect's approval with 8mm maximum joints.

9A REPOINTING Brickwork

Carefully rake out existing joints in brickwork on the chimneys and south west elevation manually using hooked tools or masonry chisels to a depth of at least twice the height of the joint (say 20mm).

Remove mortar from the top and bottom of the joints leaving a square-cut joint. Dust and debris must be removed from the joints using brushes or even a vacuum cleaner and thoroughly rinsed with water so that no loose dry material is left. The masonry must be thoroughly dampened with a hosepipe with a spray nozzle or a pump-action water sprayer, before placing the mortar. This is to reduce suction, improve adhesion of the mortar and prevent the mortar from drying too quickly.

Surfaces should be protected with ventilated covers and regular mist spraying may be needed to maintain damp conditions as the mortar starts to set. Additional plastic sheeting or tarpaulins draped in front of the hessian covers may also be needed if it is very windy or there is driving rain.

50A THISTLE MULTI FINISH

- Manufacturer: British Gypsum.
  - Web: www.british-gypsum.com.
  - Email: bgtechnical.enquiries@bpb.com.
  - Product reference: Thistle Multi Finish

65 MIXING

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

67 COLD WEATHER

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

71 SUITABILITY OF SUBSTRATES

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

76 REMOVING DEFECTIVE EXISTING PLASTER

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

80 PLASTERBOARD BACKINGS

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

82 BEADS/ STOPS

- Location: External angles and stop ends.
- Materials:
  - External render: N/A.
  - Internal plaster/ render: Plastics/ PVC.
- Fixing: Secure and true to line and level.
  - Beads/ stops to external render: Fix mechanically.

87 APPLICATION OF COATINGS

- General: Apply coatings firmly and achieve good adhesion.
- Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
  - Accuracy: Finish to a true plane with walls and reveals plumb and square.
- Drying out: Prevent excessively rapid or localized drying out.
- Keying undercoats: Cross scratch (plaster coatings) and comb (render coatings). Do not penetrate undercoat.

M40

Stone/ Concrete/ Quarry/ Ceramic tiling/ Mosaic

M40 Stone/ Concrete/ Quarry/ Ceramic tiling/ Mosaic

5A TILING TO ACCESSIBLE WC

- Tiles: White bevelled edge tiles.
  - Manufacturer/ Supplier: Submit proposals.
    Product reference: Submit proposals.
  - Colour: White.
  - Size: 200 mm x 100 mm.
  - Recycled content: Submit proposals.
  - Other requirements: None.
- Background/ Base: 5mm Schluter Kerdiboard.
  - Preparation: As manufacturer's receommendations.
- Intermediate substrate: Not required.
- Bedding: Adhesive bed notched trowel and buttering method, as clause 55.
  - Adhesive: To tile manuifacturer's recommendations.
- Joint width: 3 mm.
- Grout: white.
  - Type/ classification: CG2WA.
- Movement joints: Not required.
  - Location: as required.
- Accessories: None.

15 NEW BACKGROUNDS/BASES

- Background drying times (minimum):
  - Brick/block walls: 6 weeks.
  - Rendering: 2 weeks.
  - Gypsum plaster: 4 weeks.
- Base drying times (minimum):
  - Concrete slabs: 6 weeks.
  - Cement:sand screeds: 3 weeks.

20 EXISTING BACKGROUNDS/BASES GENERALLY

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

25 NEW PLASTER

- Plaster primer: Apply if recommended by adhesive manufacturer.

30 FIXING GENERALLY

- Colour/ shade: Avoid unintended variations within tiles for use in each area/ room.
  - Variegated tiles: Mix thoroughly.
- Adhesive: Compatible with background/ base.
- 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.
- Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles/ mosaics and no gap should be greater than 6 mm, i.e. a tolerance of $\pm$ 3 mm.
- Surplus bedding material: Clean from joints and face of tiles/ mosaics.

32 MORTAR BEDDING

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

35 SETTING OUT

- Joints: True to line, continuous and without steps.
  - Joints on walls: Horizontal, vertical and aligned round corners.
  - Joints in floors: Parallel to main axis of 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.

55 ADHESIVE BED - NOTCHED TROWEL AND BUTTERING METHOD TO WALLS

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

70 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.
- Polishing: When grout is hard, polish tiling with dry cloth.

M42
Wood block/ composition block/ mosaic parquet flooring

M42 Wood block/ composition block/ mosaic parquet flooring

5 TIMBER PROCUREMENT

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

10 WOOD FLOORING To match existing floor boards in the multi-use space

- Type: Timber floor boards .
- Substrate: Existing solid floor .
  - Preparation: To flooring manufacturer's recommendations.
- Flooring materials: Free from decay, through splits and insect attack (including ambrosia beetle damage, unless permitted in the grade specified).
  - Manufacturer: Submit proposals .
    Product reference: Submit proposals .
  - Species/ Grade: English oak .
  - Size: nominal 120 mm wide .
- Laying:
  - Pattern: Linear, to blend with the existing floor boards .
  - Adhesive: Type recommended by flooring manufacturer/ supplier.
- Method of finishing: Sand and seal, two coats water-borne urethane with UV inhibitor; colour: Antique oak, satin finish .
- Other requirements: Scabble existing floor as necessary and apply self-levelling floor compound to achieve the level required .

25 DRYNESS OF CONCRETE/ SCREED SUBSTRATES

- Relative humidity above substrate when tested with a hygrometer to BS 8201, Appendix A (maximum): 75%.
  - Test points: All corners, around perimeter, and random points over area being tested.
  - Drying aids: Turned off for not less than 4 days before testing.

30 CONCRETE/ SCREED SUBSTRATES

- Finished surface: Smooth, even, and free from abrupt changes in level. Apply suitable smoothing compound, as necessary.
- Primer: If recommended by adhesive manufacturer, apply and allow to dry thoroughly before laying flooring.

45 ACCLIMATIZATION

- General: Before laying commences acclimatize materials by unpacking and spreading out in the spaces where they are to be laid.
  - Acclimatization period: As recommended by manufacturer, but not less than 48 hours.

47 SUITABILITY OF SUBSTRATE

- Condition prior to laying flooring and applied features: Dry, sound and free from dust, debris, grease and other deleterious matter.

60 ALLOWANCE FOR MOVEMENT

- Expansion gap around perimeter of flooring: 10 mm .
  - Gap filler: None required .
  - Spacer blocks and debris: Removed before fixing skirtings/ cover fillets.
- Intermediate movement joints: Formed as recommended by flooring manufacturer/ supplier in agreed positions.

70 SANDING AND FILLING To boards within meeting room

- Finished surfaces: Smooth and even, free from drum marks and with a minimum of crossgrain scoring.
- Minor cracks and gaps: Fill with a proprietary filler coloured to match flooring.
- Dust and debris: Remove from flooring and adjacent surfaces.

80 PROTECTION

- Protective covering: 4 mm plywood with taped joints .
  - Removal: At completion.

80A PROTECTION To all new and existing floors and stairs

- Protective covering: 4 mm plywood with taped joints .
  - Removal: At completion.

M50

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

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

10 TILING To New Accessible WC walls

- Base: 5mm Kerdi Board.
  - Preparation: Tape and join Kerdi boards to manufacturer's recommendation.
- Fabricated underlay: Not required.
- Tiles: White ceramic bevelled edge wall tiles.
  - Manufacturer: Submit proposals.
    Product reference: N/A.
  - Recycled content: Submit proposals.
  - Size: 200 mm x 100 mm.
  - Thickness: 10mm.
  - Colour/ pattern: White brick bond.
- Adhesive (and primer if recommended by manufacturer): As receommended by manufacturer.

20A FORBO MARMOLEUM® WALTON

- Manufacturer: Forbo Flooring Systems UK Ltd.
  - Web: www.forbo-flooring.co.uk.
  - Email: info.flooring.uk@forbo.com.
  - Product reference: Forbo Marmoleum® Walton
- Colour: 3368 Grey iron.

45 EXISTING FLOOR COVERING REMOVED

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

50 HARDBOARD UNDERLAY

- Standard: To BS EN 622-2.
  - Type: HB.E.
- Thickness: 4.8 mm.
- Sheet size: 1200 x 1200 mm.
- Substrate: Existing floor boards securely fixed and level with no gross irregularities or protruding fasteners.
- Conditioning sheets: Prior to fixing.
  - Requirement: To restrict in situ expansion and prevent consequential disfigurement to floor coverings.
- Laying sheets: Mesh face uppermost.
  - Cross joints: Staggered with none coincident with joints in base.
    Joints: Butted.
- Fasteners: 25 mm ring shanked or twisted shank nails or divergent staples.
  - Spacing: Commence at centre of one side of each sheet, at 150 mm grid centres over area and 100 mm centres along perimeter, set in 12 mm from edge.
  - Placement: Not to project above sheet surface or through underside of base.
- Underlay conditioned by wetting: Do not lay coverings until hardboard is dry.

60 SETTING OUT TILES

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

65 LAYING COVERINGS

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

70A EDGINGS AND COVER STRIPS

- Manufacturer: Schlüter-Systems Ltd.
  - Web: www.schluterspecifier.co.uk.
  - Email: pr@schluter.co.uk.
  - Product reference: Schlüter®-SCHIENE-E
- Material: Stainless steel V2A.

80A COVE FORMERS

- Manufacturer: Forbo Flooring Systems UK Ltd.
  - Web: www.forbo-flooring.co.uk.
  - Email: info.flooring.uk@forbo.com.
  - Product reference: PS Cove Former.

85 WASTE

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

M52
Decorative papers/fabrics

M52 Decorative papers/fabrics

31 COATED SUBSTRATES

- Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
- Water soluble coatings: Completely remove.
- Significant rot, corrosion or other degradation of substrates: If revealed, give notice.
- Retained coatings:
  - Thoroughly clean to remove dirt, grease and contaminants.
  - Lead based coatings: If discovered, give notice.
  - Abrade gloss coated substrates to provide a key.

41 PAPER/ FABRIC COVERED SUBSTRATES

- Existing coverings: Remove by wet or dry stripping.
- Old adhesive and size: Remove by washing.
- Significant loose or damaged plaster or other degradation of substrates: If revealed, give notice.

M60
Painting/ clear finishing

M60 Painting/ clear finishing

10A INTERIOR PAINT

KEIM OPTIL SYSTEM
A high quality silicate based, paint for interior walls and ceilings. It provides long-term decoration and is available in a wide range of standard colour shades. Keim Optil can be applied onto existing previously painted surfaces as well as unpainted and new substrates.

Manufacturer: Keim Mineral Paints Limited, Santok Building, Deer Park Way, Telford, Shropshire TF7 7NA T: 01952 231250 F: 01952 231251 E: sales@keimpaints.co.uk

REFERENCE: KEIM OPTIL

Preparation:
Any loose, flaking and unstable material must be identified and then thoroughly removed using stiff brushes and broad bladed scrapers to get back to a sound edge; these edges should then be feathered in. Ensure that any paint materials left remaining and the underlying substrate is sound and adhering well. Any gloss or shiny surfaces should be thoroughly flatted down using sand or emery paper to create a good key.

Keim Dolomitspachtel
A ready to use silicate mineral filler. Any cracks or where there is a need to equalise the surface should be filled using Keim Dolomitspachtel, , brush or trowel applied to a pre-wetted surface and dressed back to the required level.
Any new/repaired surfaces should be left for a minimum period of 15 days prior to the application of Keim Mineral Paints.
All surfaces must be thoroughly washed down with clean cold water to remove all surface dirt and dust.
When all surfaces are clean, sound, wind dry, dust free and free from all surface contaminants, decoration using Keim Mineral Paints may proceed.

Keim Granital Dilution
If necessary highly absorbent or friable surfaces should be treated with Keim Granital Dilution, a liquid silicate binder, brush applied and left for a minimum period of 12 hours.

Initial Coat(s):
Keim Optil
Apply a single coat of Keim Optil in the chosen colour. Keim Optil should be applied by brush, roller or airless spray.

Finishing coats:
Keim Optil
After a minimum period of 12 hours a final coat of Keim Optil, in the chosen colour should be applied in a like manner.

IMPORTANT INFORMATION REGARDING STANDARD KEIM SPECIFICATIONS
We have taken every care to ensure that specifications are accurate, if there is any doubt about how to deal with a specific problem or the most suitable products to use, please contact us. Specifications downloaded from the Keim Mineral Paints website are standard specifications to cover general circumstances and may not be suitable for every situation. Dedicated project specific

specifications and product advice can be obtained by contacting sales@keimpaints.co.uk or 01952 231250.
It is essential that each stage of the specification is complied with, including level of preparation and drying times between coats, to ensure the best performance from the system applied. All products should be applied in accordance with the specification and relevant datasheets.

General points to be borne in mind when using Keim Mineral Paints are:-
In order for Keim Mineral paint to achieve its permanent bond with the surface it is essential that the following recommendations are followed.

Pre-treatment –
· all areas to be decorated should be free from all surface contaminants, sound, dry and dust free
· all loose, flaking and unstable material must be identified and then thoroughly removed using stiff brushes and broad bladed scrapers to get back to a sound edge; these edges should then be feathered in
· ensure that any paint materials left remaining and the underlying substrate is sound and adhering well
· caution should be taken with the removal of any pre 1960's coatings as they may contain lead
· any gloss or shiny surfaces should be thoroughly flatted down using sand or emery paper to create a good key
· if the surfaces are being chemically stripped ensure that they are thoroughly washed down of all residue prior to decoration. Due to the potential for an osmotic drawing reaction, which can bring contaminants to the surface, we do not recommend the use of poultice based strippers if the surfaces are to be redecorated
· any powdery or chalking surfaces will require treatment prior to decoration – contact Keim to ascertain the appropriate product
· use only Keim recommended fillers and sealers. Acrylic, resin and gypsum based fillers particularly are not recommended for use with mineral paints

Material Application –
· always maintain a wet edge and work materials out well
· all materials must be thoroughly mixed beforehand, and periodically during decoration, using a mechanical mixer. We do not recommend intermixing packs, however if this is necessary ensure that products are thoroughly mixed beforehand to ensure even pigment dispersion, prior to mixing
· materials must not be applied at temperatures below 5ºC nor those in excess of 30ºC
· materials must not be applied if it is raining or if there is an immediate likelihood of rain
· Keim Mineral Paints should be applied onto wind dry surfaces where the moisture content on or near the surface (to a depth of 5mm approximately) should be no greater than 18% by volume. For on-site purposes a moisture meter may be used to give a qualitative reading – if the reading is in the green zone decoration may proceed
· on newly rendered surfaces we would suggest that a period of at least 15 days (30 days for lime render) is allowed following rendering, prior to the application of Keim paints
· mineral paints are manufactured using natural components and as such can appear to dry out unevenly. This is the way in which they dry, once fully dried any unevenness will disappear. Do not over-roll or touch up the paint during the drying process as this may inadvertently create patching once dry
· mineral paints will lighten as they dry, with a corresponding increase in opacity
· if airless spraying, please contact Keim for details of the appropriate nozzle sizes and optimum mesh and filter types

Housekeeping –
· all adjoining surfaces must be protected during decoration, any splashes/unwanted paint removed immediately, before it is able to completely dry and bond to the surface
· any splashes or spillage should be removed immediately using water - particular note needs to be

taken of this in respect of Keim on glass, as it has a slight etching effect if allowed to dry hard
· clean all brushes and tools immediately in water (some ancillary products containing solvents may require white spirit or turpentine, if in doubt please consult the relevant product technical data sheet)
· always store materials upright and secure. Protect from extremes of temperature and store in frostfree conditions

General –
· when ordering reference to the project should be made, to ensure that in the event of re-ordering a colour match can be supplied
· to avoid confusion, the recommendations within this specification should be followed where there are any minor differences between this document and the standard advice on packaging and technical data sheets
· Keim Mineral Paints Ltd operates a policy of 'sale and no return' on all goods supplied in good faith

12B WATER BASED PAINT To Timber Fascias

- Manufacturer: Dulux Trade, brand of AkzoNobel.
  - Web: www.duluxtrade.co.uk.
  - Email: project.support@akzonobel.com.
  - Product reference: Weathershield Quick Drying Exterior Gloss
- System code: D4104WC+G: Paint coated, non-resinous softwood, hardwood/ Two.
- Colour: Black.

14A EGGSHELL/ SATIN PAINT To New Build Areas and New Skirtings

- Manufacturer: Crown Trade, product of Crown Paints Ltd.
  - Web: www.crownpaintspec.co.uk.
  - Email: info@crownpaintspec.co.uk.
  - Product reference: Acrylic Eggshell
- Colour: White.

16 DECORATIVE WOODSTAIN/ VARNISH/ PRESERVATIVE To existing floor in reception

- Manufacturer: Osmo.
  - Product reference: 3564 TOBACCO.
- Surfaces: Timber floor boards in the reception.
  - Preparation:
    - Ensure floorboards throughout the space have a consistent colour to start with by sanding
    - Degrease and provide key;
    - Ensure surfaces are clean and dry; and
    - Remove all loose and defective coatings.
- Initial coats: Oil stain.
  - Number of coats: 1.
- Finishing coats: Osmo Polyx®-Oil 3044 Raw.
  - Number of coats: 1.

16A DECORATIVE WOODSTAIN/ VARNISH/ PRESERVATIVE

- Manufacturer: Sadolin, product of Crown Paints Ltd.
  - Web: www.sadolin.co.uk.
  - Email: info@crownpaintspec.co.uk.
  - Product reference: Extra Durable Woodstain
- Colour: Jacobean Walnut.

18A INTUMESCENT FIRE COATING TO EXISTING DOORS Generally

Apply the following to achieve fire rating to the existing timber doors:

1 coat of HWAP primer spreads at 12m2 per litre.
2 coats of HW02N spreads at 8m2 per litre per coat.
1 coat of HW Excel clear Satin spreads at 10m2 per litre.

Do not apply a coat until the coat before is totally dry and each coat must be 125 microns thick, average drying time 45 minutes.
The primer can be applied at will but the next 3 coats MUST go on the same day with the ambient air temperature being kept above 12-14 degrees overnight.

FEATURES
The HW02N system offers a clear, fire proof coating, for upgrading new and already coated timber and wood related surfaces.
· HW02N is a water based product and can be used for internal and external use
· All tools can be cleaned with hot water
When applying HW02N ensure then area is warm anddry, NOT COLD & DAMP.
The properties of this product cannot be guaranteed unless storage and application instructions are adhered to, Envirograf® strongly advise that you apply the product over a small area to ensure that there is no adverse reaction to the substrate to be processed.
The application to the door, ceiling or wall is as follows; in most cases it is the room side only of the door that needs treating. For both sides of the door it is a door that separates a corridor or is at the top of a staircase.
APPLICATION:
Note: It is important to ensure the moisture content of the wood substrate is below 12% / 14% before application and the wood should be kept in a thoroughly dry area.
Wash down in the normal way and ensure surface is dry before applying Envirograf® coatings.

A) Apply the HW Adhesion Primer (HWAP) first. Just a thin coat and ensure it is completely dry and clear before applying the first coat of HW02N.

B) When the primer is dry and CLEAR apply 1 coat of the clear Intumescent coating. Again ensure it is DRY and CLEAR before proceeding. If you have the intumescent coat in joints of beading where it takes time to dry, place a heat gun, fan heater, or hair dryer over the area or any area that hasn't dried clear WHILE THE HW02 IS STILL WET.

C) When all clear, apply second coat and follow as B) but use fan heater or hair dryer to dry and clear the coating. IT MUST NEVER BE LEFT OVERNIGHT WITHOUT APPLYING THE TOP COAT.

D) You are now ready to apply the top coat which must be applied when the second coat of HW02N is dry.

E) Once D) is dry, you can wax or French polish.

Apply 2 coats at 8m²/litre per coat to give 30 minutes on 9mm softwood and 60 minutes on 14mm softwood. Anything below these sizes, then apply 3 coats at 8m²/litre per coat. It can be applied by brush or spray. If spraying add up to 10% water. The contents must be thoroughly mixed before use Use a 2.5 mm to 3 mm nozzle.
For application to new wood – ensure that the area is dust free. Should you wish to stain the wood first, then we suggest using Sikkens Water-Based Stain first. HWAP MUST BE APPLIED TO CEDAR.
If HW02/N is being used externally 2 coats of HW Superb must be applied at 8m² per litre per coat
SHELF LIFE:

The shelf life is 6 months from batch date

TOOLS AND STORAGE
Water-based products: leave brush in cold soapy water then clean with brush cleaner.
White spirit-based products: clean with white spirit or a brush cleaner.
Store the product in temperatures between 5°C and 30°C. Do not apply the product in temperatures less than 5°C. Do not allow containers to stand on the floor.
Always check that the Product is within its shelf life. If in doubt contact your supplier.
Tested to BS476: Part 6 & 7, Class 0 & 1, BS 476: Part 20/22: 1987, 20 & 60 minutes protection, UK Building Regulations, EU EN BSI Test to A1-B/S1/d0 of European Standards, EN13505, EN13823:202 Single burn and SBI EN11925:2 2002 Ignitability, also to EU EN 1364-1:1999, giving 66 minutes fire protection/integrity/insulation/stability. Tested to EN13501:2 (K1 10 or K2 10).

30 PREPARATION GENERALLY

- Standard: In accordance with BS 6150.
- Refer to any pre-existing CDM Health and Safety File and CDM Construction Phase Plan where applicable.
- Risk assessment and method statement for hazardous materials: Prepare for 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, dirt, grease and oil: Remove.
- Surface irregularities: Provide smooth finish.
- Organic growths and infected coatings:
  - Remove with assistance of biocidal solution.
  - Apply residual effect biocidal solution to inhibit regrowth.
- Joints, cracks, holes and other depressions: Fill with stoppers/ fillers. Provide smooth finish.
- Dust, particles and residues from preparation: Remove and dispose of safely.
- Doors, opening windows and other moving parts:
  - Ease, if necessary, before coating.
  - Prime resulting bare areas.

32 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.
  - Significant rot, corrosion or other degradation of substrates.
- Risk assessment and method statement for hazardous materials: Prepare for operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
- 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.
  - Gloss coated surfaces: Provide key.
- Partly removed coatings: Apply additional preparatory coats.
- Completely stripped surfaces: Prepare as for uncoated surfaces.

35 FIXTURES AND FITTINGS

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

37 WOOD PREPARATION

- General: Provide smooth, even finish with lightly rounded arrises.
- Degraded or weathered surface wood: Take back surface to provide suitable substrate.
- Degraded substrate wood: Repair with sound material of same species.
- Heads of fasteners: Countersink sufficient to hold stoppers/ fillers.
- Resinous areas and knots: Apply two coats of knotting.
- Defective primer: Take back to bare wood and reprime.

39 STEEL PREPARATION

- 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.

41 MASONRY AND RENDERING PREPARATION

- Loose and flaking material: Remove.

43 PLASTER PREPARATION

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

45 PREVIOUSLY PAINTED WINDOW FRAMES

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

55 EXISTING GUTTERS

- Dirt and debris: Remove from inside of gutters.
- Defective joints: Clean and seal with suitable jointing material.
- Suspected hazardous materials: submit method statement.

61 COATING GENERALLY

- Application standard: In accordance with BS 6150, clause 9.
- Conditions: Maintain suitable temperature, humidity and air quality.
- Surfaces: Clean and dry at time of application.
- Thinning and intermixing: Not permitted unless recommended by manufacturer.
- Priming coats: Apply 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.

68 STAINING WOOD

- Primer: Apply if recommended by stain manufacturer.
- Application: Apply in flowing coats and brush out excess stain to produce uniform appearance.

80 LINSEED OIL PUTTY GLAZING

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

N
Furniture/Equipment

N11
Domestic kitchen fittings, furnishings and equipment

N11 Domestic kitchen fittings, furnishings and equipment

10 FITTED BASE UNITS AND WALL UNITS

- Manufacturer: Howdens.
  - Product reference: Fairford.
- Dimensions: To BS EN 1116.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
  - Material: Plastics laminate.
  - Finish and colour: Slate Grey.
  - Edges: 2mm ABS.
- Side panels, plinths and shelves:
  - Material: Solid wood .
  - Finish and colour: Slate Grey.
  - Edges: 2mm ABS.
- Accessories: IronLegs and plinths and Wire baskets and trays
  Cupboard handles to be black D handles: HKB4600 .

10A FITTED FULL HEIGHT CUPBOARDS IN KITCHENTTE

- Dimensions: To BS EN 1116.
- Surface finishes: To BS 6222-3.
- Doors and drawer fronts:
  - Material: Plastics laminate to mathc kitchen cupboards.
  - Finish and colour: Slate Grey.
  - Edges: 2mm ABS.
- Side panels, plinths and shelves:
  - Material: Solid wood .
  - Finish and colour: Slate Grey.
  - Edges: 2mm ABS.
- Accessories: alulminium flush bookcase strip by SDS London (product code: 49056)
  Cooke Brothers 7808 Medium duty continuos hinge in stainless steel
  Tectus hinges: TE 340 3D
  Handle to match kitchen cupboards .

20 WORKTOPS

- Manufacturer: Howdens.
  - Product reference: WHT6660.
- Material: White square edge laminate.
- Dimensions: 3m x 38mm.
- Exposed edges: Laminate moulded.
- Support: base units.

30 SINKS, TAPS, TRAPS AND WASTES

- Sinks:
  - Manufacturer: Howdens.
    Product reference: Lamona Belmont Single Bowl Inset Stainless Steel Kitchen Sink.
  - Configuration: Left Hand.
  - Material: Stainless steel .
    Colour and finish: Chromed steel.
- Tap/ chainstay/ overflow holes: One tap hole, centre. and Overflow hole..
- Taps: Mixer.
  - Manufacturer: Francis Pegler.
    Product reference: Mercia Lever Sink Mixer Tap.
  - Operation: Lever.
- Wastes: Plug and chain.
  - Manufacturer: Howdens.
    Product reference: Single Bowl Plumbing Kit.
  - Size: To fit sink .
- Traps: Tubular, P type.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Size: To fit waste.
  - Depth of seal (minimum): 75 mm.
- Accessories: Support brackets.

50 SEALANT

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

N13
Sanitary appliances and fittings

N13 Sanitary appliances and fittings

10A WC SUITE

- Manufacturer: VitrA (UK) Ltd.
  - Web: www.vitra.co.uk.
  - Email: info@vitra.co.uk.
  - Product reference: S20 Close-coupled WC Pan, 5511
- Cistern: Close coupled cistern with fittings, 5514S003-5284
- Seat: S20 soft closing toilet seat, 77-003-009.

12 DOC M PACK TO GROUND FLOOR WC

VitrA DOC M Pack, SN02

Detailed description

VitrA suites can be coordinated with matching bidets, washbasins, WC's and baths. A complete DOC M pack, low level boxed. Manufactured from

- vitreous china tBS 3402, available in white only. 10 year guarantee.

Product guidance - As Standard

Components:

- High raised low-level WC.
- Ringed toilet seat.
- Padded back rest.
- Low-level cistern.
- Low-level fitting pack with espaculate lever.
- 45 cm washbasin.
- Chrome waste.
- Tap hole stopper.
- Bottle trap.
- Lever action spray mixer.
- Five 60 cm grab rails.
- Hinged rail.

Product specification

Manufacturer

- Name: VitrA (UK) Ltd
- Web: www.vitra.co.uk
- Email: info@vitra.co.uk
- Tel: +44 (0)1235 750990
- Fax: +44 (0)1235 750980
- Address: Park 34,Collett,Didcot,Oxfordshire OX11 7WB

Product reference DOC M Pack, SN02

25A SELF-CLOSING TAPS In WCs

- Manufacturer: Intatec.
  - Web: www.intatec.co.uk.
  - Product reference: Stainless Steel Non Concussive Taps.
- Accessories: None.

30A WASHBASIN

- Manufacturer: VitrA (UK) Ltd.
  - Web: www.vitra.co.uk.
  - Email: info@vitra.co.uk.
  - Product reference: Arkitekt Cloakroom Washbasin, 45 cm, 5078
- Tap/ Chainstay/ Overflow holes: One tap hole with overflow, 5078L003-0623.

68 SEALANT FOR POINTING

- Standard: To BS EN ISO 11600.
  - Class: F20 HM.
- Type: Silicone.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
- Colour: White.

70 INSTALLATION GENERALLY

- Assembly and fixing: Fix appliances securely to structure, without taking support from pipelines, level and plumb and so that surfaces designed to fall drain as intended.
- Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes, to form watertight joints between appliances and backgrounds (except cisterns) and between appliances and discharge pipes.

75 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 position.

P
Building fabric sundries

P10
Sundry insulation/ proofing work

P10 Sundry insulation/ proofing work

6 EAVES ROOF VENTILATOR FOR ROOFS WITH SKEILINGS

Airtrak F25 Fascia Ventilator

Description
The F25 Fascia Ventilators provide regulation meeting ventilation to the roof void over the eaves fascia board avoiding unsightly soffit ventilation. They include an integral insect excluder.

Material
Black polypropylene.

Ventilation
F25 25mm continuous ventilation equivalent.

Dimensions
F25 50mm wide x 51mm high x 1000mm long.

Compatibility
Use the F10 at the eaves for roof pitches of 16 to 90°.
Use the F25 at the eaves for roof pitches of 1 to 15°or any roof where living accommodation is contained within the roof space.

Installation
The F10 and F25 are fixed to the top of the fascia board using non ferrous nails or screws butting the lengths end to end. It is advisable to provide a support for the roofing felt behind the ventilator to avoid it sagging and blocking the airpath into the roof void. The Airtrak EC Eaves carrier may be used for this purpose.
To specify
" Airtrak F25 Fascia Vent - 25mm continuous ventilation
Supplied by Nicholson. Tel 0845 0098 980.

7 EAVES ROOF VENTILATOR FOR EXISTING ROOFS

Description
The F10 Fascia Ventilators provide regulation meeting ventilation to the roof void over the eaves fascia board avoiding unsightly soffit ventilation. They include an integral insect excluder.

Material
Black polypropylene.

Ventilation
F10 10mm continuous ventilation equivalent.

Dimensions
F10 35mm wide x 22mm high x 1000mm long.

Compatibility
Use the F10 at the eaves for roof pitches of 16 to 90°.

Installation
The F10 and F25 are fixed to the top of the fascia board using non ferrous nails or screws butting the lengths end to end. It is advisable to provide a support for the roofing felt behind the ventilator to avoid it sagging and blocking the airpath into the roof void. The Airtrak EC Eaves carrier may be used for this purpose.
To specify
" Airtrak F10 Fascia Vent - 10mm continuous ventilation
Supplied by Nicholson. Tel 0845 0098 980.

8 IN LINE TILE VENTILATOR
Keymer in-line ventilaor
Clay slips on copolymer polypropylene base
7,500mm² nett ventilation area

10A LOFT INSULATION To Existing Roofs

- Manufacturer: Thermafleece.
  - Product reference: Cosywool.
- Material: Natural wool.
- Recycled content: Not applicable.
- Depth/ Thickness: 100 mm.
- Installation: install tight to the underside of the Type 1F membrane with galvanised wire netting with 25mm aperture.
  Allow for the installation of battens to hold netting in place

15A INSULATION To the new build Roof

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Kingspan Kooltherm® K7 Pitched Roof Board
- Insulation thickness: 100.

40A INSULATION FITTED BETWEEN STUDS Within timber framed walls

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Kingspan Kooltherm® K12 Framing Board
- Insulation thickness: 50 mm.

45A INSULATION between ground floor joists in cellar/within ceiling voids

- Manufacturer: ROCKWOOL Ltd.
  - Web: www.rockwool.co.uk.
  - Email: info@rockwool.com.
  - Product reference: Rockwool ProRox SL 920.
- Thickness: 100 mm.
- Facings: Plain (un-faced).

65A BREATHER MEMBRANE

- Manufacturer: Kingspan Insulation.
  - Web: www.kingspaninsulation.co.uk.
  - Email: info@kingspaninsulation.co.uk.
  - Product reference: Nilvent®

P20

Unframed isolated trims/ skirtings/ sundry items

P20 Unframed isolated trims/ skirtings/ sundry items

10 SOFTWOOD Skirtings to new build areas

- Quality of wood and fixing: To BS 1186-3.
  - Species: European whitewood .
  - Class: 1.
- Moisture content at time of fixing: 9 -13%.
- Preservative treatment: Water-based microemulsion as section Z12, service life 60 years.
- Fire rating: Not applicable.
- Profile: Pencil rounded edges.
  - Finished size: 19 x 95 mm.
- Finish as delivered: Prepared and primed as section M60.
- Fixing: As section Z20.

20 HARDWOOD Trims

- Quality of wood and fixing: To BS 1186-3.
  - Species: European oak.
  - Class: CSH.
- Moisture content at time of fixing: 9 -13% .
- Preservative treatment: Not required.
- Fire rating: Not applicable.
- Profile: As shown on drawings.
  - Finished size: 20x78mm.
- Finish as delivered: Natural.
- Fixing: Plugged, screwed and pelleted at 300mm centres.

80 INSTALLATION GENERALLY

- Joinery workmanship: As section Z10.
- Metal workmanship: As section Z11.
- Methods of fixing and fasteners: As section Z20.
- 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.

P30

Trenches, pipeways and pits for buried engineering services

P30 Trenches, pipeways and pits for buried engineering services

10 ROUTES OF SERVICES BELOW GROUND

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

20 TRENCHES

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

20A TRIPLE SEAL ODOUR TIGHT MANHOLE

- Manufacturer: Kent Stainless.
  - Web: www.kentstainless.com.
  - Email: info@kentstainless.com.
  - Product reference: Triple Seal Odour Tight Manhole
- Type: KMHT(O)-600/600.
- Size: Bespoke.
- Loading: FACTA B.
- Material: 304 stainless steel.
- Accessories: None.

30 PIPEDUCTS

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

40 BEDDING/ SURROUND FOR PIPEDUCTS

- Bedding:
  - Granular material: To Department for Transport (DfT) 'Specification for the reinstatement of openings in highways: code of practice' 3rd Edition.
  - Compact uniformly in 100 mm maximum layers.
- Surround: As bedding.

50 BACKFILLING

- Requirements: To Department for Transport (DfT) 'Specification for the reinstatement of openings in highways: code of practice' 3rd Edition.

Q
Paving/Planting/Fencing/Site furniture

Q10
Kerbs/ edgings/ channels/ paving accessories

Q10 Kerbs/ edgings/ channels/ paving accessories

TO BE READ WITH PRELIMINARIES/ GENERAL CONDITIONS.

TYPES OF KERBS/ EDGINGS/ CHANNELS

130 CLAY BRICK KERBS

- Bricks:
  - Manufacturer: Lamb's.
    Product reference: Victorian red.
  - Special shapes: Double cant.
- Recycled content: 0% (minimum) to BS EN ISO 14021.
- Colour: Victorian red.
- Bedding: As drawing 10205/13.
- Joints generally: Tooled mortar.
- Sealant movement joints: Not required.
- Accessories: None.

LAYING

510 LAYING KERBS, EDGINGS AND CHANNELS

- Cutting: Neat, accurate and without spalling. Form neat junctions.
  - Long units (450 mm and over) minimum length after cutting: 300 mm.
  - Short units minimum length after cutting: The lower of one third of their original length or 50 mm.
- Bedding of units: Positioned true to line and levelled along top and front faces, in a mortar bed on accurately cast foundations or on a race of fresh concrete.
- Securing of units: After bedding has set, secured with a continuous haunching of concrete or on a race of fresh concrete with backing concrete cast monolithically.

530 CONCRETE FOR FOUNDATIONS, RACES AND HAUNCHING

- Standard: To BS 8500-2.
- Designated mix: Not less than GEN0 or Standard mix ST1.
- Workability: Very low.

540 CEMENT MORTAR BEDDING

- General: To section Z21.
- Mix: (Portland cement:sand): 1:3.
  - Portland cement: Class CEM I 42.5 to BS EN 197-1.
  - Sand: to BS EN 12620, grade 0/4 or 0/2 (MP).
- Bed thickness: 12-40 mm.

547 BEDDING/ BACKING OF UNITS ON FRESH CONCRETE RACES

- Standard: To BS 7533-6.

560 HAUNCHING DOWELS

- Dowels: Steel bar to BS 4482.
  - Size: 12 mm diameter, 150 mm long.
- Installation of dowels: Vertically into foundation while concrete is plastic.
  - Centres: 450 mm.
  - Distance from back face of kerb: 50 mm.
  - Projection: 75 mm.
- Haunching: Rectangular cross section, cast against formwork, fully enclosing and protecting dowels.

570 CHANNELS

- Installation: To an even gradient, without ponding or backfall.
- Lowest points of channels: 6 mm above drainage outlets.

580 DRAINAGE CHANNEL SYSTEMS

- Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.
- Silt and debris: Removed from entire system immediately before handover.
- Washing and detritus: Safely disposed without discharging into sewers or watercourses.

620 ACCURACY

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

625 REGULARITY OF PAVED SURFACES

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

630 NARROW MORTAR JOINTS

- Jointing: Ends of units buttered with bedding mortar as laying proceeds. Joints completely filled, tightly butted and surplus mortar removed immediately.
  - Joint width: 3 mm.

Q20
Granular sub-bases to roads/ pavings

Q20 Granular sub-bases to roads/ pavings

To be read with Preliminaries/ General conditions.

140 EXCAVATION OF SUBGRADES

- Final excavation to formation/ subformation level: Carry out immediately before compaction of subgrade.
- Soft spots and voids: Give notice.
- Old drainage and service trenches: Give notice.
- Wet conditions: Do not excavate or compact when the subgrade may be damaged or destabilized.

145 PREPARATION AND COMPACTION OF SUBGRADES

- Timing: Immediately before placing sub-base.
- Soft or damaged areas: Excavate and replace with sub-base material, compacted in layers 300 mm (maximum) thick.
- Compaction: Thoroughly, by roller or other suitable means, adequate to resist subsidence or deformation of the subgrade during construction and of the completed roads/ pavings when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

150 SUBGRADES FOR VEHICULAR AREAS

- Preparation and treatment: To Highways Agency 'Specification for highway works', clauses 616 and 617.

170 GEOTEXTILE FILTER/ SEPARATOR MEMBRANE to ramps and paving

- Manufacturer: Manufacturer's choice.
  - Product reference: Manufacturer's choice.
- Jointing: 300 mm overlap.
- Protect from:
  - Exposure to light, except during laying (maximum five hours).
  - Contaminants.
  - Materials listed as potentially deleterious by geotextile manufacturer.
  - Damage, until fully covered by fill.
  - Wind uplift, by laying not more than 15 m before covering with fill.
- Preparation: Remove humps and sharp projections and fill hollows before laying.

210 HIGHWAYS AGENCY TYPE 1 UNBOUND MIXTURE FOR SUB-BASE

- Material: Type 1 unbound mixture to Highways Agency 'Specification for highway works', clauses 801 and 803.
  - Recycled aggregate: Permitted.

211 GRANULAR MATERIAL

- Quality: Of a known suitability for use in sub-base, free from excessive dust, well graded, all pieces less than 75 mm in any direction, minimum 10% fines value of 50 kN when tested in a soaked condition to BS 812-111 or a resistance to fragmentation of LA50 for the Los Angeles test to BS EN 1097-2, and in any one layer only one of the following:
  - Crushed rock (other than argillaceous rock) or quarry waste with not more binding material than is required to help hold the stone together.
  - Crushed concrete, crushed brick or tile, free from plaster, timber and metal.
  - Gravel or hoggin with not more clay content than is required to bind the material together, and with no large lumps of clay.
  - Natural gravel.
  - Natural sand.
- Filling: Spread and levelled in 150 mm maximum layers, each layer thoroughly compacted.

230 PLACING GRANULAR MATERIAL GENERALLY

- Preparation: Loose soil, rubbish and standing water removed.
- Structures, membranes and buried services: Ensure stability and avoid damage.

240 LAYING GRANULAR SUB-BASES FOR VEHICULAR AREAS

- General: Spread and levelled in layers. As soon as possible thereafter compact each layer.
- Standard: To Highways Agency 'Specification for highway works' clause 802.
- At drainage fittings, inspection covers, perimeters and where local excavation and backfilling has taken place: Take particular care to compact fully.

241 LAYING GRANULAR SUB-BASES FOR VEHICULAR AREAS

- Proposals: Well in advance of starting work submit details of:
  - Maximum depth of each compacted layer.
  - Type of plant.
  - Minimum number of passes per layer.
- General: Spread and levelled in layers. As soon as possible thereafter compact each layer.
- At drainage fittings, inspection covers, perimeters and where local excavation and backfilling has taken place: Take particular care to compact fully.
- Defective areas: Remove loose, segregated or otherwise defective areas to the full thickness of the layer and lay and compact new material.
- Sub-base surface after compaction and immediately before overlaying: Uniformly well closed and free from loose material, cracks, ruts or hollows.

250 LAYING GRANULAR SUB-BASES FOR PEDESTRIAN AREAS

- General: Spread and levelled.
- Compaction:
  - Timing: As soon as possible after laying.
  - Method: By roller or other suitable means, adequate to resist subsidence or deformation of the sub-base during construction and of the completed paving when in use. Take particular care to compact fully at intrusions, perimeters and where local excavation and backfilling has taken place.

310 ACCURACY

- Permissible deviation from required levels, falls and cambers (maximum):
  - Subgrades:
    Roads and parking areas: +20 -30 mm.
    Footways and recreation areas: ± 20 mm.
  - Sub-bases:
    Roads and parking areas: +10 -10 mm.
  - Footways and recreation areas: +5 -10 mm.

320 SURFACES TO RECEIVE SAND BEDDING FOR PAVING TO SECTION Q24.

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

330 COLD WEATHER WORKING

- Frozen materials: Do not use.
- Freezing conditions: Do not place fill on frozen surfaces. Remove material affected by frost. Replace and recompact if not damaged after thawing.

340 PROTECTION

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

Q24

Interlocking brick/ block roads/ pavings

Q24 Interlocking brick/ block roads/ pavings

To be read with Preliminaries/ General conditions

TYPES OF PAVING

126A PERMEABLE CLAY PAVER PAVING TO RAMPS

- Subgrade improvement layer: Not required.
  - Compacted thickness: Not applicable.
- Geotextile below granular sub-base: As section Q20.
- Granular sub-base: Coarse graded aggregate for permeable paving, as section Q20.
  - Compacted thickness: 150 mm.
- Geotextile below laying course:
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
- Laying course:
  - Material: In accordance with BS 7533-3, Annex D.2.2.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 50 mm.
- Pavers: To BS EN 1344.
  - Manufacturer: LAMBS BRICKS AND STONE.
    Product reference: VICTORIAN MULTI PAVERS.
  - Sizes: 228 X 112 X 50mm.
  - Special pavers: Kerbs.
  - Spacer nibs: No requirement.
  - Arrises: No requirement.
  - Colour/ Finish: Red with buff and blue blush.
  - Requirements: Generally.
    Dimensional deviations: Class R1.
    Freeze/ thaw resistance class: No requirement.
    Mean transverse breaking load: No requirement.
    Abrasion resistance (mm): No requirement.
    Slip/ Skid resistance: No requirement.
    Acid resistance: No requirement.
- Jointing:
  - Material: Single size 5 mm washed aggregate.
  - Joint width: 6 mm.
  - Conventional sand jointing: At perimeters.
- Setting out:
  - Bond: Staggered stretcher bond with double stretcher course around perimeter.
  - Features: Kerbs as shown on drawing 10205/13.
- Accessories: None.

126B PERMEABLE CLAY PAVER PAVING TO COURTYARD

- Subgrade improvement layer: Not required.
  - Compacted thickness: Not applicable.
- Geotextile below granular sub-base: As section Q20.
- Granular sub-base: Coarse graded aggregate for permeable paving, as section Q20.
  - Compacted thickness: 250 mm.
- Geotextile below laying course:
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
- Laying course:
  - Material: In accordance with BS 7533-3, Annex D.2.2.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 50 mm.
- Pavers: To BS EN 1344.
  - Manufacturer: Lambs bricka and stone.
    Product reference: Victorian Multui Pavers.
  - Sizes: 228 x 112 x 50mm.
  - Special pavers: Kerbs.
  - Spacer nibs: No requirement.
  - Arrises: No requirement.
  - Colour/ Finish: Red with buff and blue blush.
  - Requirements: Generally.
    Dimensional deviations: No requirement.
    Freeze/ thaw resistance class: No requirement.
    Mean transverse breaking load: Class T1.
    Abrasion resistance (mm): No requirement.
    Slip/ Skid resistance: No requirement.
    Acid resistance: No requirement.
- Jointing:
  - Material: sand.
  - Joint width: 6 mm.
  - Conventional sand jointing: At perimeters and obstructions.
- Setting out:
  - Bond: Staggered stretcher bond with double stretcher course around perimeter.
  - Features: Mortar bedded edge restraint.
- Accessories: None.

126C CLAY PAVER PAVING TO INNER COURTYARD

- Subgrade improvement layer: Not required.
  - Compacted thickness: Not applicable.
- Geotextile below granular sub-base: As section Q20.
- Granular sub-base: Coarse graded aggregate for permeable paving, as section Q20.
  - Compacted thickness: 250 mm.
- Geotextile below laying course:
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
- Laying course:
  - Material: In accordance with BS 7533-3, Annex D.2.2.
  - Compaction: In accordance with BS 7533-3. Determine by trial the depth of loose bedding material needed to ensure specified bedding course thickness after final compaction of paving.
  - Nominal thickness after compaction: 50 mm.
- Pavers: To BS EN 1344.
  - Manufacturer: Use existing pavers.
    Product reference: N?A.
  - Sizes: as existing.
  - Jointing:
  - Material: sand.
  - Joint width: 6 mm.
  - Conventional sand jointing: At perimeters and obstructions.
- Setting out:
  - Bond: Staggered stretcher bond with double stretcher course around perimeter.
  - Features: Mortar bedded edge restraint.
- Accessories: None.

EXECUTION

200 EXECUTION GENERALLY - CONCRETE BLOCK AND CLAY PAVER PAVING

- Standard: In accordance with BS 7533-3.

211 COLOUR BANDING

- General: Unless premixed by manufacturer, select blocks/ pavers/ setts vertically from at least 5 separate packs in rotation, to avoid colour banding.

240 ADVERSE WEATHER

- General: Do not use frozen materials or lay bedding on frozen or frost covered sub-bases.

385 MORTAR BEDDED EDGE RESTRAINT

- Foundation:
  - Size: 250 x 200 mm.
  - Concrete : As section E10 mix 1:3 cement:sand, grading MP or FP.
- Bedding:
  - Thickness: 10 mm minimum to 40 mm maximum.
  - Mortar: As section Z21.
- Laying: Bed units on foundation, and secure with continuous mortar haunching.
  - Keep exposed faces clean and free from mortar.
- Jointing: Tooled mortar .

450 LAYING GEOTEXTILE SHEET FOR CONVENTIONAL PAVING

- Location: Immediately below laying course.
- Jointing: Lap by 300 mm.
- Laying: Fit neatly at edge restraints and other features that interrupt the sand laying course, e.g. drainage fittings, channels, manholes and kerbs.
  - Edge detail: Turn sheet up to form an upstand against features.
  - Height (minimum): Thickness of sand laying course.

451 LAYING GEOTEXTILE SHEET FOR PERMEABLE PAVING

- Jointing: Lap by 300mm.

485 LAYING BLOCKS/ PAVERS/ SETTS

- Setting out: Start from an edge restraint.
- Cutting: Cleanly, accurately and vertically, without spalling. Do not mark or damage visible surfaces.
- Cut edges: Turn inwards where possible; do not position against edge restraints or other features.
- In situ mortar or concrete infill: Do not use.
- Compaction: Vibrate to produce thoroughly interlocked paving of even overall appearance with regular joints and accurate to line, level and profile. Do not mark or damage paving units, kerbs and adjacent work.
  - Concrete blocks and clay pavers: In accordance with BS 7533-3, Annex F, to site category required for laying course material.

505 REGULARITY OF PAVED SURFACES

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

COMPLETION

615 COMPLETION OF PAVING

- Final compaction of the surface course: In accordance with BS 7533-3.
- Vacuum cleaning machines: Not allowed.

R
Disposal systems

R10
Rainwater drainage systems

R10 Rainwater drainage systems

35A FLOOR DRAINAGE CHANNEL To Doors

- Manufacturer: Wade International Ltd.
  - Web: www.wade.eu.
  - Email: tech@wade.eu.
  - Product reference: HSCE.
- Channel size: 115mm x 50mm.
- Slot size: 10mm.

35B FLOOR DRAINAGE CHANNEL Linear drain near boiler room

- Manufacturer: Wade International Ltd.
  - Web: www.wade.eu.
  - Email: tech@wade.eu.
  - Product reference: HSCE.
- Channel size: 115mm x 100mm.
- Slot size: 10mm.

50 INSTALLATION GENERALLY

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

60 GUTTERS LAID TO FALL

- 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.
- Joints: Watertight.
- Roofing underlay: Dressed into gutter.

65 GUTTERS LAID LEVEL

- Setting out: Level and as close as practical to roof.
- Joints: Watertight.
- Roofing underlay: Dressed into gutter.

70 PIPEWORK

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

80 INTERNAL PIPEWORK TEST - ENGLAND, WALES, IRELAND AND NORTHERN IRELAND

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

R11
Above ground foul drainage systems

R11 Above ground foul drainage systems

31 CAST IRON PIPEWORK

- Standard: To BS EN 877 with flexible joint couplings.
- Manufacturer: Submit proposals.
  - Product reference: Submit proposals.
- Coupling type: Bolted.
- Fixing: Cast iron holderbats at 3000 mm centres.
- Accessories: Access fittings.

50 INSTALLATION GENERALLY

- Standards: To BS EN 12056-1, BS EN 12056-2 (including National Annexes NA-NG) and BS EN 12056-5.
- Drainage from appliances: Quick, quiet and complete, without blockage, crossflow, backfall, leakage, odours, noise nuisance or risk to health.
- Components: From same manufacturer for each type of pipework.
- Access: Provide access fittings in convenient locations to permit cleaning and testing of pipework.
- Thermal and building movement: Provide and maintain clearance as fixing and jointing proceeds.
- Fixings: Allow the pipe to slide.
  - Finish: Plated, sherardized, galvanized or other nonferrous.
  - Compatibility: Suitable for the purpose, material being fixed and substrate.

60 PIPEWORK

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

70 PIPEWORK TEST

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

R12
Below ground drainage systems

R12 Below ground drainage systems

To be read with Preliminaries/ General conditions.

GENERAL

PRODUCTS

313A FOUL AND SURFACE WATER DRAINAGE SYSTEM
- Manufacturer: OSMA.
  - Web: www.wavin.co.uk.
  - Email: info@wavin.co.uk.
  - Product reference: 6D066.
- Accessories: 4D900.

498 GRANULAR SUB-BASE MATERIAL Generally
- Standard: To Highways Agency Volume 1, 'Specification for Highway Works', Type 1 Unbound mixtures for sub-base.
- Recycled content: 50% (minimum) to BS EN ISO 14021.

EXECUTION

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.

657 CLASS F BEDDING To courtyard perimter drain

- Type of subsoil: Gravel, sand - compact.
- Granular material: Natural.
  - Sizes: To Water Industry Specification WIS 4-08-02 (as amended by WIS 4-08-02A, 2008).
- Bedding:
  - Material: Granular, compacted over full width of trench.
  - Thickness (minimum): 50 mm for sleeve jointed pipes, 100 mm for socket jointed pipes. Where trench bottom is uneven, increase thickness by 100 mm.
- Pipes: Dig slightly into bedding, rest uniformly on barrels and adjust to line and gradient.
- Initial testing before backfilling: Not required.
- Backfilling:
  - Material: Protective cushion of selected fill.
  - Depth: 150 mm (250 mm for adoptable sewers) above crown of pipe.
  - Compaction: By hand in 100 mm layers.

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): 200 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.

695 BACKDROP PIPES OUTSIDE MANHOLE WALLS

- Excavation beneath backdrop pipe: Backfill.
  - Material: Concrete.
- Pipe encasement:.
  - Material: Concrete.
  - Thickness (minimum): 150 mm.

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.

728 LAYING WARNING MARKER TAPES

- Installation: During backfilling, lay continuously over pipelines.
- Depth: 300-400 mm.
  - Pipelines deeper than 2 m: Lay an additional tape 600 mm above the top of the pipeline.

734 INSTALLING ACCESS POINTS AND GULLIES

- Bedding:
  - Material: Granular - manufactured, size 4/10 to BS EN 13242 .
  - Thickness (minimum): 100 mm.
- Surround:
  - Material: Not required.
  - Thickness (minimum): Not required.
  - Height: Not required.
- 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.

736 INSTALLING RODDING POINTS

- Bedding and surround:
  - Material: Concrete.
  - Thickness (minimum): 100 mm
- Permissible deviation in level of external covers and gratings: +0 to -6 mm.

743 INSTALLING CONCRETE MANHOLES

- Bases:
  - Material: Concrete.
  - Thickness (minimum): 225 mm.
- Surround:
  - Material: Not required.
  - 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.

773 INSTALLING ACCESS COVERS AND FRAMES

- Seating: Brickwork as section F10.
- Bedding and haunching of frames: Continuously.
  - Material: 1:3 cement:sand mortar.
  - Top of haunching: 30 mm below surrounding surfaces.
- Horizontal positioning of frames:
  - Centred over openings.
  - Square with joints in surrounding paving.
- Vertical positioning of frames:
  - Level; or
  - Marry in with levels of surrounding paving.
- Permissible deviation in level of external covers and frames: +0 to -6 mm.

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.

903 TEMPORARY MEASURES

- Water used to stabilize tanks and the like during installation: Drain.

911 TESTING AND INSPECTION

- Dates for testing and inspection: Give notice.
  - Period of notice: 5 days.

941 WATER TESTING OF MANHOLES AND INSPECTION CHAMBERS

- Timing: Before backfilling.
- Standard:
  - Exfiltration: To BS EN 1610.
    Method: Testing with water (method W).
  - Infiltration: No identifiable flow of water penetrating the chamber.

R13
Land drainage

R13 Land drainage

To be read with Preliminaries/General conditions.

GENERALLY

100 EXISTING DRAINS AND WATERCOURSES

- Setting out: Before starting work, check invert levels and positions of existing drainage against drawings. Report any discrepancies.
- Drains to be retained: Protect. Maintain normal operation.

106 IN SITU CONCRETE (GENERAL)

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

DRAINS

211A FILTER DRAINS WITH PIPE To french drains

- Trench:
  - Depth: To depth of existing subbase.
  - Width: 450 mm.
- Pipe bedding: Granular material to BS EN 13242, size 4/10.
  - Recycled content of granular material: None required.
- Pipes: Plastics to BS 4962, Kitemark certified, perforated.
  - Manufacturer: Submit proposals.
    Product reference: Submit proposals.
  - Sizes: DN 100.
  - Recycled content of plastics pipes: None required.
  - Perforations: Up.
- Pipe surround and backfill:
  - Material: Granular surround and backfill - subsoil drains.
  - Recycled content of granular material: No applicable.
  - Level: To finished ground level.

241 PIPE DRAINS

- Depth to pipe invert: to existing subbase.
- Pipe bedding: Granular material to BS EN 13242, size 4/10.
  - Recycled content of granular material: None required.
- Pipes: Plastics to BS 4962, Kitemark certified, perforated.
  - Manufacturer: Contractor's choice.
    Product reference: Contractor's choice.
  - Sizes DN 100.
  - Recycled content of plastics pipes: 25% (minimum) to BS EN ISO 14021.
  - Perforations: Up.
- Pipe surround: Granular surround and backfill - subsoil drains.
  - Recycled content of granular material: No applicable.
  - Depth of cover to pipe (minimum): 300 mm.
- Backfill from top of pipe surround: As-dug material.

350 LAYING PIPES

- Weather conditions: Lay pipes in good weather using methods suitable for the site conditions.
  - Plastics pipes: Do not lay or backfill at temperatures lower than 5°C.
  - Soil structure: Prevent compaction, smearing, top ponding, rutting and damage.
- General: Lay to line and gradient on a firm bed free from loose soil to give a free-draining installation without backfalls. Do not lay on soil backfill or in slurry.
- Drains closer than 6 m to trees or hedges: Unperforated pipes with positively sealed joints and as-dug backfill.
- Junctions between branches and mains: Purpose made components.
- Upper ends of drain runs: Plug to prevent ingress of soil or animals.
- Backfilling: Do not damage, distort or displace pipes.

EXCAVATING/ BEDDINGS/ SURROUNDS/ BACKFILL

500 TOPSOILING

- Filter drains: Do not lay until soiling operations, including spreading and grading of topsoil, have been completed.
- Segregation: Carefully remove topsoil when forming trenches and prevent mixing with subsoil.

505 EXCAVATION

- Pipe gradients: Between 1 in 200 and 1 in 80.
- Subsoil: Remove from site or to approved locations at end of each day and before pipe laying. Do not disperse on topsoiled areas.
  - Approved locations: None-remove from site.

515 EXISTING LIVE LAND DRAINS

- Drains exposed by excavation: Mark positions.
- Cutting out: Carefully break back piped drains to an undisturbed section.
- Reconnection: Connect exposed drain to new work.
- Record drawing: Show position of exposed system and new connections. Submit copy.

520 FORMATION FOR BEDS OR PIPES

- Timing: Excavate to formation immediately before laying beds or pipes.
- Hard spots: Remove rock projections, boulders, etc. Replace with consolidated bedding material.
- Soft spots: Tamp in bedding material.
- Inspection: Give notice of completed excavated formation for each section of the work.
  - Period of notice (minimum): 2 working days.

525 GRANULAR BEDS

- Compacted thickness (minimum): 50 mm.
  - Laying pipes: Scoop out locally at couplings and sockets and lay pipes digging slightly into bed and resting uniformly on their barrels.

530 GRANULAR SURROUND AND BACKFILL - SUBSOIL DRAINS

- Material: Clean gravel, broken stone, hard clinker or slag, with no fines, graded 40 to 10 mm or approved recycled material.
- Covering:
  - Cap to granular material: Geotextile trench lining.

540 GRANULAR SURROUND AND BACKFILL - SURFACE WATER DRAINS

- Material: Clean gravel, broken stone, hard clinker or slag, with no fines, graded 75 to 20 mm or approved recycled material.

546 SELECTED AS-DUG SURROUND AND BACKFILL

- Material: Selected as-dug, free from vegetable matter, rubbish, frozen soil, large lumps of clay and material retained on a 40 mm sieve.
- Placing material around sides of pipes and against fin drains: Carefully pack. Prevent damage or disruption to pipelines or fin drains and compact thoroughly.

555 GRANULAR BACKFILLING TO DRAINS WITH PIPES

- General: Not applicable to narrow trenches where a backfill is placed continuously by machine.
- Placing: in maximum 300 mm thick layers, with mechanical compaction from 300 mm above crown of pipe, up to finished ground level.
  - Surround and backfill material: Do not heap in the trench before spreading.
  - Packing: Carefully pack material around the sides of the pipe. Prevent damage or disruption to pipelines and compact thoroughly.

ANCILLARY CONSTRUCTIONS AND WORK

800 CLEANING

- General: Thoroughly flush out the whole of the installation with clean water to remove silt and debris immediately before handover.
- Washings and detritus: Dispose of safely. Do not discharge into sewers or watercourses.

Z
Building fabric reference specification

Z10
Purpose made joinery

Z10 Purpose made joinery

10 FABRICATION

- Standard: To BS 1186-2.
- Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
  - Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
- Joints: Tight and close fitting.
- Assembled components: Rigid. Free from distortion.
- Screws: Provide pilot holes. Heads of countersunk screws sunk at least 2 mm below surfaces visible in completed work.
- Adhesives: Compatible with wood preservatives applied and end uses of timber.

20 CROSS SECTION DIMENSIONS OF TIMBER

- General: Dimensions on drawings are finished sizes.
- Maximum permitted deviations from finished sizes:
  - Softwood sections: To BS EN 1313-1.
  - Hardwood sections: To BS EN 1313-2.

30 PRESERVATIVE TREATED WOOD

- Cutting and machining: Completed as far as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thicknessed, planed, ploughed, etc.
- Surfaces exposed by minor cutting and/ or drilling: Treat as recommended by main treatment solution manufacturer.

40 MOISTURE CONTENT

- Wood and wood based products: Maintained within range specified for the component during manufacture and storage.

50 FINISHING

- Surfaces: Smooth, even and suitable to receive finishes.
  - Arrises: Eased unless shown otherwise on drawings.
- End grain in external components: Sealed with primer or sealer as section M60 and allowed to dry before assembly.

Z11
Purpose made metalwork

Z11 Purpose made metalwork

20 METAL HANDRAILS TO ACCESSIBLE RAMPS
Refer to drawing 10205-D13
Galvanised mild steel
Painted black

31 METAL PRODUCTS
- Grades of metals, section dimensions and properties: To the appropriate British Standards and suitable for the purpose.
- Fasteners: Generally, same metal as component, with matching coating and finish.

50 PREPARATION FOR APPLICATION OF COATINGS
- General: Fabrication complete, and fixing holes drilled before applying coatings.
- Paint, grease, flux, rust, burrs and sharp arrises: Removed.

51 FABRICATION GENERALLY
- Contact between dissimilar metals in components: Avoid.
- Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
  - Moving parts: Free moving without binding.
- Corner junctions of identical sections: Mitre.
- Prefinished metals: Do not damage or alter appearance of finish.

52 COLD FORMED WORK
- Profiles: Accurate, with straight arrises.

53 WELDING AND BRAZING GENERALLY
- Surfaces to be joined: Clean thoroughly.
- Tack welds: Use only for temporary attachment.
- Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks.
- Surfaces of materials that will be self-finished and visible in completed work: Protect from weld spatter.
- Flux residue, slag and weld spatter: Remove.

54 WELDING OF STEEL
- Method: Metal arc welding to BS EN 1011-1 and -2.

56 FINISHING WELDED AND BRAZED JOINTS VISIBLE IN COMPLETE WORK
- Butt joints: Smooth, and flush with adjacent surfaces.
- Fillet joints: Neat.
- Grinding: Grind smooth where indicated on drawings.

58 GALVANIZING
- Standard: To BS EN ISO 1461.
- Vent and drain holes:
  - Location: External Handrails.
  - Sealing after galvanizing: Required. Submit proposals.

Z20
Fixings and adhesives

Z20 Fixings and adhesives

10 FIXINGS AND FASTENERS GENERALLY

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

25 FASTENER DURABILITY

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

30 FIXINGS THROUGH FINISHES

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

35 PACKINGS

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

40 CRAMP FIXINGS

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

50 PELLETED COUNTERSUNK SCREW FIXINGS

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

55 PLUGGED COUNTERSUNK SCREW FIXING

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

60 APPLYING ADHESIVES

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

Z21
Mortars

Z21 Mortars

10 MORTAR MIXES

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

25 SAND FOR LIME:SAND MASONRY MORTARS

- Type: Sharp, well graded.
  - Quality, sampling and testing: To BS EN 13139.
  - Grading/ Source: As specified elsewhere.

60 MAKING MORTARS GENERALLY

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

70 MAKING HYDRAULIC LIME:SAND MORTARS

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

Z22
Sealants

Z22 Sealants

EXECUTION

61 SUITABILITY OF JOINTS

- Presealing checks:
  - Joint dimensions: Within limits specified for the sealant.
  - Substrate quality: Surfaces regular, undamaged and stable.
- Joints not fit to receive sealant: Submit proposals for rectification.

62 PREPARING JOINTS

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

63 APPLYING SEALANTS

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

Z31
Powder coatings

Z31 Powder coatings

To be read with Preliminaries/ General conditions.

210 WORKING PROCEDURES

- Comply with the follow following standards.
  - Aluminium components: To BS 6496 or BS EN 12206-1.
  - Steel components: To BS EN 13438.
  - Safety standards: To British Coatings Federation 'Code of safe practice: Powder coating. Application of coating powders by electrostatic spraying'.
  - Health and safety guidance: Health and Safety Executive 'Reducing risk associated with using coating powders - employers' web page.

220 POWDER COATING APPLICATORS

- Applicator requirements:
  - Approved by powder coating manufacturer.
  - Currently certified to BS EN ISO 9001.
  - Comply with quality procedures, guarantee conditions, standards and tests required by powder coating manufacturer.
  - Selected applicator: Submit details before commencement of powder coating including:
    Name and contact details.
    Details of accreditation schemes.

225 GUARANTEES

- Powder coating manufacturer and applicator guarantees:
  - Submit sample copies before commencement of powder coating.
  - Submit signed project specific copies on completion of work.

310 PRETREATMENT OF ALUMINIUM COMPONENTS

- Condition of components to be pretreated:
  - Free from corrosion and damage.
  - All welding and jointing completed and finish off as specified.
  - Free from impurities including soil, grease and oil.
  - Suitable for and compatible with the pretreatment process.
- Conversion coating requirements:
  - Chromate system: To BS 6496 or BS EN 12206-1.
  - Chromate-free system: To BS EN 12206-1. Submit details before using.
- Rinsing requirements: Use demineralized water. Drain and dry.

320 PRETREATMENT OF STEEL COMPONENTS

- Condition of components to be pretreated:
  - Free from corrosion and damage.
  - All welding and jointing completed and finish off as specified.
  - Free from impurities including soil, grease and oil.
  - Suitable for and compatible with the pretreatment process.
- Conversion coating requirements: To BS EN 13438.
- Rinsing requirements: Use demineralized water. Drain and dry.

330 PRETREATMENT FOR PROTECTION IN AGGRESSIVE ENVIRONMENTS

- Minimum thickness of 60 microns across significant and/ or primary surfaces.
- Minimum thickness of 25 microns on non-significant and/ or secondary faces, ensuring a coherent film layer.
- All cut edges, drilled holes and mitres to be fully sealed.
- Cleaning and maintenance: Carried out once every three to twelve months (dependent on proximity to pollutant).

430 EXTENT OF POWDER COATINGS

- Application: To visible component surfaces, and concealed surfaces requiring protection. Coated surfaces will be deemed 'significant surfaces' for relevant BS 6496/ BS EN 13438 performance requirements.

435 APPLICATION OF POWDER COATINGS

- Surfaces to receive powder coatings: Free from dust or powder deposits.
- Powder colours: Obtain from one batch of one manufacturer.
- Commencement of powder coatings: To be continuous from pretreatment.
- Components to be installed on site in order of application.
- Jig points: Not visible on coated components.
- Curing: Controlled to attain metal temperatures and hold periods recommended by powder coating manufacturer.
- Stripping and recoating of components: Only acceptable by prior agreement of powder coating manufacturer. Stripping, pretreatment and powder coating are to be in accordance with manufacturer's requirements.
- Overcoating of components: Not acceptable.

440 PERFORMANCE AND APPEARANCE OF POWDER COATINGS

- For aluminium components:
  - Standard: To BS 6496 or BS EN 12206-1.
- For steel components:
  - Standard: To BS EN 13438.
- Visual inspection after powder coating: Significant surface viewing distances to be as specified in the relevant Standard, unless specified otherwise.
- Colour and gloss levels: To conform with approved samples.

450 ALUMINIUM ALLOY FABRICATIONS

- Units may be assembled:
  - Before powder coating.
  - From components powder coated after cutting to size.
  - Where approved, from components powder coated before cutting to size.
- Exposure of uncoated background metal: Not acceptable.
- Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

460 STEEL FABRICATIONS

- Unit assembly: Wherever practical, before powder coating.
- Exposure of uncoated background metal: Not acceptable.
- Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

470 FIXINGS

- Exposed metal fixings: Powder coat together with components, or coat with matching repair paint system applied in accordance with the powder coating manufacturer's recommendations.

480 DAMAGED COMPONENTS - REPAIR OR REPLACEMENT

- Before delivery to site: Check all components for damage to powder coatings. Replace damaged components.
- Site damage: Submit proposals for repair or replacement.

510 PROTECTION

- Powder coated surfaces of components: Protect from damage during handling and installation, or by subsequent site operations.
- Protective coverings must be:
  - Resistant to weather conditions.
  - Partially removable to suit building in and access to fixing points.
- Protective tapes in contact with powder coatings must be:
  - Low tack, self adhesive and light in colour.
  - Applied and removed in accordance with tape and powder coating manufacturers' recommendations. Do not use solvents to remove residues as these are detrimental to the coating.
- Inspection of protection: Carry out monthly. Promptly repair any deterioration or deficiency.

520 PROTECTION IN HAZARDOUS LOCATIONS

- Minimum thickness of 60 microns across significant and/ or primary surfaces.
- Minimum thickness of 25 microns on non-significant and/ or secondary faces ensuring a coherent film layer.
- All cut edges, drilled holes and mitres to be fully sealed.
- Cleaning: Carried out once every three to twelve months (dependent on proximity to pollutant).

535 DOCUMENTATION

- Submit the following information for each batch of powder coated components:
  - Supplier.
  - Trade name.
  - Colour.
  - Type of powder.
  - Method of application.
  - Batch and reference number.
  - Statutory requirements.
  - Test certificates.
  - Maintenance instructions.

540 COMPLETION

- Protection: Remove any protective coatings.
- Cleaning and maintenance of powder coatings: Carry out in accordance with procedures detailed in powder coating manufacturer and applicator guarantees.