MAG-BUT-XX-XX-SP-A-00-0002

Buttress

Manchester City Council

Manchester Art Gallery

MAG-BUT-XX-XX-SP-A-00-0002

9518NBS_Architectural Specification

Stage 4

P06

13-11-2023

Buttress

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G12
Isolated structural metal members

Products

320 Steel members

1. Steel: Steel angle to entrance podiums at threshold to internal atrium as drawings MAG-BUT-01-00-DR-A-90-0002 and MAG-BUT-03-00-DR-A-90-0001
   1.1. Grade: S275J0
   1.2. Section properties and dimensions: To BS EN 10056
   1.3. Surface condition: Free from heavy pitting and rust, burrs, sharp edges and flame cutting dross.

350 Proprietary anchors

1. Description: to existing concrete slab to entrance podiums
2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Anchor type: Bonded anchor
4. Material: Steel
5. Coating applied by manufacturer: Galvanized

Fabrication

510 Fabrication of steel members

1. Cuts and holes: Accurate and neat.
2. Welding: Metal arc method to BS EN 1011-2.
   2.1. Welded joints: Fully fused, with mechanical properties not less than those of the parent metal.
   2.2. Site welding: Obtain approval

Execution

610 Installation

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

620 Bonded anchors

1. Holes: Clean and free from dust at time of installing anchor.
2. Permeable sleeves: Use in conditions where otherwise the loss of bonding agent would be unacceptably high.

630 Site testing of anchors to masonry

1. Standard: To BS 5080.
2. Preliminary tests: Not required
3. Proof tests: Test 10% of working fixings to 1.5 times working load

4. Test results: Report failures and seek instructions.

640 Preparation and priming

1. Sequence of working: Fabricate, prepare, prime.
2. Surfaces inaccessible after assembly: Apply full treatment and coating system including, if necessary, local application of site coatings.
3. Galvanized/ sherardized fasteners: After steelwork erection and before applying site coatings, thoroughly degrease and clean. Etch prime.

Completion - Not Used

Ω End of Section

H71
Lead sheet fully supported roof and wall coverings/ flashings

Types of leadwork

470 Flashings

1. Description: Reinstate where missing/ defective to paved recesses adjacent to entrance podiums
2. Lead
   2.1. Thickness: 2.00 or 2.24 mm (Code 5)
3. Dimensions
   3.1. Lengths: Not more than 1500 mm.
   3.2. End to end joints: laps of not less than 100mm
4. Fixing: Lead wedges into bed joint and clips to bottom edge at laps and 450 mm centres

General requirements/ preparatory work

510 Workmanship generally

1. Standard: In accordance with BS EN 14783 and BS EN 12588 and to BS 6915 and latest edition of 'Rolled lead sheet. The complete manual' published by the Lead Sheet Training Academy.
2. Fabrication and fixing: To provide a secure, free draining and completely weathertight installation.
3. Operatives: Trained in the application of lead coverings/ flashings. Submit records of experience on request.
4. Preforming: Measure, mark, cut and form lead prior to assembly wherever possible.
5. Marking out: With pencil, chalk or crayon. Do not use scribers or other sharp instruments without approval.
6. Bossing and forming: Straight and regular bends, leaving sheets free from ripples, kinks, buckling and cracks.
7. Solder: Use only where specified.
8. Sharp metal edges: Fold under or remove as work proceeds.
9. Finished work: Fully supported, adequately fixed to resist wind uplift but also able to accommodate thermal movement without distortion or stress.
10. Protection: Prevent staining, discolouration and damage by subsequent works.

516 Lead-welding

1. In situ lead-welding: Is permitted, subject to completion of a 'hot work permit' form and compliance with its requirements.

520 Lead sheet

1. Production method
   1.1. Rolled, to BS EN 12588, or
   1.2. Machine cast and BBA-certified, or
   1.3. Sand cast, from lead free from bitumen, solder, other impurities, inclusions, laminations, cracks, air, pinholes and blowholes; to code thicknesses but with a tolerance (by weight) of ±10%.
2. Identification: Labelled to show compliance with the harmonized standard (hEN) BS EN 14783, where appropriate, and detail of the thickness/ code, weight and type.

555 Layout

1. Setting out of longitudinal and cross joints: Submit proposals.

560 Control samples

1. General: Complete areas of the finished work, and obtain approval of appearance before proceeding
2. Location: 1no. outlet

610 Suitability of substrates

1. Condition: Dry and free of dust, debris, grease and other deleterious matter.

620 Preparation of existing substrates

1. Remedial work: Adjust substrate to achieve an even surface.
2. Defects in substrate: Give notice

640 Timber for use with leadwork

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

Fixing lead

700 NOTE U

1. Refer to Restoration Specification 9518RS, section RS4, for specification relating to fixing lead

Jointing lead - Not Used

Ω End of Section

J10
Cementitious mortar tanking/ damp-proofing

Types of tanking/ damp-proofing

110 Cementitious tanking mortars

1. Manufacturer: Sika Limitedor equal
   1.1. Contact details
      1.1.1. Address: Watchmead
      Welwyn Garden City
      Hertfordshire
      AL7 1BQ
      1.1.2. Telephone: +44 (0)1707 394444
      1.1.3. Web: www.sika.co.uk
      1.1.4. Email: enquiries@uk.sika.com
   1.2. Product reference: Sika 1 Prebagged Render Waterproofing System.
2. Coats (excluding dubbing out)
   2.1. Number (excluding keying mixes): As coating manufacturer's recommendations
   2.2. Thickness: As coating manufacturer's recommendations. Overall (assumed) thickness as indicated on drawing MAG-BUT-01-00-DR-A-90-0002, thickness to be confirmed on opening up.
3. Finish: Entrance matting as N10/300

Materials and making of mortar

310 Cements for site-batched and mixed mortar

1. Portland cement: To BS EN 197-1.
   1.1. Types: Portland cement, CEM I ,Portland slag cement, CEM II/S, Portland fly ash cement, CEM II/V or W.
2. Sulfate-resisting: To BS EN 197-1.
   2.1. Types: Portland cement, CEM I-SR 3, Portland slag cement, CEM II/B-V-SR, Blast furnace cement, CEM III/B-SR, Pozzolanic cement, CEM IV/A-SR.

315 Sand for site-batched and mixed mortar

1. Standard: To BS EN 13139.
   1.1. Grading: 0/2 or 0/4 (CP or MP); category 2 fines.
2. Procurement: Obtain from one source.
3. Colour and texture: Consistent.

320 Admixtures for site-batched and mixed mortar

1. Admixtures other than proprietary waterproofing admixture: Do not use.

350 Mixing

1. Site-batched constituents
   1.1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
   1.2. Mix proportions: Adjust to suit moisture content of sand.
2. Factory-made pre-blended constituents: Mix using methods recommended by the coating manufacturer.

3. Mixes: Of uniform consistency and free from lumps.
   3.1. Free-fall drum mixers: Do not use.

360 Cold weather

1. General: Do not use frozen materials or apply coatings to frozen or frost-bound substrates.
2. Air temperature requirements: Do not apply coatings when at or below 5°C and falling, or below 3°C and rising.
3. Temperature of work: Maintain above 5°C until coatings have hardened sufficiently.

Preparing substrates

410 Suitability of substrates

1. Preparation generally: To tanking mortar/ admixture manufacturer's recommendations.
2. Stability and soundness: Free from movement, and loose or weak areas that will cause failure of tanking.
3. Key: To achieve firm adhesion of tanking.
4. Contamination: Free from previous coatings and contaminants including dirt, dust, efflorescence, mould, oil, paint and plaster.
5. Cracks, porous patches and other defective areas subject to water pressure and liable to admit water: Control and seal using waterproof mortar recommended by the tanking mortar manufacturer.
6. Holes/ recesses for fixings (where permitted): Prepared to receive fasteners.
7. Openings and chases: Prepared, including sleeves for pipe penetrations and chases to receive waterproofing compounds/ sealants.

420 Preparation of mortar joints and cavities

1. Mortar joints: Rake out to a depth of 12 mm (minimum).
   1.1. Debris: Remove and flush out with water.
   1.2. Fill: Repoint with waterproof mortar to the tanking mortar manufacturer's recommendations.
2. Blow holes, cavities, cracks, etc: Remove loose material and fill flush using waterproof mortar recommended by the tanking mortar manufacturer.

430 Tanking integrity

1. Penetrations for fixings, services, etc: Permitted for bolt fixings using recesses in substrate; submit details

Execution

510 Application generally

1. Application methods and coating sequence: As recommended by the tanking mortar/ admixture manufacturer to achieve a water-resistant structure.

520 Joints/ junctions and penetrations

1. Abutments, joints and active cracks: Sealed and watertight.
   1.1. Movement joints: Centred over joints in substrate and extended through waterproof coating and finishes.
   1.2. Daywork joints in successive coatings: Staggered and lapped.
   1.3. Angled joints: Not permitted.
2. Penetrations: Watertight.

530 Appearance of tanking

1. Render/ screed coatings: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.
   1.1. Accuracy: A true plane, to correct line and level. Walls and reveals plumb and square with neat arrises
2. Thin slurry coatings: Consistent and free from hollows, cracks and crazing. Suitable to receive specified finish.

540 Flatness/ surface regularity of tanking screeds

1. Measurement method: From the underside of a 3 m straight edge (between points of contact) placed anywhere on surface and using a slip gauge to BS 8204-1 or -2 (or equivalent).
2. Deviation of surface: Sudden irregularities not permitted.
   2.1. Maximum permissible deviation: Submit proposals

550 Curing and drying

1. General: Prevent premature setting, uneven drying and cracking of each coat.
2. Curing coatings: Prevent evaporation from surface.
   2.1. Curing period (minimum): As the tanking mortar manufacturer's recommendations

560 Protection

1. Mechanical damage: Prevent impact and abrasion.
2. Application of protective coatings/ linings: After completion of curing.

Ω End of Section

J41
Reinforced bitumen membrane roof coverings

Types of roof covering

110 A Built-up reinforced bitumen membrane warm deck roof covering

1. Description: to north entrance podium as detailed on drawing MAG-BUT-03-00-M2-A-90-0001 and MAG-BUT-01-00-M2-A-90-0002
2. Substrate: Strip and remove the existing waterproofing system back to the existing screeded structural concrete deck.
    - For the purpose of the tapered insulation scheme design, the roof deck is assumed to be level.
    - Roof falls to be provided by the tapered insulation scheme (1:60 fall)
    - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
    - No deflections or back-falls

    2.1. Preparation: as clauses J41/620C
3. Primer: **Bauder SA Bonding Primer (Black)**, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause J41/660C.
4. Air and vapour control layer: **BauderTEC KSD FBS**, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses J41/670G, 710.
5. Insulation:
    - **BauderPIR FA G16 Tapered** insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.
    - The scheme incorporates the use of aluminium foil faced **BauderPIR FA-TE Flatboard i**nsulation installed as base-layer(s), and **BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills)** where required. **BauderPIR FA G16 Tapered** and **BauderPIR FA-TE Flatboard** has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
    - Please refer to the Bauder Tapered Insulation Layout drawing LTF-001 for individual board thickness, number of layers and number of ridge & Valley infills required.
    - Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing LTF-001 supplied to achieve the required U value (refer Clause 230).
    - **BauderPIR T KL 50 angle fillets** 50 mm x 50 mm for use with insulated & un-insulated upstands.
    - Installation as clauses 680G and 775.

    5.1. Insulating vertical upstands:

        - **BauderPIR FA-TE flatboard**, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation to a min. 300mm height from deck surface to top of upstand
        - **Bauder Insulated Upstand Support Brackets** should be installed to secure the top and provide a hard-leading edge.
        - Installation as clause J41/681B.
6. Waterproof covering

    6.1. Manufacturer: Bauder Limited,

    6.1.1. Address: 70, Landseer Road, Ipswich, Suffolk, IP3 0DH.
    Tel: 01473 257 671. Fax: 01473 230 761.

    6.1.2. Email: technical@bauder.co.uk

    6.1.3. Web: www.bauder.co.uk

6.1.4. Site contact details: Danny Waddicor, T: 07860 506492

6.1.5. Technical contact details: Joe Davenport, T: 07545 205555

6.2. Product Reference: BAUDER TOTAL ROOF SYSTEM

6.3. Primer: **Bauder Activator-Primer (Canister), APR01-Black**, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause J41/660B.

6.4. Underlayer: **BauderTEC KSA DUO**, 3 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.

6.4.1. Attachment: as clauses J41/710, 747A

6.5. Top layer/ capsheet: 5.2 mm thick, tensile strength 1000N/50mm, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet

6.5.1. Colour: Charcoal Grey finish.

6.5.2. Attachment: As clauses 710, 750A.

7. Flashings and detail work: **Bauder K5K** capping sheet, mineral slate finish as per main field area. Install as clauses J41/773, 775 & 777.
8. Surface protection: Not required
9. Surfacing: Intensive Hard landscaping - refer to section Q37/110
10. Accessories: Various steel angles and Bauder peel stop bar as indicated on drawings MAG-BUT-01-00-DR-A-90-0002 and MAG-BUT-03-00-DR-A-90-0001
Installation as clause J41/785
11. Additional requirements: Refer to J41/210, 230, 515, 520, 560, 561, 562, 910, 940.
12. Guarantee information: Refer to clause J41/950C.

110 B Built-up reinforced bitumen membrane warm deck roof covering

1. Description: to south entrance podium as detailed on drawing MAG-BUT-01-00-M2-A-90-0001 and MAG-BUT-01-00-M2-A-90-0002
2. Substrate: Strip and remove the existing waterproofing system back to the existing screeded structural concrete deck.
    - For the purpose of the tapered insulation scheme design, the roof deck is assumed to be level.
    - Roof falls to be provided by the tapered insulation scheme (1:60 fall)
    - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
    - No deflections or back-falls

    2.1. Preparation: as clauses J41/620C
3. Primer: **Bauder SA Bonding Primer (Black)**, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause J41/660C.
4. Air and vapour control layer: **BauderTEC KSD FBS**, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses J41/670G, 710.
5. Insulation:
    - **BauderPIR FA G16 Tapered** insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.
    - The scheme incorporates the use of aluminium foil faced **BauderPIR FA-TE Flatboard** insulation installed as base-layer(s), and **BauderPIR GFE G16** (ridge infills) & **BauderPIR KFS G16** (valley infills) where required. **BauderPIR FA G16 Tapered** and **BauderPIR FA-TE Flatboard** has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
    - Please refer to the Bauder Tapered Insulation Layout drawing LTF-001 for individual board thickness, number of layers and number of ridge & Valley infills required

- Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing LTF-001 supplied to achieve the required U value (refer Clause 230).
- **BauderPIR T KL 50 angle fillets** 50 mm x 50 mm for use with insulated & un-insulated upstands.
- Installation as clauses 680G and 775.

5.1. Insulating vertical upstands:

- **BauderPIR FA-TE flatboard**, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation to a min. 300mm height from deck surface to top of upstand
- **Bauder Insulated Upstand Support Brackets** should be installed to secure the top and provide a hard-leading edge.
- Installation as clause J41/681B.

6. Waterproof covering

6.1. Manufacturer: Bauder Limited,

6.1.1. Address: 70, Landseer Road, Ipswich, Suffolk, IP3 0DH.
Tel: 01473 257 671. Fax: 01473 230 761.

6.1.2. Email: technical@bauder.co.uk

6.1.3. Web: www.bauder.co.uk

6.1.4. Site contact details: Danny Waddicor, T: 07860 506492

6.1.5. Technical contact details: Joe Davenport, T: 07545 205555

6.2. Product Reference: BAUDER TOTAL ROOF SYSTEM

6.3. Primer: **Bauder Activator-Primer (Canister), APR01-Black**, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause J41/660B.

6.4. Underlayer: **BauderTEC KSA DUO**, 3 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.

6.4.1. Attachment: as clauses J41/710, 747A

6.5. Top layer/ capsheet: 5.2 mm thick, tensile strength 1000N/50mm, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet

6.5.1. Colour: Charcoal Grey finish.

6.5.2. Attachment: As clauses 710, 750A.

7. Flashings and detail work: **Bauder K5K** capping sheet, mineral slate finish as per main field area. Install as clauses J41/773, 775 & 777.

8. Surface protection: Not required

9. Surfacing: Intensive Hard landscaping - refer to section Q37/110

10. Accessories: Various steel angles and Bauder peel stop bar as indicated on drawings MAG-BUT-01-00-DR-A-90-0002 and MAG-BUT-03-00-DR-A-90-0001
Installation as clause J41/785

11. Additional requirements: Refer to J41/210, 230, 515, 520, 560, 561, 562, 910, 940.

12. Guarantee information: Refer to clause J41/950C.

Performance

210 Roof performance

1. General: Secure, free-draining and weathertight.

230 Thermal performance

1. Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:

1.1. Thermal transmittance of roof (maximum): 0.13W/m²K (160mm)

1.1.1. Effective U-Value: 0.10W/m²K

1.1.2. Note on u-values: U-Values quoted are based on the Bauder waterproofing system construction including insulation and underlying deck material only. This does not include the supporting structure and/or any other materials within the construction below the deck, unless Bauder has been advised otherwise prior to producing the calculations.

1.2. Finished surface: Suitably even, stable and robust to receive roof covering.

1.3. Insulation compliance: To relevant British Standard, or Agrément-certified.

1.4. Please note: Where Tapered Insulation is required, the thickness stated above is an approximate average thickness, please refer to the Bauder Tapered Scheme Drawings for the actual U-Value and min/max insulation thicknesses achieved.

Products

330 Timber trims, etc.

1. Quality: Planed. Free from wane, pitch pockets, decay and insect attack (except ambrosia beetle damage).
2. Moisture content at time of covering (maximum): 22%.
3. Preservative treatment: Contractor's choice. Organic solvent based timber preservatives are not permitted, as may affect the waterproofing.

331 Preformed metal hard edge insulation protection angles

1. Material: Galvanised mild steel
2. Thickness: 1mm
3. Dimensions: 50mm x 50mm
4. Length: 3m max

Execution generally

515 Adverse weather

1. General: Do not lay coverings in high winds, wet or damp conditions or in extremes of temperature unless effective temporary cover is provided over working area.
2. Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.

520 Incomplete work

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

560 General workmanship requirements

1.

- Installation of the Bauder waterproofing system may only be carried out by trained and certified operatives approved by Bauder Ltd and who carry current ID badges. These should be available for inspection at all times.
- Workmanship must comply with Codes of Practice BS 8217:2005 (or alternatively Bauder Ltd.'s specification where otherwise stated). Non-compliant workmanship will not be permitted, even if the system is watertight. The client will be told that all such faults must be remedied, before the Guarantee is issued.
- All waterproofing materials and system components must be supplied by Bauder Ltd, unless otherwise stated. Any sub-standard materials or un-authorised alternatives will be rejected. Any building work which is the responsibility of the roofing contractor and has a bearing on the life of the Bauder System must be carried out by properly trained and qualified tradesmen.

- Any structural damage, peculiarities or details discovered that might affect the performance of the Bauder system, should be reported immediately to the client's representative and Bauder Limited in order that they may assist in overcoming the problem.
- At the end of each working day, the new waterproofing should be terminated with a secure and waterproof temporary seal, which will be left in situ, utilising **Bauder** self-adhesive underlayer material (e.g. **BauderTEC Sprint DUO**) to create the seal. The **Bauder** self-adhesive underlayer should be extended onto the flat AVCL by a minimum of 200mm from the exposed edge of the insulation and heat activate to ensure a satisfactory seal. To ensure that no moisture contamination of the system can occur between each working period, it is essential that the night seal is properly and securely bonded.
- Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new membranes. The final inspection will not be carried out by the Bauder Site Technician or the Bauder nominated Independent surveyor until all associated trades are complete and the roof areas are clear from all debris and protection layers.
- It is imperative that the Bauder Approved Contractor conforms to the workmanship criteria as listed above. Any deviation will result in the contract being considered unguaranteeable.
- All mechanical and electrical work to plant and equipment should be carried out by competent mechanical and electrical qualified tradesmen. All plant is to be reinstated and re-commissioned on completion of the roofing works in accordance with the client's detailed specification.
- Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new waterproofing.
- If any items of plant/equipment are to be situated on the finished roof, a sacrificial layer of capping sheet is to be loose laid beneath. This is to extend a minimum 25mm past the point of contact on all sides. In the case of heavy items it may be necessary to introduce a load-spreading slab, please contact supplier for further advice.
- All lead work to be carried out by skilled tradesmen and in accordance with current codes of practice and the recommendations of the Lead Contractor Association.

561 Site Inspections

1.

- Supplier Site Technicians will carry out regular inspections of the project during the course of the works.
- Supplier must be notified when the roof is ready for final inspection and all related works and snagging complete. See also clause 910.

562 Health and Safety Information - Roofing Works

1.

- Follow the advice shown in the "Responsible Specification Checklist" produced by the National Federation of Roofing Contractors.
- Suitable precautions must be taken to prevent accidents occurring when roofing systems are being installed.
- The contractor must ensure that adequate measures are taken to effectively prevent injury to members of the public, contractors and any other persons who may be affected by the works including the public.
- Where microwave equipment is installed at roof level, care must be taken to prevent persons working on the roof from being exposed to large doses of microwave radiation.

- Similarly, the contractor should liaise with the client to ensure that there are no extract outlets situated on the roof where noxious or harmful emissions could affect persons working. Suitable precautions will be necessary to prevent exposure where this situation arises.
- The contractor is responsible for providing adequate firefighting equipment in the form of extinguishers during work on the roof. These should be kept in easily accessible locations and be suitably signed.
- Whenever possible, access to the roof should be made via internal staircases rather than by temporary means. Where this is not available, it is the responsibility of the contractor to ensure a safe means of access, egress and a safe workplace.
- As far as roofs are concerned, edge protection in the form of scaffolding or a fixed structure should be in place to a height of 1.1 metres in accordance with the Workplace (Health, Safety and Welfare) Regulations 1992.
- Failing this, the hierarchy of controls should be applied from the Work at Height Regulations 2005. Means of access should be by fixed ladder, passenger hoist or scaffolding.
- The contractor must ensure that suitable written method statements and risk assessments are available for the work being undertaken. In particular, it is essential that manual handling methods be fully assessed as roofing materials are heavy and can cause serious injury.
- The contractor must ensure that suitable information about the roof covering is provided to the Client at the end of the work to ensure that work in future can be carried out safely. This information will form part of the Safety File.
- All persons working on the roof should be provided with, and wear, suitable personal protective equipment and wet weather gear. Training must be provided to all contract staff on the safe use of the equipment.
- The installer must observe Product Safety Datasheets, relevant to the materials being used as well as completing and complying with COSHH risk assessments.
- It is always the responsibility of the contractor to carry out a risk assessment on all aspects of the contract. The ‘Safe2Torch’ checklist is solely for guidance for the safe installation of torch-on reinforced bitumen membranes and use of gas torches in the workplace
- HSE guidance must be followed when carrying out any work involving interference with asbestos.

***IMPORTANT NOTE:** On sites where asbestos has or has possibly been detected, it is to be treated in accordance with the **Control of Asbestos Regulations 2012.**

- Specification documentation is subject to any revisions necessary pending the findings from the above.

Substrates/ air and vapour control layers/ warm deck roof insulation

620 C Suitability of substrates

1. Preparation:
    - Strip back to the original screeded structural concrete deck. Remove all existing waterproof coverings, including any insulation and air and vapour control layer present. Remove all waterproof detailing to abutment upstands and skirtings.
    - If it is discovered that this screed is degraded in any way and is beyond localised repair, it is imperative that the approved roofing contractor informs both the client and roofing supplier immediately in order that the problem be addressed.

2. Exposed Substrate: Do not damage. The substrate should be examined and then prepared by removing any rough edges and/or defects in its surface and repairing any localised damaged areas. Apply a latex levelling screed if the surface is poor/ irregular.
   Note: an adequate provisional sum should be set aside to cover for any unforeseen issues related

to the removal of the existing waterproof covering that may necessitate localised repairs to the existing screeded deck.

3. Substrates generally: Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
4. Concrete surface finish: Concrete Surfaces shall be to a wood float finish and uniform. Any scaling or laitance on the surface of the concrete shall be removed either by scarification, grinding, sandblasting or other approved method. Please refer to the manufacturer's Installation and Quality Assurance Manual for important information.
5. Deck falls: Refer to clauses J41/110 above for roof specific requirements.
    - No deflections or back-falls shall be present.
    - Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.
    - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
    - An Engineer's deflection analysis and site level survey should be consulted before commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.
    - An adequate provisional sum should be set aside for carrying out measures to rectify the current falls to the standard required as per the guidance from the latest version of BS6229.
6. Preliminary work: Remove rough edges, and surface defects. Rough surfaces should be scarified or ground to achieve acceptable surface for waterproofing.
   Complete including:
    6.1. Grouting of deck slab joints
    6.2. Application of surface screed to create falls if specified, or to remove surface irregularities
    6.3. Open concrete plank joints should be grouted with sand and cement prior to specified waterproofing installation.
    6.4. Voids, cracks, holes, honeycombs and other damaged horizontal or vertical surfaces shall be repaired or reinforced before application of the membrane.
    6.5. Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
    6.6. Fixing of battens, fillets and anchoring plugs/ strips.
    6.7. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, or any foreign matter detrimental to the adhesion of the waterproofing system. Any scaling or laitance on the surface of the concrete shall be removed either by scarification, grinding, sandblasting or other approved method.
7. Moisture content and stability of substrate: Must not impair the integrity of roof with a target moisture content of ≤5%.
8. IMPORTANT NOTE:: Where it has not been possible to ascertain whether there is **existing** insulation; should it be discovered that existing insulation is found within the ceiling void space, there may be a requirement for this to be removed to prevent interstitial condensation forming. Please contact roofing supplier in order that the build-up and proposals are assessed before works commence/continue.
9. Adhesion tests:
    9.1. Requirement: Carry out a test to determine substrate suitability to receive the waterproofing system.
    9.2. Curing times: It is imperative that the concrete substrate is allowed to cure sufficiently as per above recommendations.
    9.3. Nature of test: The contractor shall carry out a "peel" bond test to each roof area to be prepared for waterproofing. The testing should be carried out well in advance of the actual application, in case any remedial treatment is required, or further curing is necessary.

9.4. Test: Clean a small area of the substrate being tested by using a soft broom/brush to remove any dirt/debris from the surface. Dry surface as required. Apply the specified primer to the substrate (500mm²) which must be allowed to dry as per supplier recommendations. Once the primer has dried, apply the specified AVCL or underlayer as per supplier recommendations. Leave overnight. Cut a triangular shaped incision through the AVCL/Underlayer in the central zone of the test patch. If the membrane/build-up can be peeled up easily from the substrate, then the substrate is not ready (adhesive failure). This could be due to the deck requiring extra cure time or be an issue of contamination or laitance within the surface. If the membrane/build-up cannot be pulled away and distorts when pulled, then the bond is considered satisfactory.
(An extended supplier Peel Bond Test procedure description is available as a .pdf on request).
It is recommended that a second Peel Bond Test is done 24/48 hrs after the first to confirm the security of the first test results.

9.5. Test results: Submit and arrange for inspection. Peel Bond Tests to be recorded via photo or video referencing the location

625 Removing existing coverings

1. Mechanical stripping: Not permitted
2. Exposed substrate: Do not damage.

640 Fixing timber trims

1. Fasteners: Type/length appropriate and suitable to particular deck substrate.
2. Fixing centres (maximum): 500 mm.

641 Installing preformed metal hard edge insulation protection angles

1. **Location:** Use to provide hard edge protection at all internal gutter channels on warm roofs where the insulation from the flat area steps down to meet the insulation in the gutter sole.
2. **Preparation:** Surface to be inspected and cleaned if necessary, using white spirit to remove any contaminants, dirt or dust & primed with the specified Bauder primer. Prepared material to be thoroughly dry before use
3. **Installation:** The 50 x 50 mm galvanised mild steel angle to be adhered to the exposed leading edge of the insulation using the specified primer along the upper surface/edge. The purpose being to retain the metal in position to prevent any post-installation movement.

660 B Applying primer

1. Primer: Bauder Activator-Primer (Canister), APR01-Black.
2. Purpose: Substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of Bauder self-adhesive bitumen membranes.
3. Before Application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.
4. Application method: Spray Applied to provide even and full coverage. Avoid pooling. Never attempt torching within 10 min of primer application, even if the surface appears dry.
5. Application rate:
    - 300mm wide spray
    - Coverage: Approx. 96 g/m²
    - Two coats may be required for very porous substrates.
6. Application temperature: +5 - +30°C
7. Drying time: Approx.5 - 10 mins, dependent upon ambient temperature and material porosity
8. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.

9. Re-application: Necessary after 4 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.
10. Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

660 C Applying primer

1. Primer: Bauder SA Bonding Primer (Black)
2. Purpose: Substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of Bauder self-adhesive bitumen membranes.
3. Before Application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.
4. Application method: Apply by brush or roller to provide even and full coverage. Avoid pooling.
5. Application rate:
    - Timber/Metal: Approx. 200 g/m²
    - Concrete / brickwork: Approx. 200-300 g/m² depending upon roughness and porosity.
    - Two coats may be required for very porous substrates.
6. Application temperature: +5 - +30°C
7. Drying time: Approx.30 mins, dependent upon ambient temperature and material porosity.
8. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.
9. Re-application: Necessary after 4 hours exposure if self-adhesive bitumen membrane has not yet been applied, to maintain adhesion performance.
10. Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

670 G Laying air and vapour control layer

1. Attachment: Generally, cold applied and fully bonded to substrate in accordance with manufacturer requirements.
    1.1. Metal decks: With metal decks the sheets should run in the direction of the crowns/troughs, with laps formed on the crowns of the deck to ensure that they are fully supported in accordance with Bauder requirements. To ensure side laps of the air and vapour control layer (AVCL) are fully supported, they will need to have the width cut to suit the profile of the deck or larger laps should be formed. To support end laps, cut approximately 200mm strip off the end of the AVCL roll and apply it taut across the troughs where the roll ends will meet.
    1.2. Timber Boarded / Cross Laminated Timber Decks: First layer random nailed, as clause 355/720. Second layer, **BauderTEC KSD FBS** cold applied and fully bonded to substrate in accordance with manufacturer requirements.
2. Side and end laps: Minimum 100 mm, laid with all laps heat sealed to provide a continuous bitumen bead extrusion. Installation methods as recommended by manufacturer.
3. Joints in second layer (where applicable): Stagger by half a membrane.
4. Penetrations: Fully seal using bonding or taping methods recommended by manufacturer.
5. Edges of insulation at roof edges, abutments, upstands, kerbs, penetrations and the like: Enclosed with air and vapour control layer:
   The air and vapour control layer must be dressed up all upstands and to the full extent of the detail. This is to ensure that the detail is fully encapsulated to reduce the risk to exposed combustible materials. The contractor is also to form all details in such a way that the underlayer is fully bonded to the air and vapour control layer to the full extent of the detail ensuring in a minimum fully bonded 100mm lap with the air and vapour control layer – please see manufacturer detail drawings.
   Care should be taken to ensure adhesion when the temperature is below + 5º C.

680 G Laying warm deck roof insulation

1. Before installing: No insulation boards should be laid on site without a copy of the current Bauder Tapered Insulation Layout drawing to hand. Contractors should always refer to the Layout Drawing for the recommended start point and layout of boards. If contractors are unsure whether the correct Layout Drawing is on site, they should contact the Bauder Technical Department before commencing installation. For installation guidance, Contractors should refer to the relevant Bauder Tapered Installation Guide.
2. Deck suitability: Installing contractor to check the roof deck surface and report any discrepancies.
3. Thermal performance: Refer to Bauder Tapered Insulation Layout Plan for details of 'U' value achieved by this scheme and clause 230.
4. Setting out
   4.1. Requirement: Installation must be carried out using the appropriate Bauder Installation Guide and laid strictly in accordance with the Bauder Tapered Installation Layout drawing and installation instructions. The **BauderPIR FA G16 Tapered** boards should be laid with the Bauder number / arrow / grid pattern facing upwards.
   4.2. Long edges: Fully supported
   4.3. End edges: Fully supported
   4.4. Joints: Close butted together.
   4.5. End joints: Stagger.
5. Bedding: **BauderPIR FA G16 Tapered** boards are to be bonded to the upper surface of the Air and Vapour Control Layer (AVCL) (unless where a base-layer is required – please see Multiple-layer tapered schemes below) using suitable Bauder Polyurethane Insulation Adhesive:
   - **Bauder PU Insulation Adhesive - Tin** or **Bauder PU Insulation Adhesive – Twin Cartridge** applied in strips following the direction of the board length giving 4No. continuous and equally spaced adhesive beads within each board width (increase to 6No. at the roof perimeter) *
   - **Non-FA Tapered insulation board types**: Where **BauderPIR T G Tapered** Insulation (Unfaced 1:80 / 1:40 boards) or **BauderPIR M Flatboard** Insulation (tissue faced boards) are included within the Bauder Tapered Insulation Layout, these boards are to be bonded to the upper surface of the Air and Vapour Control Layer (AVCL) using either **Bauder PU Insulation Adhesive - Tin** or **Bauder PU Insulation Adhesive – Twin Cartridge**, applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width as below:
     - 500mm width **BauderVIP TE** insulation boards - 2 no: (increase to 3 no. at roof perimeter)
     - 600mm width insulation boards - 2 no: (increase to 3 no. at roof perimeter)*
     - 800mm width insulation boards - 3 no: (increase to 4 no. at roof perimeter)*
     - 1000mm width **BauderVIP TE** insulation boards - 4 no: (increase to 6 no. at roof perimeter)*

   Adhesive bead widths, spray patterns and coverage rates are stated on the appropriate product label and datasheet.
6. Multiple-layer tapered systems: Where the total thickness of tapered insulation required is greater than can be achieved by a single layer, base-layer board(s) of **BauderPIR FA-TE Flatboard** can be adhered to the AVCL/previous layer(s) to make up the total thickness required before the uppermost layer of **BauderPIR FA G16**/ **BauderPIR T G Tapered** boards are installed.
   Additional Layer(s): Each additional layer of insulation board(s) should be laid off-set and staggered with the layer below and should be bonded together using the following adhesives (see items 7, 8 and 9 below)

6.1. Note: This scheme is of a MULTI-LAYER Design and as such extra Insulation Adhesive will be Required to Adhere the Taper Boards to the Base Layer/Overlay Layer.

7. Bedding: As stated above. Surface should be clean and free of debris before application of the additional layer(s)
    - Foil to Foil (e.g. FA-TE to FA-TE): Bauder Activator Primer (Canister) – APR01-Black spray applied to the surface of both layers or Bauder PU Insulation Adhesive – Twin Cartridge applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above).
    - Foil to tissue Faced/unfaced boards (e.g FA-TE to 1:80 tapered boards): Bauder PU Insulation Adhesive - Tin or Bauder PU Insulation Adhesive – Twin Cartridge. Applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above).

8. Uppermost layer: The **BauderPIR FA G16 Tapered** board layer should be bonded using **Bauder Activator Primer (Canister) – APR01-Black** spray applied to the surface of both layers or **Bauder PU Insulation Adhesive – Twin Cartridge** applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above). **BauderPIR FA G16 Tapered** boards should be laid with the Bauder number/arrow/grid pattern facing upwards. Boards should be laid off-set and staggered with the layer below.
9. Ridge and Valley infills: The **BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills)** should be bonded using **Bauder Activator Primer (Canister) – APR01-Black**, spray applied to the tapered board and bottom of the infill giving continuous full coverage of the infill and the area where the infill is to be placed.
10. Protection to exposed edges of insulation: Reduced thickness treated timber batten as clause J41/640 (or equivalent plywood construction), a minimum width of 150mm and 10mm less in thickness than the insulation to accommodate the build-up of the waterproofing layers – all securely fixed to the deck. Outer edges chamfered at changes in level.
11. Completion: Boards must be in good condition, well-fitting and stable.
12. Important notes:
    - **Bauder Activator-Primer (Canister), APR01-Black**, must be applied to the uppermost surface of insulation prior to installation of the self-adhesive underlayer.
    - Foil to Foil installation (e.g. FA-TE to FA-TE) must not be carried out using the 6.5kg Bauder PU Insulation Adhesive – Tin.
    - Foil to AVCL installation (e.g. FA G16 Tapered directly to KSD FBS) must not be carried out using Bauder Activator Primer (Canister) – APR01-Black.

681 B Installing warm roof insulation (insulated upstands)

1. Bedding: Bonded to the upper surface of the air and vapour control layer (AVCL) using suitable Bauder Polyurethane Insulation Adhesive. The adhesive should be applied in strips following the direction of the board length giving 3 no. continuous and equally spaced adhesive beads within each board width. Adhesive bead widths are stated on appropriate product label and datasheet.

   Note: Where the surface is uneven of difficult to bond to, it is permissible to use suitable thermally broken fixings.
2. Multiple board layers: Where the total thickness of insulation required is greater than can be achieved by a single standard board, additional boards can be adhered to the previous layer (s) to make up the total thickness required. These additional boards should be bonded using suitable Insulation Adhesive.
   Foil to Foil Insulation Boards Only: These additional boards should be bonded using either

Bauder Activator Primer (Canister) – APR01-Black or **Bauder PU Insulation Adhesive – Twin Cartridge**.
Foil to Tissue Faced Boards: These additional boards should be bonded using suitable supplier recommended Insulation Adhesive.
Adhesive bead widths or adhesive spray patterns and coverage rates are stated on appropriate product label and datasheet.
The adhesive should be applied in strips following the direction of the board length giving 3 no. continuous and equally spaced adhesive beads within each board width. Upstand insulation boards should be installed before the insulation to the flat areas so that the vertical upstand insulation is retained both at the base and at the top.
The second layer of boards should be laid off-set and staggered.
Note: Where the surface is uneven of difficult to bond to, it is permissible to use suitable thermally broken fixings.

3. Insulated upstand brackets: Insulated upstand support brackets must be used at all vertical abutment wall upstands (where the wall cavity is insulated) in conjunction with 30mm insulation. These are to be fixed at 400mm centres using suitable fixings through the air and vapour control layer, so that the top edge is a minimum of 300mm above the surface of the deck. A 3mm gap should be left between adjacent sections. The detail is to be carried out in accordance with the supplier's details, where provided.
4. Protective hard edges: Treated timber battens or Insulated upstand brackets (as appropriate to given detail situation) must be used at all right-angled edges e.g. top edges of parapet walls or abutment upstands.
5. Encapsulation seal: Provision must be allowed for forming a minimum 100mm lap seal between the air and vapour control layer and underlayer where the insulation finishes.
6. IMPORTANT NOTES:
    - Bauder Activator-Primer (Canister), APR01-Black, must be applied to the facing of the uppermost surface of insulation prior to installation of the self-adhesive underlayer.
    - Foil to foil installation (e.g. FA-TE to FA-TE) must not be carried out using the 6.5kg Bauder PU Insulation Adhesive – Tin.
    - Foil to AVCL installation (e.g. FA G16 Tapered directly to KSD FBS) must not be carried out using Bauder Activator Primer (Canister) – APR01-Black.

Waterproof membranes/ accessories

710 Laying reinforced bitumen membranes generally

1. Direction of laying: Unrolled up the slope.
    1.1. Where practicable, install so that water drains over and not into laps.
2. Side and end laps: 100 mm, with the exception of mineral surfaced membranes, where side laps are 80 mm, but the head laps to remain 100 mm.
3. Head and side laps: Offset.
4. Intermediate and top layer/ capsheet: Fully bond.
5. Successive layers: Apply without delay. Do not trap moisture.
6. Strips of bitumen membrane for 'linear' details: Cut from length of roll.
7. Detail flashings: to be cut from width of roll.
8. Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free-draining.

747 A Self-adhesive bonding of reinforced bitumen membranes

1. Bond: Full over whole surface, with no air pockets
Please note that Bauder Activator-Primer (Canister), APR01-Black, must be applied to the uppermost layer of the Insulation prior to installation of the self-adhesive underlayer.

2. Underlayer: Cold applied and fully bonded by removing the peel off release film. The side laps are to be 100mm and must be **laid red over blue,** and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) and rolling with the **Bauder Long Handled Lap Roller** to extrude a continuous bead of bitumen. Head laps to be 100mm and staggered, side laps to be 80mm and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) to extrude a continuous bead of bitumen. The underlayer must be taken up all upstands, edge details, in accordance with current British Codes of Practice and manufacturer recommendations. The underlayer must be fully heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) with the air and vapour control layer to the full extent of the detail ensuring a minimum 100mm fully bonded lap - please see manufacturer detail drawings.
3. Alternative underlayer for detail work: For detailing to un-insulated abutment upstands, where the waterproofing is to be applied to rough or uneven non-combustible surfaces i.e. brickwork or concrete, it is permissible for the installing contractor to use the underlayer appropriate to the specified system where this product is considered to be better for application to these surfaces. For all other situations, and particularly to vertical insulation, the Self-Adhesive Underlayer appropriate to the specified system must be used.
4. Fixing of bitumen membranes to vertical upstands: Refer to clause J41/775

750 A Laying mineral-faced reinforced bitumen torch-on capping sheet - 'safe to torch' zone

1. Lap positions and detailing of ridges, eaves, verges, hips, abutments, etc: Submit proposals.
2. Setting out: Neat, with carefully formed junctions.
3. Lap bonding: Carry out only at prefinished margins or prepared 'black to black' edges.
4. Excess bonding compound at laps: Remove whilst still warm.

773 'Torch-free' & 'safe to torch' zones - alternative membranes and application

1. Description: For detailing application in locations constructed from or within the 'Torch-Free' & 'Safe to Torch' zones to potentially combustible materials or otherwise where it is considered appropriate by the contractor necessary to minimise the potential risk.
2. Primers: **Bauder Activator-Primer (Canister), APR01-Black**, must be used when using Bauder self-adhesive membranes and a 'TORCH-FREE' application is required
3. Underlayers: It is permissible to use a self-adhesive membrane so long as this product is a recognised component of the system specified.
   Acceptable alternatives underlayers are listed below: -
   - **BTRS: BauderFLEX G4E** to be replaced with **BauderTEC KSA DUO**
   - **BauderFlex: Bauder EGV 35 TF** to be replaced with **BauderTEC Sprint DUO**
   - **BTRS Plus:** N/A
   - **System Airtech:** N/A

   NB: Where surface is uneven or not suitable for a self-adhesive membrane and where the surface is of a non-combustible material and is not required to be a 'Torch-Free' or 'Safe to Torch' zone – it is permissible to use a Torch Applied underlayer, so long as the product is a recognised component of the system specified.Acceptable alternative underlayers are listed below:

   - **BTRS: BauderTEC KSA DUO** to be replaced with **BauderFLEX G4E**
   - **BauderFlex: BauderTEC Sprint DUO** to be replaced with **Bauder EGV 35 TF**
   - **BTRS Plus:** N/A
   - **System Airtech:** N/A

4. Capping sheets: Where appropriate, the installing contractor can use **BauderTEC KSO-P SN / KSO ALP SN / KSO SN** self-adhesive capping sheet, applied using the hot air hand tools approved for use with bituminous systems. Please note that **Bauder Activator-Primer**

(Canister), APR01-Black, must be applied to the underlayer prior to installation of the self-adhesive capping sheet.

- **BauderTEC KSO-P SN** is only available in one colour – Charcoal Grey.
- **BauderTEC KSO SN** is available in two colours – Grey Slate.
- **BauderTEC KSO ALP SN** is available in two colours – Brown.

Self-adhered membranes - For upstands using only self-adhesive membranes, these will need to be mechanically fixed at the top leading edge of the membrane with aluminium peel bar regardless of the upstand height. This will be for System Airtech and for areas referred to as 'Torch-Free' zones. Please refer to manufacturer Standard Detail Drawings.

5. Green roof notes: Please note it is strictly only permissible to use self-adhesive capping sheet for flashings and detailing work due to installation of hard landscaping finishes.
6. Approved hot air equipment: The capping membrane must be applied using the approved hot air hand tools. The list of permissible hot air electrical equipment suppliers for installing the specified waterproofing membranes are stated below. These are available either for purchase or hire from the below companies:

HOT AIR WELDING EQUIPMENT

LEISTER
Contact: Welwyn Tool Group, Tel 01707 331 111, http://www.welwyntoolgroup.co.uk

SIEVERT
Contact: Lister Gas Pro, Tel 0800 801 046, ch300@lister.co.uk

775 Skirtings and upstands

1. Angle fillets: **BauderPIR T KL 50 angle fillets (50 mm x 50 mm)** must be used at all right-angled upstands.
    - Warm Roof Construction: Provisionally bonded in suitable **Bauder Polyurethane Insulation Adhesive** or **Bauder Activator-Primer (Canister), APR01-Black**, and subsequently retained once the underlay detailing is applied.

    Important note - under no circumstances must fillets of an alternative material be incorporated (i.e. timber, cork, fibre, etc.) as this would invalidate the guarantee.

2. Venting first layer of bitumen membrane: Stop at angle fillet. Fully bond in bitumen for 300 mm strip around perimeters. Overlap onto upstand with strips of BS 8747, Class S1P1 bitumen membrane, fully bonded.
3. Other layers of bitumen membrane: Carry in staggered formation up upstand, with each layer fully bonded. Where practicable, carry top layer over top of upstand.
4. Upstands
    - 4.1. At ends of rolls: Underlay layer only, form with bitumen membrane carried up without using separate strip.
    - 4.2. Elsewhere: Form with matching strips of bitumen membrane, maintaining laps.
    - 4.3. Level thresholds: Acceptable, providing conforms to BS6229:2018 and current NHBC Standards, chapter, 7.1.
    - 4.4. Flashings: Separate flashings must always be formed. Capping sheet taken up the upstand in one piece will not be permitted.
    - 4.5. Fixing of bitumen membranes to insulated upstands: Where upstands terminate in excess of 250mm above the finished surface of the main field area capping sheet, screw fix through into the underlying substrate as per the requirements set out below and in accordance with manufacturer's installation guidance.
        - 4.5.1. Underlayer - Insulated upstands only: Prior to the installation of the self-adhesive underlayer, ALL insulation board types used to create an insulated upstand require a

coating of manufacturer Activator-Primer applied to the surface of the insulation board. The Activator-Primer should be applied at a rate of 96g/m².

4.5.2. Capping Sheets - general: Where the capping sheet is required to terminate on a vertical face, an Aluminium peel bar is to be used, mechanically fixed at 150mm centres (as per pre-drilled holes) with appropriate fixings suitable to the substrate.

4.5.2.1. Mechanical Fastener Supplier: **MECHANICAL FASTENER SUPPLIER**
SFS Group Fastening Technology Ltd. 153 Kirkstall Road, Leeds, West Yorkshire. LS4 2AT
Tel: +44 (0)113 208 5500, Fax: +44 (0)113 208 5539, Email: uk.leeds@sfsintec.biz
Web: www.sfsintec.biz/uk

4.6. Fixing of bitumen membranes to existing balustrade SS. clamp plates to steps: Mechanically fix Bauder peel bar at 150mm centres (as per pre-drilled holes) with appropriate fixings suitable to the substrate.
Apply aluminium cover flashing over the edge of existing balustrade glazing channel

4.6.1. Mechanical Fastener Supplier for peel bar: see 4.5.2.1

4.6.2. Cover Flashing:

4.6.2.1. Material: Aluminium

4.6.2.2. Size: 30 x 50 x 3mm

4.6.2.3. Fixing method: Epoxy adhesive

4.6.2.4. Sealant to glazing abutment: Bauder sealant, apply in acccordance with manufacturer's recommendations

4.7. Fixing of bitumen membrane at abutment with existing structural glazing: Mechanically fix bespoke S.S T profile at 150mm centres back to new steel upstand (see G12/320, 350) with appropriate fixings suitable to the substrate.

4.7.1. Mechanical Fastener Supplier for T Profile: see 4.5.2.1

4.7.2. T-Profile Capping:

4.7.2.1. Material: Stainless Steel

4.7.2.2. Grade: SAE 316

4.7.2.3. Thickness: 2mm

4.7.2.4. Dimensions: as indicted on drawing MAG-BUT-01-00-DR-A-90-0002

4.7.2.5. Bedding at glazing junction: Bauder sealant

4.8. Fixing of bitumen membrane at abutment with existing fire exit doors: Mechanically fix bespoke S.S drip profile at 150mm centres back to new steel upstand (see G12/320, 350) with appropriate fixings suitable to the substrate.

4.8.1. Mechanical Fastener Supplier : see 4.5.2.1

4.8.2. Cover plate:

4.8.2.1. Material: Stainless Steel

4.8.2.2. Grade: SAE 316

4.8.2.3. Thickness: 2mm

4.8.2.4. Dimensions: as indicted on drawing MAG-BUT-01-00-DR-A-90-0002

4.9. Fixing of bitumen membrane at abutment with platform lift (south podium): Mechanically fix Bauder peel bar at 150mm centres back to (assumed) existing steel upstand with appropriate fixings suitable to the substrate. Existing S.S. threshold plate to platform lift to be reinstated (assumed mechanical fixing as existing) with cover flashing installed below, bedded in Bauder Sealant.

4.9.1. Mechanical Fastener Supplier : see 4.5.2.1

4.9.2. Threshold plate: existing to be reinstated

4.9.3. Cover flashing:

4.9.3.1. Manufacturer: Ubbink

4.9.3.1.1. Address: 2A Mansard Close, Westgate Industrial Estate , Northampton, NN5 5DL

4.9.3.1.2. Web: https://www.ubbink.com/gb/

4.9.3.1.3. Email: info@ubbink.co.uk

4.9.3.1.4. Phone: 01604 433000

4.9.3.2. Product Reference: Ubiflex non-lead flashing

4.9.3.2.1. Adhesive: Ubbink high-tack adhesive

4.9.3.2.2. Installation: in accordance with manufacturer recommendations

777 Secondary weathering (pipes, ducting etc.)

1. Provision must be made to supply and install a secondary weathering flashing above all waterproof upstand detailing to pipe penetrations, balustrade posts, cable entry pipes, ventilation ducting, sun pipes etc. This can take the form of a welded collar (where appropriate) or a bespoke galvanized cowling or hood sealed with a suitable sealant and fasteners. Solvent welded plastic collars fitted to plastic soil vent pipes.

784 Roof drainage outlets

1. **Manufacturer** ACO Building Drainage
   1.1. Address: ACO Business Centre, Caxton Road, Bedford MK41 0L
   1.2. Telephone: 01462 810400
   1.3. Email: abdtechnical@aco.co.uk
   1.4. Website: www.aco.co.uk
   1.5. Project Contact: Scott Cain
   M: 07768 937 583 | scain@aco.co.uk
2. **Product name:** ACO HP two-way screw outlet- Flat Grate
3. **Material:** All components to be manufactured from die-cast marine-grade LM6 aluminium silicon alloy to BS EN 1706:2010
   3.1. Finish: All cast components to be polyester powder coated as standard
   3.2. Fixings: 304 stainless steel fixings generally
4. **Product reference:**
   4.1. 75HP-TW (75mm nominal bore pipe size, part number: 105946)
5. **Dimensions:** 213mm H x 193mm D
6. **Flow Rate** (measured at 35mm head of water over outlet body for outlets up to 110mm diameter and 45mm head for 160mm diameter outlets as per EN 1253-2:2015, and based on a rainfall intensity of 75mm/hr (0.02083 l/s/m²))
   6.1. Vertical Outflow: 4.1l/s
   6.2. Horizontal Outflow: 2.0l/s
   6.3. Please note actual flow rate through outlets may be significantly higher but stated capacity limited to conform to BS EN 12056-3:2000 to prevent siphonic action for gravity rainwater drainage systems
7. **Weight**
   7.1. 2.20kg
8. **Pipe/outlet connection:**
   8.1. 75STC (75mm ABS threaded adaptor, part number: 105959 - male thread only to suit outlet opening length)
9. **Type of grate/ fittings:** locked grating supplied with outlet
10. **Discharge Spout**

10.1. 75HP-SPOUT (part number: 105963)

10.1.1. Fixing to vertical wall: secured using two fixing lugs

11. **Installation:**
to be carried out strictly in accordance with the manufacturer's instructions
Waterproofing to be dressed into outlet as indicated on MAG-BUT-01-00-M2-A-90-0002, with clamping ring

785 Fixing perimeter trims

1. First/ Intermediate layers bitumen membrane: The first layer of membrane **must** be self-adhesive and dressed to the full extent of the detail using Torch-Free methods. This is to ensure that the detail is fully encapsulated to reduce the risk of fire to exposed combustible materials.
    - Dress the underlayer up and over the perimeter detail to provide a 25mm overhang.
    - Please refer to manufacturer standard detail drawings.

2. Trim
    2.1. Setting out (minimum): 10mm gap between the back edge of the bottom of the drip to the fascia/wall and 3mm gap between abutting lengths of trim.
    2.2. Fasteners: Screw fasteners of type appropriate to kerb or deck substrate. Nail fixing is not permitted.
    2.3. Fixing: 30 mm from ends and at 300 mm (maximum) centres, stagger fixed.
    Can be used to retain the capping sheet where the capping sheet is taken to the full extent of the detail – please see manufacturer detail drawing.
        - 150mm deep trims (type 6) – 3no. additional fixings per length of trim. The fixings are to be face fixed with screws and positioned 75mm down from the top edge, one fixing 100mm in from each end and one in the centre and capped with coloured matched plastic weathering caps. *A fixed timber packer will be required behind the face of the trim to help facilitate ease of fixing.*

    2.4. Jointing sleeves: All lengths should be close butt jointed using an internal jointing sleeve. This must be provided to each joint.
    2.5. Corner pieces: Purpose-made.
3. Completion
    3.1. Contact surfaces: Prime as specified in J41/110
    3.2. Joints: Cover with 200 mm-long pads of bitumen membrane, bonded to trim.
4. Completion of bitumen membrane
    4.1. Top layer/ capsheet: Butt joint to rear edge of trim.
    4.2. Cover strip: Fully bond to trim and top layer/ capping sheet of bitumen membrane. Carry over roof edge upstand and lap 100 mm onto roof. The capping sheet is to be dressed tightly into the top lip of the trim, ensuring a bead of bitumen extrudes at the edge. Please see manufacturer detail drawing.
5. Wall/ kerb joints: The new trim must cover any open joint that may exist at the top of the kerb or wall, by a minimum distance of 20mm.

Surfacing

840 Laying precast concrete paving slabs

1. Completion: Refer Section Q37

Completion

910 Inspection

1. Interim and final roof inspections: in accordance with the manufacturer's requirements for guarantee.
2. Notification:
   2.1. Final inspection: It is the responsibility of the approved contractor to advise the manufacturer when the roof is ready for Final Inspection. The 'Final Inspection' of the waterproofing must be carried out and approved by the manufacturer prior to any landscaping products/materials being installed, otherwise a guarantee cannot be issued. Safe access to carry out this inspection must be provided.
3. Other requirements: Please also refer to preliminaries / general conditions.

920 Rain test U

1. Testing authority: The roofing contractor
2. Timing of test: Before the installation of the hard landscaping
3. Condition of roof prior to testing
   3.1. Complete to a stage where integrity can be tested.
   3.2. Surface: Clean.
   3.3. Method: The finished waterproofing system should be tested for defects using a prolonged simulated rain test, this test should involve the area being hosed with water.
   3.4. Duration: One hour minimum
   3.5. Coverage: Ensure all areas of the waterproofing receive an equal amount of exposure to the water.
   3.6. Test results: Submit on completion of testing

930 Moisture Map Integrity Test U

1. Purpose: to determine whether water is present within the insulation following the rain test
2. Testing authority: Roofing supplier [Bauder]
3. Timing of test: Upon completion of the rain test
4. Equipment: Troxler 3216 Roof Reader Gauge
   4.1. Requirement: to be undertaken by a specialist operator
5. Area: intermittent readings on a 500mm grid
6. Test results: Submit readings in the form of a histogram and report on completion of testing.

940 Completion

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

950 C Guarantee

1. A 20 year product and workmanship (including consequential loss) guarantee is to be provided upon completion following a Final Inspection by the specified manufacturer. Details regarding the full terms and conditions are available separately from the manufacturer upon request. This system must be installed by a manufacturer Approved Contractor, to be eligible for

guarantee. The system comprises the waterproofing membranes, insulation, air and vapour control layer, and attachment of these products.

Ω End of Section

K10
Gypsum board dry linings/ partitions/ ceilings

Types of dry lining

125 Metal stud partition system

1. Description: Partitions to Family, Ungendered Cafe and Male WCs as indicated on MAG-BUT-05-00-DR-A-74-0001, 0002 & 0003
2. Manufacturer: British Gypsum
   - 2.1. Contact Details:
     - 2.1.1. Telephone: +44 (0)844 800 1991
     - 2.1.2. Web: british-gypsum.com
     - 2.1.3. Email: bgtechnical.enquiries@bpb.com
   - 2.2. Product reference: H206015 (A) (EN) GypWall Single Frame
3. Partition type: Single row studs
   - 3.1. Centres: 600 mm
   - 3.2. Fire Integrity (mins): 30
   - 3.3. Fire Insulation (mins): 30
   - 3.4. Sound Insulation (Airborne) Rw (dB): 45
   - 3.5. Thickness: 122 mm
   - 3.6. Duty Rating: Severe
4. Framing:
   - 4.1. Stud, abutments and openings: Gypframe 70 S 50 'C' Studs
   - 4.2. Base and Head Channels: Gypframe 72 FEC 50 Folded Edge Standard Floor & Ceiling Channel
5. Partition height: Maximum 4200 mm
6. Head condition: Timber structural soffit (to be assessed by structural engineer once exposed)
   - 6.1. Deflection allowance: 1/240 x partition height.
7. Insulation: Not required
8. Linings:
   - 8.1. Inner Layer: Gyproc WallBoard 12.5mm
   - 8.2. Outer Layer: Glasroc H TileBacker 12.5mm
   - 8.3. Fasteners: British Gypsum Drywall Screws 25mm
9. Access units: Not required
10. Finishing: Seamless jointing.
    Skim coat plaster to painted areas.
    - 10.1. Primer/ Sealer: As recommended by board manufacturer for vapour control
    - 10.2. Accessories: Beads/ stops recommended by board manufacturer

165 Wall lining system (metal framing) A

1. Description: Metal framed wall lining system to WC areas
2. Manufacturer: British Gypsum
   - 2.1. Contact Details:
     - 2.1.1. Telephone: +44 (0)844 800 1991
     - 2.1.2. Web: british-gypsum.com

2.1.3. Email: bgtechnical.enquiries@bpb.com

2.2. Product reference: GypLyner Single

3. Wall: Brickwork
4. Cavity between wall and back of lining: 40 - 75mm depending on location
   4.1. Framing:
      4.1.1. Studs: Gypframe GL1 Lining Channel
      4.1.2. Head and Base Channels: Gypframe GL8 Track
      4.1.3. Bracket Type: Gypframe GL2 Bracket
   4.2. Framing centres: 600 mm
   4.3. Bracket centres (maximum): 800 mm
5. Fire performance
   5.1. Reaction to fire: Not required
   5.2. Fire resistance of complete wall lining assembly: Not required
6. Fire separation
   6.1. Cavity fire barriers: Not required
7. Insulation:

   Not required
   7.1. Thickness: 25mm
8. Linings:
   8.1. Inner Layer: Gyproc WallBoard 12.5mm
   8.2. Outer Layer: Glasroc H TileBacker 12.5mm
   8.3. Fasteners: Gypframe GL11 GypLyner Anchor
9. Access units: Not required
10. Finishing: Skim coat plaster to painted areas
    10.1. Primer/ Sealer: As recommended by the board manufacturer for vapour control
    10.2. Accessories: Beads/ stops as recommended by board manufacturer

General/ preparation

305 Compliance with performance requirements

1. Materials, components and details: As used in testing/ assessment reports. If discrepancies arise, give notice.

325 Preparation of masonry to receive wall linings

1. General: Suitable to receive lining system. Redundant fixtures and services removed. Cutting, chasing and making good completed.
2. Holes, gaps, service penetrations, perimeter junctions and around openings: Seal.
3. Adhesive fixings: Prepare substrate to achieve effective bonding.
   3.1. Contaminants: Remove loose material, dirt, grease, oil, paper, etc.
   3.2. Absorption: Control by dampening, priming or applying bonding agents as necessary.

335 Additional supports

1. Framing: Accurately position and securely fix to give full support to:
   1.1. Partition heads running parallel with, but offset from main structural supports.
   1.2. Fixtures, fittings and service outlets. Mark framing positions clearly and accurately on linings.

1.3. Board edges and lining perimeters, as recommended by board manufacturer to suit type and performance of lining.

395 Control samples

1. General: Complete areas of finished work and obtain approval of appearance before proceeding.

Components

400 Gypsum boards generally

1. Standard
   1.1. Gypsum plasterboard to BS EN 520.
   1.2. Gypsum fibre board to BS EN 15283-2.
   1.3. Evidence of compliance: Submit Declaration of Performance (DoP).

Installation

435 Dry linings generally

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

455 Metal framing for partitions/ wall linings

1. Setting out: Accurately aligned and plumb.
   1.1. Frame/ Stud positions: Equal centres to suit specified linings, maintaining sequence across openings.
   1.2. Additional studs: To support vertical edges of boards.
2. Fixing centres at perimeters (maximum): 600 mm.
3. Openings: Form accurately.
   3.1. Doorsets: Use sleeved or boxed metal studs and/ or suitable timber framing to achieve strength grade requirements for framing assembly and adequately support weight of door.
   3.2. Services penetrations: Allow for associated fire-stopping.

475 Metal furrings for wall linings

1. Setting out: Accurately aligned and plumb.
   1.1. Vertical furring positions: Equal vertical centres to suit specified linings, maintaining sequence across openings. Position adjacent to angles and openings.
   1.2. Additional vertical furrings: To support vertical edges of boards and at junctions with partitions.
   1.3. Horizontal furring positions: To provide continuous support to edges of boards.
   1.4. Internal corners: For internal corners, legs are bent across the lining channel face and fixed using wafer head screws. Ensure end board joints do not coincide with lining channel joints.
2. Fixings: Brackets to be fixed to the background with anchors

505 Installing mineral wool insulation

1. Fitting insulation: Closely butted joints and no gaps. Use fasteners to prevent slumping or displacement.
2. Services
   2.1. Electrical cables overlaid by insulation: Sized accordingly.

510 Sealing gaps and air paths

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

555 Fire-stopping at perimeters of dry lining systems

1. Material: Tightly packed mineral wool or intumescent mastic/ sealant.
2. Application: To perimeter abutments to provide a complete barrier to smoke and flame.

560 Joints between boards

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

565 Vertical joints

1. Joints: Centre on studs.
   1.1. Partitions: Stagger joints on opposite sides of studs.
   1.2. Two layer boarding: Stagger joints between layers.

570 Horizontal joints

1. Surfaces exposed to view: Horizontal joints not permitted. Seek instructions where height of partition/ lining exceeds maximum available length of board.
2. Two layer boarding: Stagger joints between layers by at least 600 mm.
3. Edges of boards: Support using additional framing.
   3.1. Two layer boarding: Support edges of outer layer.

575 Plank plasterboard

1. First layer in two layer boarding: Square edged with long edges at right angles to studs.

590 Fixing gypsum board to metal framing/ Furrings

1. Partitions/ Wall linings: Fix securely and firmly at the following centres (maximum):
   1.1. Single layer boarding: To all framing at 300 mm centres. Reduce to 200 mm centres at external angles.
   1.2. Multi-layer boarding: Face layer at 300 mm centres, and previous layers around perimeters at 300 mm centres.
2. Ceilings: 230 mm. Reduce to 150 mm at board ends and at lining perimeters.
3. Position of screws from edges of boards (minimum): 10 mm.

3.1. Screw heads: Set in a depression. Do not break paper or gypsum core.

595 Deflection heads

1. Fixing boards: Do not fix to head channels.

Finishing

650 Level of dry lining across joints

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

670 Seamless jointing to gypsum boards

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

680 Skim coat plaster finish

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

692 Rigid beads/stops

1. Internal: To BS EN 13658-1.
2. External: To BS EN 13658-2.

695 Installing beads/ Stops

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

Ω End of Section

K11
Rigid sheet flooring/ sheathing/ decking/ sarking/ linings/ casings

Types of flooring/ sheathing/ decking/ sarking/ lining/ casings

110 Wood-based sheets generally

1. Standard: To BS EN 13986.
    1.1. Evidence of compliance: All sheets to be UKCA/ UKNI/ CE marked. Submit Declaration of Performance (DoP).

795 Wall lining on metal framing

1. Description: stud walls formed to support IPS in zones deeper than 500mm, with plywood facing to one side
2. Fire performance
    2.1. Reaction to fire: Not applicable
    2.2. Resistance to fire: Manufacturer's standard
3. Substrate: masonry
    3.1. Cavity width (substrate to frame): varies (to be confirmed on site)
4. Framing
    4.1. Manufacturer: British Gypsum
        4.1.1. Product reference: Gypframe 70 S 50 'C' Studs
    4.2. Size: 70 x 50mm
    4.3. Framing centres (maximum): to suit dimensions of board
    4.4. Bracket centres (maximum): 600mm
5. Board
    5.1. Type: Plywood manufactured to the relevant standards and quality control procedures specified in BS EN 636, and so marked.
    5.2. Finish: Timber shall be vacuum pressure impregnated with preservative in accordance with the British Wood Preserving and Damp Proofing Associations Manual and as British Wood Preserving Association Commodity Specification C8.
    Timbers shall be planed, free from wane, pitch pockets decay and insect attack.
    5.3. Nominal thickness: 25mm
    5.4. Grade: WBP
    5.5. Use class: Class 2
    5.6. Edging: Square edged
6. Setting out lining: Long edges of boards running across supports.
7. Fixing lining to supports
    7.1. Fasteners: as manufacturer recommendations

875 Medium-density fibreboard

1. Description: to reinstated window linings as part of work package 9 and 10
2. Substrate: existing brickwork with new applied cavity wall membrane (M20/624D), to be fixed back to wall via Delta wall plugs
3. Medium-density fibreboard: To BS EN 622-5, Type MDF.HLS.
    3.1. Manufacturer/ Supplier: Contractor's choice

3.2. Formaldehyde class to BS EN 622-1: Class E1.
3.3. Thickness: 18mm nominally [to match existing lining thickness as closely as possible]
3.4. Fire performance
3.4.1. Reaction to fire: Class C-s3,d2 reaction to fire to BS EN 13501-1 or better
3.4.2. Resistance to fire: Manufacturer's standard
3.5. Edges: Square
3.6. Recycled content: Submit proposals
4. Fixing to supports
4.1. Fixing centres (maximum):
4.2. Around board edges: 300 mm
4.3. Along intermediate supports: 300 mm
4.4. Fixing distance from edges (minimum): 12 mm.
5. Joint treatment: Bonded with PVA adhesive to BS EN 204, Class D3
6. Decoration: painted to match existing colour as M60/130 [submit proposals]

Workmanship

910 Installation generally

1. Timing: Building to be weathertight before fixing boards internally.
2. Moisture content of timber supports (maximum): 22%.
3. Joints between boards: Accurately aligned, of constant width and parallel to perimeter edges.
4. Methods of fixing, and fasteners: As section Z20 where not specified otherwise.

940 Board moisture content and conditioning

1. Moisture content of boards at time of fixing: Appropriate to end use.
2. Conditioning regime: Submit proposals.

950 Moisture content testing

1. Test regime and equipment: Submit proposals.
2. Test results: Submit record of tests and results.

960 Fixing generally

1. Boards/ sheets: Fixed securely to each support without distortion and true to line and level.
2. Fasteners: Evenly spaced in straight lines and, unless otherwise recommended by board manufacturer, in pairs across joints.
2.1. Distance from edge of board/ sheet: Sufficient to prevent damage.
3. Surplus adhesive: Removed as the work proceeds.

975 Metal wall framing

1. Setting out: Framing accurately aligned, vertical and securely fixed to surrounding structure at maximum 600 mm centres. All board edges supported.

980 Open joints

1. Perimeter joints, expansion joints and joints between boards: Free from plaster, mortar droppings and other debris.
2. Temporary wedges and packings: Removed on completion of board fixing.

Ω End of Section

K21
Wood strip/ board fine flooring/ linings

Types of flooring/ lining

150 Wood lining

1. Description: New softwood skirting to staff room as indicated on MAG-BUT-02-B2-DR-A-47-0001 and basement store areas as indicated on MAG-BUT-09-B2-DR-A-00-4001, MAG-BUT-10-B2-DR-A-00-4001 and MAG-BUT-09-11-DR-A-00-4001
2. Substrate: Plaster and/or Brick
3. Strips/ Boards: Free from decay, through splits and insect attack (including ambrosia beetle damage, unless permitted in the appearance class specified). Planed to a smooth surface free from rippling.
4. Wood Species: Baltic Pine
5. Profile: Square edge, to match existing
   5.1. Finished Thickness: 15mm
6. Reaction to fire classification: Class A1
   6.1. Wood species:
7. Fixing: Face fixed
8. Finish: None required - see M60/130 for paint finishes
9. Other requirements: FSC certified

General/ preparation

210 Workmanship generally

1. Moisture content of timber supports: 12-14%.
2. Methods of fixing and fasteners: wood screws
3. Protection: Protect from dirt, stains and damage using suitable coverings and boards laid as the work proceeds.

220 Environmental conditions

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

Fixing/ finishing

335 Treated timber

1. Surfaces exposed by minor cutting and drilling: Treated with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

380 Finish to lining

1. Exposed fastener heads: Punched or set below surface and filled with stopping to match wood.
2. Strips/ Boards: Sanded to give a clean, smooth and flush surface free from score marks.
3. Finish: Painted as M60/130

Ω End of Section

K32
Panel cubicles/ duct and wall linings/ screens

To be read with preliminaries/ general conditions.

120 Panel cubicle systems

1. Description: Full height cubicle system as indicated on drawing MAG-BUT- 05-00-DR-A-74–0003 & 0004
2. Manufacturer: Venesta Washroom Systems Ltd
   - 2.1. Contact details
     - 2.1.1. Address: 1st Floor, Units 19-23
       St George's Square
       St Georges Centre
       Gravesend
       Kent
       United Kingdom
       DA11 0TA
     - 2.1.2. Telephone: +44 (0)1474 353333
     - 2.1.3. Web: www.venesta.co.uk
     - 2.1.4. Email: marketing@venesta.co.uk
   - 2.2. Product reference: V1 | Unity Full Height (SGL)
3. Panels: 13 mm High Density Solid Grade laminate with decorative surface, both sides (SGL)
4. Panel supports: Satin anodized aluminium pedestals.
5. Pilasters: 13 mm High Density Solid Grade laminate with decorative surface, both sides (SGL)
6. Doors: 13 mm High Density Solid Grade laminate with decorative surface, both sides (SGL)
7. Lippings: 1 mm nominal matching ABS.
8. Hardware:
   - 8.1. Hinges: Stainless steel rise and fall patch hinge. Hinges set so doors fall into a closed position.
   - 8.2. Indicator bolt: SAA flip style indicator bolt with circular face plate and emergency release facility.
   - 8.3. Lock and keep: Slimline lever operated mortice lock with satin anodised aluminium face plate. Satin anodised aluminium wrap round keep.
9. Fixings:
   - 9.1. Partition to wall fixing: Satin anodised aluminium u-channel
   - 9.2. Pilaster to partition fixing: Satin anodised aluminium u-channel.
   - 9.3. Pilaster to wall fixing: Satin anodised aluminium l-angle
10. Headrail: Slimline satin anodised aluminium profile, 3 part fixing system which allows cubicles to finish 20mm below ceiling height.
11. Cubicle height (overall): 2380 mm from FFL to top of headrail.
12. Cubicle depth (maximum): 1921mm maximum recommended from face of back wall or rear ducting
13. Clearance: Floor: 50 mm; Ceiling: 20 mm (minimum).
14. Colour/ Finish:
    - 14.1. Doors/partitions: Cloud (VEN351 | LRV 58)
    - 14.2. Pilasters: Noir (VEN337 | LRV 5)
    - 14.3. Hardware: Satin anodised aluminium

15. Pedestal: 50 mm.
    15.1. Adjustment: ± 5mm
16. Edge treatment: All edges radiused and polished (black).

140 Duct/ wall linings – panels only

1. Description: vanity panels to wash troughs as indicated on MAG-BUT-05-00-DR-A-74 – 0001, 0002, 0003 & 0004 (Vanity underpanels)
2. Manufacturer: Venesta Washroom Systems
    2.1. Address: Venesta Washroom Systems, 1st Floor, Units 19-23, St George's Square, St George's Shopping Centre, Gravesend, Kent, DA11 0TA
    2.2. Telephone: 01474 353333
    2.3. Product reference: Rapiduct SGL, compact laminate, wall lining system
3. Panels: High Density Solid Grade laminate (SGL) with decorative face both sides.
4. Panel thickness: 13mm nominal
5. Edge treatment: Radiused and polished
6. Support framing: site assembled softwood framing as drawing MAG-BUT-05-00-DR-A-74-0009
7. Support frame facings/ flashgaps: 13mm High Density Solid Grade laminate (SGL) with decorative face both sides.
8. Colour: Cloud [VEN351]
9. Method of fixing panels: Concealed plastic clips fixed to edge of flashgap strips and reverse of facing panels.
10. Joint treatment: Nominal 25mm wide flashgap between each panel section
11. Components/ accessories: Venesta SGL flashgap system and fixing clips, sanitary appliances as specified in section N13.
12. Included features: Removable access panels.
13. Other requirements: Supplied with lay flat hinges and push fit panel locks

150 Pre-plumbed installation frames

1. Description: Full height IPS system as indicated on drawings MAG-BUT-05-00-DR-A-74–0001, 0002, 0003 & 0004
2. Manufacturer: Venesta Washroom Systems Ltd
    2.1. Contact details
        2.1.1. Address: 1st Floor, Units 19-23
        St George's Square
        St Georges Centre
        Gravesend
        Kent
        United Kingdom
        DA11 0TA
        2.1.2. Telephone: +44 (0)1474 353333
        2.1.3. Web: www.venesta.co.uk
        2.1.4. Email: marketing@venesta.co.uk
    2.2. Product reference: Panelling | Frameduct - 100 mm Baserail (SGL)washroom wall lining system with locks
3. Materials: Aluminium, Nylon, Steel, Solid grade laminate.
4. Panel: High Density Solid Grade laminate with decorative surface, both sides (SGL)
    4.1. Thickness: 13 mm nominal
5. Edge treatment: Radiused and polished (colour black).

6. Flashgaps: High Density Solid Grade laminate (SGL) with decorative surface both sides with 6mm extruded clip-on packer in clear UPVC.
   6.1. Thickness: 13mm nominal
7. Site Framing: Extruded aluminium base and headrail sections and rolled galvanized ultra steel wall channels.
8. Base rails: 100 mm high powder coated two part aluminium baserail to secure subframe units.
9. Sub frame: Rolled galvanized ultra steel subframe with riveted aluminium bracing bars, fitted to site frame with nylon click-fix locator brackets.
   Panel sections fitted to subframe with zinc plated steel clips with butt joints fitted with zinc plated steel dowel clips and mating nylon dowel-docks.
10. Colour/ Finish:
    10.1. Panels: Cloud (VEN351 | LRV 58)
    10.2. Flashgaps: Noir (VEN337 | LRV 5)
11. Included features: Hinged access panel using riveted linear-bearing hinges in zinc plated steel and nylon with riveted panel ratchets in zinc plated steel allowing 10 different opening heights.
    Subframe tie-back system using M8 zinc plated steel tie-back rods and supporting bracketry in zinc plated steel.
    Riveted slider brackets in nylon to allow the top panel to rise and fall where a mid-mounted panel is hinged.
    Riveted push-pull clips where applicable to allow bottom panels to be removed.
    Micro panel lock in polished stainless steel to provide a tamper proof security fixing to the duct panels.
12. Sanitary Appliances: As specified in section N13
    Integrated factory fitted WC carrier in 26mm SGL for use with wall hung WC's.
13. Other requirements: Where IPS zone exceeds 500mm, metal stud wall to be built as section K10 to provide support for Frameduct system

210 Samples

1. General: Before placing orders submit representative samples of the following: Panel and door material and colours.
2. Delivered materials/ products: To match samples.

250 Installation

1. Programming: Do not install cubicles or duct/ wall panels before wet trades have finished their work and wall and floor finishes are complete
2. Accuracy: Set out to ensure frames and/ or panels and doors are plumb, level and accurately aligned.
3. Modifications: Do not cut, plane or sand prefinished components except where shown on drawings.
4. Fixing: Secure components using methods and fasteners recommended by the cubicle/ panel manufacturer. Prevent pulling away, bowing or other distortions to frames, panels and doors.
5. Moisture and thermal movement: Make adequate allowance for future movement.

Ω End of Section

K40
Demountable suspended ceilings

Types of ceiling system

110 Unit Suspended Ceiling Systems

1. Description: Suspended mineral fibre tiles to new toilets as indicated on MAG-BUT-05-00-DR-A-74-0001, 0002, 0003 & 0004 and basement staff room as indicated on drawing MAG-BUT-02-B2-DR-A-47-0001
2. Manufacturer: Zentia
3. Contact details
   - 3.1. Project contact: Michael Harper
     07901917234
   - 3.2. Address: Zentia
     Kingsway South
     Team Valley
     Gateshead
     United Kingdom
     NE11 0SP
   - 3.3. Telephone: +44 (0)191 497 1000
   - 3.4. Web: www.zentia.com
   - 3.5. Email: info@zentia.com
4. Product reference: Ultima+ Finesse[BP314032A]
5. Recycled content: ≤36%
6. Unit size
   - 6.1. Face dimensions: 600 x 600 mm.
   - 6.2. Thickness: 19 mm.
7. Colour: Global white.
8. Edge detail: Finesse.
9. Perimeter detail: as clause K40/260, refer to ceiling details
10. Suspension System: Required - System Z-L-Bar
11. Load capacity : Grid loading is approx. 13kg/m²
    for span deflection limit L/500 in accordance with EN 13964.
    Refer to manufacturer grid load capacities guidance
    - 11.1. Services Loading: For services set into the tiles weighing more than 1.5kg, wooden pattress required to support the load
      Dynamic fittings such as ducted air diffusers, etc, should be independently suspended and not connected directly to the grid
      No fittings are to share common main runners or cross tees
12. Sound absorption: αw = 0.55 (H).
13. Sound attenuation: 39 dB.
14. Reaction to fire: Euroclass, A2-s1, d0.
15. ThermalConductivity: 0.052 W/m·K.
16. RelativeHumidity: 95%.
17. Durability: Scratch resistant.
18. Formaldehyde emissions: E1.
19. Noise reduction coefficient: 0.70aw (Class C)
20. Light reflectance: 87%.

21. Cleanroom classification: To ISO 14644-1: ISO 5.
22. Sound reduction index: 18 Rw (dB).
23. Evidence of compliance: All ceilings kits to be UKCA/ UKNI/ CE marked. Submit Declaration of Performance (DoP).
24. Ceiling
    24.1. Ceiling height above finished floor level:: 2400 mm
    24.2. Structural soffit height: to be measured on site and confirmed prior to order
25. Grid
    25.1. Form: Suspension System Z – L- Bar. Prelude Universal Main Runner (BP314032A) with Prelude 600mm TLS Cross Tees (BP092031) with L-Bar (BPCT700) and Spacer Bar (BPC180L600)
    25.2. Exposure: Concealed
    Prelude 24mm TLS Grid System
26. Integrated services fittings: Hangers and housings for luminaires
    Extract grilles
    Fire detection and alarm fittings
    Speakers (existing to be refitted to new ceiling)
    Refer to MEP specification
27. Other requirements: Please refer to Ultima + Finesse installation guide.

General/ performance

203 Definitions

1. **Ceiling:** Items collectively constituting the ceiling surface i.e. infill units/boards/stretched fabric, access units and grid.
2. **Ceiling system:** Ceiling plus suspension system and integrated services fittings.

Components

245 Standards

1. Steel panels: To BS EN 10346.
2. Aluminium sheet, strip and plate: To BS EN 485-1 and -2.
3. Aluminium bars, tubes and sections: To relevant parts of BS EN 515, BS EN 573, BS EN 755 and BS EN 12020.

250 Suspension system (A)

1. Description: to ceiling system to new toilets as indicated on MAG-BUT-05-00-DR-A-74-0001, 0002, 0003 & 0004 and basement staff room as indicated on drawing MAG-BUT-02-B2-DR-A-47-0001
2. Manufacturer: as K40/110
    2.1. Product reference: System Z-L-Bar or equal
3. Extent of system: Include all hangers, fixings, main runners, cross members, primary channels, perimeter trims, splines, noggings, clips, bracing, bridging, etc. necessary to complete the ceiling system and achieve specified performance.
4. Top fixings: As recommended by ceiling contractor
5. Hangers: BPAW950G Suspension Wire
6. Grid type: Prelude 24mm TLS Grid
    6.1. Finish: Pre-coated fully polymerized Polyester Finish
    6.2. Colour: Global White

260 Perimeter trims (B)

1. Description: to ceiling system to new toilets as indicated on MAG-BUT-05-00-DR-A-74-0001, 0002, 0003 & 0004 and basement staff room as indicated on drawing MAG-BUT-02-B2-DR-A-47-0001
2. Type: painted perimeter trim
3. Manufacturer: as K40/110 or equal
   3.1. Product reference: T 1508 H Axiom perimeter shadowline (painted) trim
   3.2. Material: Aluminium
   3.3. Colour: Global White
4. Fixings
   4.1. Fasteners: as recommended by ceiling contractor
   4.2. Fixing centres (maximum): 300-450 mm

265 Infill units

1. Description: to ceiling system to new toilets as indicated on MAG-BUT-05-00-DR-A-74-0001, 0002, 0003 & 0004 and basement staff room as indicated on drawing MAG-BUT-02-B2-DR-A-47-0001
2. Type: Mineral fibre
3. Manufacturer: as K40/110 or equal
   3.1. Product reference: BP7715M Ultima + Finesse or equal
   3.2. Form: Lay in tiles
   3.3. Sizes: 600 x 600 mm
   3.4. Finish: Painted finish
   3.5. Colour: Global White

Execution

302 Control samples

1. General: Complete areas as part of the finished work in the following locations: 1no. area of contractors choice.
2. Approval: Obtain before completing areas of similar work.

305 Setting out

1. General: Set out accurately, continuous, even, and jointed at regular intervals. Provide level soffits free from undulations, lipping and distortions in grid members
2. Infill and access units, integrated services: Fitted correctly and aligned.
3. Edge/ perimeter infill units size (minimum): Half standard width or length.
4. Corner infill units size (minimum): Half standard width and length.
5. Grid: Position to suit infill unit sizes. Allow for permitted deviations from nominal sizes of infill unit.
6. Infill joints and exposed suspension members: Straight, aligned and parallel to walls, unless specified otherwise.
7. Suitability of construction: Give notice where building elements and features to which the ceiling systems relate are not square, straight or level.

310 Bracing

1. General: Secure, with additional bracing and stiffening to give a stable ceiling system resistant to design loads and pressures.

315 Protection

1. Loading: Do not apply loads for which the suspension system is not designed.
2. Ceiling materials: When necessary, remove and replace correctly using special tools and clean gloves, etc. as appropriate.

320 Top fixing

1. Building structure: Verify suitability.
2. Structural soffit:
   2.1. Suitability to receive specified fixings: Evaluate and confirm.
3. Fixing generally: In accordance with BS EN 13964.
4. Fixing to
   4.1. Concrete: Drill and insert suitable expanding anchors.
   4.2. Aerated concrete: Fix through from the top of concrete units and provide a system of primary support channels.
   4.3. Structural steel: Drill, or use suitable proprietary clips/ adaptors.
   4.4. Metal roof decking: Fix to sides of liner tray corrugations.
   4.5. Timber: Fix to side of joists at least 50 mm from bottom edge. If ceiling system is intended for fire protection, fix into top third of joists.
   4.6. Hollow structural members: Submit fixing proposals.
   4.7. Cartridge or powder activated methods: Do not use

325 Installing hangers

1. Wire hangers: Straighten and tension before use.
2. Installation: Install vertical or near vertical, without bends or kinks. Do not allow hangers to press against fittings, services, or insulation covering ducts/ pipes.
3. Obstructions: Where obstructions prevent vertical installation, either brace diagonal hangers against lateral movement, or hang ceiling system on an appropriate rigid sub-grid bridging across obstructions and supported to prevent lateral movement.
4. Extra hangers: Provide as necessary to carry additional loads.
5. Fixing
   5.1. Wire hangers: Tie securely at top with tight bends to loops to prevent vertical movement.
   5.2. Angle/ strap hangers: Do not use rivets for top fixing.
6. Spacings: 1500 mm

335 perimeter trims

1. Jointing: Neat and accurate, without lipping or twisting.
   1.1. External and internal corners: Mitre joints generally. Overlap joints at internal corners are acceptable.
   1.2. Intermediate butt joints: Minimize. Use longest available lengths of trim. Align adjacent lengths.
2. Fixing: Fix firmly to perimeter wall, edge battens or other building structure.
   2.1. Fixing centres: (Max) 450 mm

345 Concealed grids

1. Grid fixings: Wire hangers
2. Primary support channels: Install level. Adjust level with supporting hangers taut. Do not level by kinking or bending hangers.

2.1. Wire hangers wrapped around primary channels: Twice wrapped. Loops tightly formed.

2.2. Angle/ Strap hangers: Do not use rivets for bottom fixing.

3. Splines: Locate between infill units to assist levelling of adjacent units and to resist air movement at joints.

4. Spring-tee grids: Do not omit primary channel.

355 Installing infill units

1. General

1.1. Perimeter infill units: Trimmed, as necessary, to fully fill space between last grid member and perimeter trim. Prevent subsequent movement.

1.2. Deeply textured infill units: Minimize variations in apparent texture and colour. In particular, avoid patchiness.

2. Concealed grids: Install infill units uniformly, straight and aligned. Avoid dimension creep.

2.1. Infill units around recessed luminaires and similar openings: Prevent movement and displacement.

390 Openings in ceiling materials

1. General: Neat and accurate. To suit sizes and edge details of fittings. Do not distort ceiling system.

395 Integrated services

1. General: Position services accurately, support adequately. Align and level in relation to the ceiling and suspension system. Do not diminish performance of ceiling system.

2. Small fittings: Support with rigid backing boards or other suitable means. Do not damage or distort the ceiling.

2.1. Reaction to fire of additional supporting material: Not less than ceiling material.

3. Services outlets

3.1. Supported by ceiling system: Provide additional hangers.

3.2. Independently supported: Provide flanges to support ceiling system.

401 Ceiling-mounted luminaires

1. Support:

1.1. Independently supported luminaires: Suspension adjusted to line and level of ceiling.

1.2. Ceiling supported luminaires: Modifications and/ or extra support required: To each luminaire.

2. Surface mounted luminaires: Do not inhibit designed grid expansion in fire.

3. Fire-protecting/ resisting ceiling systems: Luminaires must maintain protection integrity of ceiling system

4. Access: Provide access for maintenance of luminaires.

406 Trunking

1. Recessed trunking: Provide flanges for support of grid and infill units, unless mounted above grid flanges. Retain in position with lateral restraint.

411 Mechanical services

1. Fan coil units

1.1. Inlet/ Outlet grilles: Trim ceiling grid and infill units to suit.

1.2. Space beneath: Sufficient for ceiling system components.

1.3. Suspension and connections: Permit accurate setting out and levelling of fan coil units.

2. Air grilles and diffusers
   2.1. Setting out: Accurate and level.
   2.2. Linear air diffusers: Provide flanges for support of grid and infill units. Provide for displacement of ceiling grid. Retain in place with lateral restraint.
   2.3. Grille/ Diffuser ceiling joints: Provide smudge rings and edge seals.
3. Smoke detectors and PA speakers
   3.1. Ceiling infill units: Scribe and trim to suit.
   3.2. Independent suspension: Not required
   3.3. Flexible connections: Required.

500 Electrical continuity and earth bonding

1. Inclusion in finished work: Required

Completion

505 Tools

1. Access tools: At Completion, supply one set of the following: keys to access hatch .

520 User instructions

1. Contents: Include the following:
   1.1. Correct methods for removing and replacing infill units and other components.
   1.2. Cleaning methods and materials.
   1.3. Recommendations for redecoration.
   1.4. Ceiling systems intended for fire protection: Limitations placed on subsequent alterations and maintenance procedures, to ensure that their fire performance is not impaired.
   1.5. Maximum number, position and value of point loads that can be applied to ceiling system after installation.

530 Spares

1. General: At practical completion, supply the following: 25 tiles for ceiling system K40/110.

Ω End of Section

L20
Doors/ shutters/ hatches

General

110 Evidence of performance

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

112 Timber procurement

1. Timber (including timber for wood-based products): Obtain from well managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the 'Convention on International Trade in Endangered Species of wild fauna and flora (CITES)'.
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied, or
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: Forest Stewardship Council (FSC), Grown in Britain (GiB) or Programme for the Endorsement of Forest Certification (PEFC)
   3.1. Other evidence: UK Government Timber procurement policy Category B

150 Site dimensions

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

170 Control samples

1. Procedure
   1.1. Finalize component details.
   1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
   1.3. Obtain approval of appearance and quality before proceeding with manufacture of the remaining quantity.
2. Designated items: Each door type

Products

430 Wood doorsets A

1. Description: DOOR TYPE 1
   New internal doorsets to Ungendered Family and Ungendered Cafe WCs, 30dB acoustic rated with vision panels
2. Materials: Generally to BS EN 942.
3. Door leaf
   3.1. Core: Solid laminated softwood
   3.2. Facings: MDF board
   3.3. Lippings: 7mm hardwood exposed lippings to long edges

3.4. Finish as delivered: Primer and undercoat, as section M60

4. Frame and architraves
   4.1. Wood species: European oak
   4.2. Appearance Class to BS EN 942: J40
   4.3. Finish as delivered: Primer and undercoat, as section M60
5. Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; desired service life: 30 years
6. Glazing/ infill details: Clear single glazing
   6.1. Manifestation: Not required
   6.2. Beading: Internal and external, flush
7. Moisture content on delivery: 9-13%
8. Ironmongery: as indicated on schedule on drawing MAG-BUT-05-00-DR-A-32-0001
9. Perimeter seals: Acoustic seals
10. Fire performance
    10.1. Fire resistance: Not required

430 Wood doorsets B

1. Description: DOOR TYPE 2
   New internal cubicle doorsets to Ungendered Family and Ungendered Cafe WCs
2. Materials: Generally to BS EN 942.
3. Door leaf
   3.1. Core: Solid laminated softwood
   3.2. Facings: MDF board
   3.3. Lippings: 7mm hardwood exposed lippings to long edges
   3.4. Finish as delivered: Primer and undercoat, as section M60
4. Frame and architraves
   4.1. Wood species: European oak
   4.2. Appearance Class to BS EN 942: J40
   4.3. Finish as delivered: Primer and undercoat, as section M60
5. Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; desired service life: 30 years
6. Glazing/ infill details: Not applicable
7. Moisture content on delivery: 9-13%
8. Ironmongery: as indicated on schedule on drawing MAG-BUT-05-00-DR-A-32-0001
9. Perimeter seals: Not required
10. Fire performance
    10.1. Fire resistance: Not required

430 Wood doorsets C

1. Description: DOOR TYPE 3
   New internal doorsets to Male and Female WCs, 30dB acoustic rated
2. Materials: Generally to BS EN 942.
3. Door leaf
   3.1. Core: Solid laminated softwood
   3.2. Facings: MDF board
   3.3. Lippings: 7mm hardwood exposed lippings to long edges

3.4. Finish as delivered: Primer and undercoat, as section M60

4. Frame and architraves
   4.1. Wood species: European oak
   4.2. Appearance Class to BS EN 942: J40
   4.3. Finish as delivered: Primer and undercoat, as section M60
5. Preservative treatment: Organic solvent as section Z12 and WPA Commodity Specification C5; desired service life: 30 years
6. Glazing/ infill details: Not applicable
7. Moisture content on delivery: 9-13%
8. Ironmongery: as indicated on schedule on drawing MAG-BUT-05-00-DR-A-32-0001
9. Perimeter seals: Acoustic seals
10. Fire performance
    10.1. Fire resistance: Not required

630 Access panels Type A

1. Description: Replacement metal access panel to Staff Room.
2. Manufacturer: Exitile Access Ltd
   2.1. Contact details
      2.1.1. Address: 49-61 Jodrell St
      Nuneaton
      2.1.2. Telephone: +44 (0) 24 7635 2771
      2.1.3. Web: www.exitile.com/
      2.1.4. Email: sales@exitile.com
   2.2. Product reference: FlipFix - Metal Access Panel - Picture Frame - Non Fire Rated
3. Position: As existing.
4. Size: As existing.
5. Frame: Exposed picture frame type.
6. Panel
   6.1. Material: Steel.
   6.2. Integral finish: Powder-coated.
7. Latch or lock type: Flipfix patented flush lock
8. Colour/ Finish: Powder-coated RAL9010 30% gloss
9. Performance: Fire resistance: not required.

Execution

710 Protection of components

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

730 Priming/ sealing

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

750 Fixing doorsets

1. Timing: After associated rooms have been made weathertight and the work of wet trades is finished and dried out.

760 Building in

1. General: Not permitted unless indicated on drawings.

790 Fixing of wood frames

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

800 Fixing of loose thresholds

1. Spacing of fixings: Maximum 150 mm from each end and at 600 mm maximum centres.

830 Fixing ironmongery generally

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

840 Fixing ironmongery to fire-resisting door assemblies

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

850 Location of hinges

1. Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
2. Third hinge: Where specified, positioned on centre line of door leaf .

Ω End of Section

M20
Plastered/ rendered/ roughcast coatings

Types of coating

220 Multicoat proprietary plaster

1. Description: to basement areas as indicated on MAG-BUT-09-B2-M2-A-10-0001, MAG-BUT-10-B2-M2-A-10-0001 and MAG-BUT-11-B2-M2-A-10-0001
2. Substrate: Existing brickwork
   2.1. Preparation: Install damp proof lathing as clause 624
3. Manufacturer: Tarmac
4. Contact details
   4.1. Address: Ground Floor, T3 Building, Trinity Park
   Bickenhill Lane
   Solihull
   Birmingham
   West Midlands
   United Kingdom
   B37 7ES
   4.2. Web: https://tarmac.com/contact/
   4.3. Email: centralwestsales@tarmac.com
5. Undercoats
   5.1. Product reference: Whitewall High Impact Plaster
   5.2. Thickness (excluding dubbing out): 6mm
6. Final coat
   6.1. Thickness: 9mm
   6.2. Finish: 2mm smooth finish coat
7. Accessories: As clause 630

General

418 Control samples

1. Complete sample areas, being part of the finished work, in locations as follows: basement areas included in Work Packages 9, 10 and 11

Materials and marking of mortar

497 Cold weather

1. General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
2. External work: Avoid when air temperature is at or below 5°C and falling or below 3°C and rising. Maintain temperature of work above freezing until coatings have fully hardened.
3. Internal work: Take precautions to enable internal coating work to proceed without detriment when air temperature is below 3°C.

Preparing substrates

510 Suitability of substrates

1. Soundness: Free from loose areas and significant cracks and gaps.
2. Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.

3. Tolerances: Permitting specified flatness/ regularity of finished coatings.
4. Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

551 Removal and renewal of existing plaster/ render

1. Location and extent: Agree, at least on a provisional basis, before work commences. Minimize extent of removal and renewal.

566 Removing defective existing plaster

1. Plaster for removal: All to areas identified on drawings
2. Faults in substrate (structural deficiencies, damp, etc.): Submit proposals.
3. Cracks
4. Dust and loose material: Remove from exposed substrates and edges.

Backings/ beads/ joints

624 Damp-proof lathings D

1. Introduction: To be read in conjunction with the drawings for work packages 8, 9, 10 and 11, the preliminaries and other related sections of this specification
2. Related scope/ sections: **M20**/220 Plaster finishes
   M20/630 Plasted beads/ stops
   M60 Paint finishes
   M10 Screeds
   M40 Tiles floor finishes
   M50 Vinyl floor finishes
   K10 Wall Lining Systems
   R16 drainage
3. Descriptive Information (D): The design team describes the Design Intent only and selects a preferred manufacturer, that allows a Specialist Subcontractor to complete the Detailed Design of this system
4. Design Submittals: Proposed fixing details and systems relevant to design and construction, including appropriate dimensions
   4.1. Timing: Submit before fabrication
   4.2. Format: Fully coordinated drawings, schedules and NBS specification structured to CAWS
5. Standard: Type C Waterproofing (BS 8102:2022): Drained Protection - Cavity Drain Membrane System
6. Manufacturer: Delta Membrane Systems Ltd
   6.1. Contact details
      6.1.1. Address: Delta House
      Merlin Way
      North Weald
      Epping
      Essex
      CM16 6HR
      6.1.2. Telephone: +44 (0)1992 523523
      6.1.3. Web: www.deltamembranes.com
      6.1.4. Email: info@deltamembranes.com
   6.2. Product reference:
      6.2.1. Membrane to receive plaster coatings: Delta PT

6.2.1.1. Wall preparation: Apply Koster polsil TG500 anti -lime coating following wall cleaning in accordance with manufacturer's details

6.2.2. Membrane to receive wall liningcoatings: Delta MS 500

6.2.3. Floor Membrane: Delta MS 20

7. Fixing and sealing accessories: As recommended by damp proof lathing manufacturer.
8. Fixing:
   8.1. Method: Delta Qwik-Seal plug and Delta Adhesive Rope to seal plug back to membrane installed as manufacturer's recommendations
   8.2. Standard: Fix securely and firmly to provide a continuous, keyed backing for coatings.
9. Joints between lathing sheets and junctions with services, windows and other openings: Prevent penetration and bridging of cavity by coatings.
10. Ventilation gaps
    10.1. Bottom of lath: 5mm
    10.2. Top of lath: 10mm
    10.3. Accessories: Delta Corner Strip (150mm wide) to seal floor and wall membranes where required installed as manufacturer's recommendations

630 Beads/ stops for internal use

1. Standard: In accordance with BS EN 13914-2, Table 2.
2. Shape: Stops to be radiused to underside of arches
3. Profile: as indicated on drawings MAG-BUT-09-B2-M2-A-10-0001, MAG-BUT-10-B2-M2-A-10-0001 and MAG-BUT-11-B2-M2-A-10-0001
4. Manufacturer: submit proposals
5. Product Refernce: submit proposals
6. Material: Stainless steel to BS EN 13658-1

640 Beads/ stops generally

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

646 Crack control at junctions between dissimilar solid substrates

1. Locations: Where defined movement joints are not required. Where dissimilar solid substrate materials are in same plane and rigidly bonded or tied together.
2. Crack control materials
   2.1. Isolating layer: Building paper to BS 1521.
   2.2. Metal lathing: Internally: Galvanized steel plain expanded metal with spacers
3. Installation: Fix metal lathing over isolating layer. Stagger fixings along both edges of lathing.
4. Width of installation over single junctions
   4.1. Isolating layer: 150 mm.
   4.2. Lathing: 300 mm.
5. Width of installation across face of dissimilar substrate material (column, beam, etc. with face width not greater than 450 mm)
   5.1. Isolating layer: 25 mm (minimum) beyond junctions with adjacent substrate.

5.2. Lathing: 100 mm (minimum) beyond edges of isolating layer.

Mouldings/ decorative plasterwork - Not Used

Internal plastering

710 Application generally

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

715 Flatness/ surface regularity

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

718 Junction of new plasterwork with existing

1. New plasterwork: Finish flush with original face of existing plasterwork to form a seamless junction.

720 Dubbing out

1. General: Correct substrate inaccuracies.
2. New smooth dense concrete and similar surfaces: Dubbing out prohibited unless total plaster thickness is within range recommended by plaster manufacturer.
3. Thickness of any one coat (maximum): 10 mm.
4. Mix: As undercoat.
5. Application: Achieve firm bond. Allow each coat to set sufficiently before the next is applied. Cross scratch surface of each coat.

725 Undercoats generally

1. General: Rule to an even surface. Cross scratch to provide a key for the next coat.
2. Undercoats on metal lathing: Work well into interstices to obtain maximum key.
3. Undercoats gauged with Portland cement: Do not apply next coat until drying shrinkage is substantially complete.

777 Smooth finish

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

External rendering - Not Used

Ω End of Section

M40
Stone/ concrete/ quarry/ ceramic tiling/ mosaic

Types of tiling/ mosaic

110 Ceramic Tiling to Walls

1. Description: Half height tiles to WC areas as indicated on drawings MAG-BUT-05-00-DR-A-74-0005, 0006, 0007 & 0008
2. Tiles: Matt Ceramic Tiles
   - 2.1. Manufacturer/ Supplier: Johnson Tiles
     - 2.1.1. Contact details
       - 2.1.1.1. Address: Harewood Street
         Tunstall
         Stoke-on-Trent
         Staffordshire
         ST6 5JZ
       - 2.1.1.2. Telephone: +44 (0)1782 575575
       - 2.1.1.3. Web: www.johnson-tiles.com
       - 2.1.1.4. Email: sales@johnson-tiles.com
     - 2.1.2. Product reference: Style - Wall Tiles (DA6030ATRM2G550)
   - 2.2. Standard: To EN ISO 10545-2, 3, 4, 13, 14.
   - 2.3. Colour:
     - 2.3.1. Skirting: Graphite [STY06M]
     - 2.3.2. Rest of Tiling Area: White [STY01M]
   - 2.4. Finish: Matt.
   - 2.5. Size: 240 x 60 mm.
   - 2.6. Thickness: 11.3 mm.
   - 2.7. Recycled content: Up to 10%.
   - 2.8. Execution: as M40/510 Fixing tiles.
   - 2.9. Weight: 12.95 kg.
   - 2.10. Coverage: as indicated on drawings noted above
   - 2.11. Chemical resistance: Class B.
   - 2.12. Water absorption: 10-20%.
   - 2.13. FireRating: Class A 1 Non Combustible.
   - 2.14. LRV:
     - 2.14.1. Skirting: 10
     - 2.14.2. Rest of Tiling Area: 74
   - 2.15. Structure: Embossed.
3. Background/ Base: Plasterboard (see section K10)
   - 3.1. Preparation: Prime with a suitable SBR primer diluted 1:4 with water and allow to dry.
4. Bedding: as M40/650 Thin bed adhesive - solid (walls)
   - 4.1. Adhesive to BS EN 12004-1: D1 or D2 in wet areas
5. Joint width: 2 mm
6. Grout: MAPEI Ultracolour Plus
   - 6.1. Colour: Anthracite [114]

6.2. Type/ classification: BS EN 13888 CG2

7. Movement joints: Movement joints should coincide and be continuous with any existing structural movement joints. The recommendations contained within Section 3.5.2 'Location of Movement Joints' of British Standard BS 5385: Part 1; 2018, state that movement joints should be provided over existing and/or structural movement joints, where tiling abuts other materials, at junctions between different substrates, at vertical corner, at 3m to 4.5m centres both horizontally and vertically and in areas where stresses are likely to be concentrated such as at changes of alignment. An increase in the frequency of movement joints should be considered if large degrees of thermal movement or vibration are expected within an installation
8. Accessories: Schluter JOLLY decorative trim profile as M40/110A

110 Preformed tiling strip joints A

1. Description: Decorative trim to wall tiles in WC areas
2. Tiles:
   2.1. Manufacturer/ Supplier: Schlüter-Systems Ltd
      2.1.1. Contact details
         2.1.1.1. Address: Units 3-5
         Bardon 22
         Beveridge Lane
         Coalville
         Leicestershire
         LE67 1TE
         2.1.1.2. Telephone: +44 (0)1530 813396
         2.1.1.3. Web: www.schluterspecifier.co.uk
         2.1.1.4. Email: technical@schluter.co.uk
      2.1.2. Product reference: Schluter Jolly-ABGB
      J 125 ABGB
   2.2. Material: Anodised aluminium.
   2.3. Finish or colour: Brushed antique bronze anodised aluminium
   2.4. Size
      2.4.1. Length (minimum): 2.5 m.
      2.4.2. Depth: 12.5mm

111 Porcelain Floor Tiling to Concrete/ Sand Cement Screeds A

1. Description: to WC areas as part of Work Package 5
2. Tiles: Porcelain
   2.1. Manufacturer/ Supplier: Johnson Tiles
      2.1.1. Contact details
         2.1.1.1. Address: Harewood Street
         Tunstall
         Stoke-on-Trent
         Staffordshire
         ST6 5JZ
         2.1.1.2. Telephone: +44 (0)1782 575575
         2.1.1.3. Web: www.johnson-tiles.com
         2.1.1.4. Email: sales@johnson-tiles.com
   2.2. Product reference: Concreto [CCR04G]
   2.3. Standard: To EN ISO 10545 - 3, 4, 13, 14.
   2.4. Colour: Charcoal

2.5. Finish: Grip.
2.6. Size: 605 x 305 mm.
2.7. Thickness: 7.8 mm.
2.8. Recycled content: Up to 10%.
2.9. Execution: Fixing tiles.
2.10. Water absorption: ≤ 0.5%.
2.11. Chemical resistance: Class A.
2.12. FireRating: Class A 1 Non Combustible.
2.13. Slip potential
2.13.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2, -3 or BS EN 14231 (natural stone only): Wet 36+ Dry 36+
2.13.2. Ramp test class: R12
3. Background/ Base: Concrete/ Sand: Cement Screeds
3.1. Preparation: Prime using an SBR primer diluted 1:4 with water and allow to dry
4. Bedding: as M40/711 Thick Bed Adhesive - Solid (Floors)
5. Joint width: Minimum 3mm
6. Grout: MAPEI Ultracolour Plus
6.1. Colour: Anthracite [114]
6.2. Type/ classification: BS EN 13888 CG2
7. Movement joints: Movement joints should extend through the tiling and its bed and coincide with any structural movement joints. British Standard BS 5385: Part 3: 2015 recommends that movement joints should be provided around the perimeter of the tiled installation (including door thresholds). In larger areas, intermediate movement joints should be provided at 5m intervals in both horizontal directions to provide 25m2 bays. On suspended floors stress relieving joints should be provided over supporting walls or beams where there is a risk of flexing
8. Accessories: Schluter t-profile threshold strip as M40/113A

111 Porcelain Floor Tiling to Concrete/ Sand Cement Screeds B

1. Description: to kitchen areas as part of Work Package 11
2. Tiles: Porcelain
2.1. Manufacturer/ Supplier: Contractor's choice
2.2. Standard: To EN ISO 10545 - 3, 4, 13, 14.
2.3. Colour: to match existing tiles - submit proposals
2.4. Finish: to match existing tiles
2.5. Size: 200 x 200 mm (to match existing tiles)
2.6. Thickness: to match existing tiles
2.7. Execution: Fixing tiles.
2.8. FireRating: Class A 1 Non Combustible.
2.9. Slip potential
2.9.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2, -3 or BS EN 14231 (natural stone only): Wet 36+ Dry 36+
2.9.2. Ramp test class: R12
3. Background/ Base: Concrete/ Sand: Cement Screeds
3.1. Preparation: Prime using an SBR primer diluted 1:4 with water and allow to dry
4. Bedding: as M40/711 Thick Bed Adhesive - Solid (Floors)
5. Joint width: to match existing

6. Grout: MAPEI Ultracolour Plus
   6.1. Colour: to match existing grout
   6.2. Type/ classification: BS EN 13888 CG2
7. Movement joints: Movement joints should extend through the tiling and its bed and coincide with any structural movement joints. British Standard BS 5385: Part 3: 2015 recommends that movement joints should be provided around the perimeter of the tiled installation (including door thresholds). In larger areas, intermediate movement joints should be provided at 5m intervals in both horizontal directions to provide 25m2 bays. On suspended floors stress relieving joints should be provided over supporting walls or beams where there is a risk of flexing

112 Porcelain Tiling to Timber Floors

1. Description: to WC areas
2. Tiles: Porcelain
   2.1. Manufacturer/ Supplier: Johnson Tiles
      2.1.1. Contact details
         2.1.1.1. Address: Harewood Street
         Tunstall
         Stoke-on-Trent
         Staffordshire
         ST6 5JZ
         2.1.1.2. Telephone: +44 (0)1782 575575
         2.1.1.3. Web: www.johnson-tiles.com
         2.1.1.4. Email: sales@johnson-tiles.com
   2.2. Product reference: Concreto [CCR04G]
   2.3. Standard: To EN ISO 10545 - 3, 4, 13, 14.
   2.4. Colour: Charcoal.
   2.5. Finish: Grip.
   2.6. Size: 605 x 305mm
   2.7. Thickness: 7.8 mm.
   2.8. Recycled content: Up to 10%.
   2.9. Execution: Fixing tiles.
   2.10. Water absorption: ≤ 0.5%.
   2.11. Chemical resistance: Class A.
   2.12. FireRating: Class A 1 Non Combustible.
   2.13. Slip potential
      2.13.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2, -3 or BS EN 14231 (natural stone only): Wet 36+ Dry 36+
      2.13.2. Ramp test class: R12
3. Background/ Base: Plywood – Chipboard – Floorboards screw fixed to joists and additional cross noggings at 300mm centres
   3.1. Preparation: Mechanically fix a suitable tile backerboard of minimum 10mm thickness at 300mm centres. Prepare the tile backerboard as manufacturers recommendations
4. Bedding: as M40/711 Thick Bed Adhesive - Solid (Floors)
5. Joint width: Minimum 3mm
6. Grout: MAPEI Ultracolour Plus
   6.1. Colour: Anthracite [114]
   6.2. Type/ classification: BS EN 13888 CG2

7. Movement joints: Movement joints should extend through the tiling and its bed and coincide with any structural movement joints. British Standard BS 5385: Part 3: 2015 recommends that movement joints should be provided around the perimeter of the tiled installation (including door thresholds). In larger areas, intermediate movement joints should be provided at 5m intervals in both horizontal directions to provide 25m2 bays. On suspended floors stress relieving joints should be provided over supporting walls or beams where there is a risk of flexing
8. Accessories: Schluter ramped threshold strip as M40/113B

113 One-part floor transition strips A

1. Description: Transition profile to door thresholds in Male and Female and accessible WCs
2. Tiles:
   - 2.1. Manufacturer/ Supplier: Schlüter-Systems Ltd
     - 2.1.1. Contact details
       - 2.1.1.1. Address: Units 3-5
         Bardon 22
         Beveridge Lane
         Coalville
         Leicestershire
         LE67 1TE
       - 2.1.1.2. Telephone: +44 (0)1530 813396
       - 2.1.1.3. Web: https://eu.schluter.com/en-GB/
       - 2.1.1.4. Email: technical@schluter.co.uk
     - 2.1.2. Product reference: Schlüter®-RENO-TT 9 / 25 EB
   - 2.2. Form: T-shaped.
   - 2.3. Material: Stainless steel.
   - 2.4. Finish: Brushed.
   - 2.5. Length: 2500mm
   - 2.6. Profile width: 25 mm.
   - 2.7. Vertical leg: 9 mm.

113 One-part floor transition strips B

1. Description: Transition profile to door thresholds in Ungendered and Family WCs
2. Tiles:
   - 2.1. Manufacturer/ Supplier: Schlüter-Systems Ltd
     - 2.1.1. Contact details
       - 2.1.1.1. Address: Units 3-5
         Bardon 22
         Beveridge Lane
         Coalville
         Leicestershire
         LE67 1TE
       - 2.1.1.2. Telephone: +44 (0)1530 813396
       - 2.1.1.3. Web: https://eu.schluter.com/en-GB/
       - 2.1.1.4. Email: technical@schluter.co.uk
     - 2.1.2. Product reference: Schlüter®-RENO-RAMPAE RP 125 B65
   - 2.2. Profile: Ramped.
   - 2.3. Material: Aluminium.
   - 2.4. Finish: Anodised.

2.5. Colour: Silver.

2.6. Size: 12.5 x 64 x 2500 mm

2.7. Accessories: Schlüter-RENO-RAMP-K.

General

210 Suitability of backgrounds/ bases

1. Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
2. Background Conditions: Suitable and sufficiently strong to receive and support a tiled finish
   Suitable for the conditions to which it will be exposed
   Fully dry and free from contamination, laitance etc
3. New background drying times (minimum)
   3.1. Concrete walls: six weeks.
   3.2. Brick/ block walls: six weeks.
   3.3. Rendering: two weeks.
   3.4. Gypsum plaster: four weeks.
4. New base drying times (minimum)
   4.1. Concrete slabs: six weeks.
   4.2. Cement:sand screeds: three weeks.

215 Falls in the bases

1. General: Give notice if falls are inadequate.

250 Samples

1. General: Submit representative samples of the following: Each type of tile.

260 Control samples

1. General: Complete sample areas, being part of finished work, in locations as follows: a selected WC area.
   1.1. Approval of appearance: Obtain before proceeding.
2. Floor covering slip resistance testing:

Preparation

310 Existing backgrounds/ bases generally

1. Preparation: All existing wall (including finish, board and associated studwork), floor and ceiling finishes are to be carefully removed back to substrate
2. Efflorescence, laitance, dirt and other loose material: Remove.
3. Deposits of oil, grease and other materials incompatible with the bedding: Remove.
4. Wet backgrounds: Dry before tiling.

320 Existing concrete/ screeds

1. Loose or hollow portions: Cut out and repair
   Dusty or porous concrete/screeds should be thoroughly dry brushed and then primed using a suitable SBR primer diluted 1: 4 with water.
2. Making good: Material recommended by tiling adhesive manufacturer

355 Old adhesive residues on concrete/ screed bases

1. Soft or unsound adhesive residues: Remove without damaging base.

390 Plasterboard backgrounds

1. Boards: Dry, securely fixed and rigid with no protruding fixings and face to receive decorative finish exposed.
2. Thickness: Plasterboard should be a minimum 12.5mm thick when fixing to timber framing or battening
3. Fixing: Boards should be fixed in accordance with the manufacturers recommendations
4. Maximum weight: The maximum weight of tiling should not exceed 32kg/m2 (including the weight of adhesive), generally equivalent to:
    - Ceramic tiles with a maximum thickness of 12.5mm
    - Natural stone with a maximum thickness of 10mm
5. New Item: When fixing tiles using a cement-based adhesive, the plasterboard should be primed using a neat application of an SBR primer, brush applied to the background. The primer should be allowed to dry before fixing tiles.

400 Tile Backer Boards

1. Description: To be fixed in accordance with the manufacturers recommendations
2. Boards: Must be clean, dry, rigid and well-braced
Consult the board manufacturer regarding the suitability of the boards for the intended conditions to which it will be subjected

401 Existing Floorboards

1. Description: Timber floors are assumed in the City Art Gallery building WCs, to be confirmed on site.
2. Preparation:
    - Screw down both edges of each board to joists with countersunk screws. Additional noggings may need to be provided to allow the boards to be screw fixed at 300mm centres.
    - Ensure the boards are capable of supporting a tile finish without excessive deflection. If there are any doubts as to the rigidity of the boards, then they should be overlaid with exterior WBP grade plywood of a suitable thickness to prevent deflection under load, screw fixed at 300mm centres.
    - Prime boards with a suitable SBR Primer. Allow to dry before fixing the tiles.

402 Existing Chipboard

1. Description: Timber floors are assumed in the City Art Gallery building WCs, to be confirmed on site.
2. Preparation:
    - Screw down to joists and noggings at 300mm centres to provide a deflection-free base to allow direct fixing to the chipboard.
    - If there are any doubts as to the rigidity of the boards, then they should be overlaid with exterior WBP grade class 3 plywood of a suitable thickness to prevent deflection under load, screw fixed at 300mm centres

403 Existing Plywood Floors

1. Description: Timber floors are assumed in the City Art Gallery building WCs, to be confirmed on site.
2. Preparation:

- Plywood should be exterior WBP Class 3 or Marine grade.
- Minimum 15mm thick.
- Screw fixed at maximum 300mm centres to joists and noggings.- The back, face and edges of the board should be sealed with Norcros Prime Bond. Allow the primer to dry before fixing the tiles.
- If there are any doubts as to the rigidity of the boards, then they should be overlaid with exterior WBP grade plywood with a minimum thickness of 15mm to prevent deflection under load, screw fixed at 300mm centres.

Fixing

510 Fixing generally

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

530 Setting out

1. Joints: True to line, continuous and without steps.
   1.1. Joints on walls: Horizontal, vertical and aligned round corners.
   1.2. Joints in floors: Parallel to the main axis of the space or specified features.
2. Cut tiles: Minimize number, maximize size and locate unobtrusively.
3. Joints in adjoining floors and walls: Align.
4. Joints in adjoining floors and skirtings: Align.
5. Movement joints: Where locations are not indicated, submit proposals.
6. Setting out of floor and wall tiling : Submit proposals.

550 Flatness/ Regularity of tiling/ mosaics

1. Sudden irregularities: Not permitted.
2. Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles and no gap should be greater than 6 mm i.e. a tolerance of +/- 3mm.

560 Level of tiling across joints

1. Deviation (maximum) between tile surfaces either side of any type of joint
   1.1. 1 mm for joints less than 6 mm wide.
   1.2. 2 mm for joints 6 mm or greater in width.

650 Thin bed adhesive – solid (walls)

1. Application: By floated coat of adhesive to dry background in areas of about 1 m². Comb surface
2. Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto float coat.

3. Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacture
4. Tiles with a surface area of 0.1m2 or greater: solidly bedded
5. Tiles with a surface area of less than 0.1m2, but which weigh more per square metre than 70% of the background's capacity to carry the weight: solidly bedded e.g. the maximum weight of tile that can be supported by Gypsum plaster = 20kg; whereas 9mm thick porcelain tiles, which weigh approximately 18kg/m2, weigh more than 70% of 20kg (14kg) therefore, they should be solidly bedded regardless of size.

711 Thick bed adhesive – Solid (floors)

1. Application: By floated coat of adhesive to dry base and comb surface
2. Adhesive: as recommended by tiling manufacturer
3. Tiling: Apply coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto position
4. Finished adhesive thickness: Within range recommended by manufacturer

Movement joints/ grouting/ completion

815 Movement joints

1. Joints: Extend through tiles and bedding to base/ background. Centre over joints in base/ background
   1.1. Width: minimum 6mm
2. Sealant: TBA
   2.1. Colour: TBA

875 Grouting

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

885 Coloured grout

1. Staining of tiles: Not permitted
2. Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a protective sealer to tiles and repeat trial.

Performance

900 Pendulum floor covering slip resistance testing

1. Floor covering(s) to be tested: M40/ 111.
2. Testing authority: An approved laboratory
3. Test: To BS 7976-1, -2 and -3.
   3.1. Floor covering condition: Dry and wet
   3.2. Witnessing/ Certification: Arrange for tests to be witnessed/ certified by: Contract Administrator.
   3.3. Report: Submit.

Ω End of Section

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

Types of covering

110 Linoleum sheets

1. Description: Linoleum flooring to the Athenaeum basement store as indicated on drawing MAG-BUT-08-B2-DR-A-00-4001
2. Tiles
   - 2.1. Manufacturer: Forbo Flooring Systems
     - 2.1.1. Contact details
       - 2.1.1.1. Address: PO Box 1
         High Holborn Road
         Ripley
         Derbyshire
         DE5 3NT
       - 2.1.1.2. Telephone: +44 (0)800 093 5258
       - 2.1.1.3. Web: www.forbo-flooring.co.uk
       - 2.1.1.4. Email: info.flooring.uk@forbo.com
     - 2.1.2. Product reference: Marmoleum Solid Piano
   - 2.2. Standard: To EN ISO 24011.
   - 2.3. Use class: Class 23 / 34 / 43.
   - 2.4. Slip potential
     - 2.4.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum): DIN 51130 = R9., PVT Dry: ≥50, EN 13898: μ ≥0.30.
   - 2.5. Recycled content: 43%.
   - 2.6. Width: 2000 mm.
   - 2.7. Thickness: 2.5 mm.
   - 2.8. Colour and pattern: 3601 Warm Grey.
   - 2.9. Residual indentation (to EN-ISO 24343-1): ≤0.08 mm.
   - 2.10. Castor chair continuous use (to ISO 4918/EN 425): Suitable for office chairs with castors.
   - 2.11. Light fastness to EN-ISO 105-B02: Method 3, blue scale minimum 6.
   - 2.12. Flexibility (to BS EN ISO 24344): 40 mm.
   - 2.13. Acoustical impact sound reduction (to EN-ISO 717-2): ≤5 dB.
   - 2.14. Reaction to fire (to EN 13501-1): Cfl-s1.
   - 2.15. Body voltage (to EN 1815): ≤2 kV.
   - 2.16. Thermal conductivity (to EN 12524): 0.17 W/m·K.
   - 2.17. Indoor Air Emissions (to EN ISO 16000-9): TVOC at 28 days: <0.050 mg/m³.
   - 2.18. Total weight:: 2900 g/m².
   - 2.19. Adhesive: as clause 640
   - 2.20. Edging: Edging trim for thresholds as clause 740
   - 2.21. Skirtings: New softwood skirting to be installed
3. Finishing: Seal and polish as clause 820A
4. Other requirements: The subfloor should be prepared the standard BS8203:2017. Install in accordance with manufacturer's installation guidance

150 Particle-based enhanced slip-resistant polyvinyl chloride (PVC) sheets A

1. Description: Slip resistant safety vinyl flooring to basement staff room as indicated on drawing MAG-BUT-02-B2-DR-A-47-0001
2. Manufacturer: Forbo Flooring Systems
3. Contact details
   - 3.1. Address: PO Box 1
     High Holborn Road
     Ripley
     Derbyshire
     DE5 3NT
   - 3.2. Telephone: +44 (0)800 093 5258
   - 3.3. Web: www.forbo-flooring.co.uk
   - 3.4. Email: info.flooring.uk@forbo.com
4. Product reference: Surestep Original
5. Standard: To BS EN ISO 10582 and BS EN 13845 & 14041.
6. Use class: Class 34 Commercial very heavy, Class 43 light industrial.
7. Slip potential
   - 7.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum): DIN 51130, R10; BS EN 13893, DS ≥0.30.; PTV Wet slider 96: ≥36.
   - 7.2. Surface roughness (Rz) (minimum): ≥20.
8. Recycled content: 20%.
9. Width: 2 m.
10. Thickness: Total: 2.0 mm; Wear layer: 0.7 mm.
11. Colour and pattern: Smoke
12. Dimension stability (to EN-ISO 23999): <0.1%.
13. Residual indentation (to EN-ISO 24343-1): ≤0.05 mm.
14. Electrical resistance (to EN 1081 R1): >1 x 10^9 Ω.
15. Reaction to fire (to BS EN 13501): Bfl-s1.
16. Body voltage (to BS EN 1815): <2 kV.
17. Thermal conductivity (to BS EN 12524): 0.25 W/m·K.
18. Adhesive: as clause 640
19. Castor chair continuous use (to EN 425): No effect.
20. Use in wet areas (to EN 13553): Yes.
21. Total weight (to EN ISO 23997): 2.75 kg/m².
22. Light fastness (to BS EN ISO 105 B02): ≥6.
23. (to EN 13845 Annex C): Esf.
24. EN 13845 Annex D 50.000 revolutions <10% loss: Pass.
25. Resistance to chemicals (to EN ISO 26987): Very good.
26. Edging: Edging trim for thresholds as clause 740
27. Skirtings: New softwood skirtings to be installed
28. Finishing: As 820B

150 Vinyl Sheet Flooring B

1. Description: to new infill concrete floor sections in the basement archives as indicated on drawing MAG-BUT-09-B2-DR-A-00-4001 and MAG-BUT-10-B2-M2-A-00-4001
2. Base: Levelling screed M10/160

2.1. Preparation: as M50/440, 470 and 480

3. Flooring roll
   3.1. Standard: To BS EN 14041.
      3.1.1. Evidence of compliance: Submit.
   3.2. Material: Homogeneous PVC to BS EN ISO 10581
   3.3. Manufacturer: Contractor's choice
      3.3.1. Product reference: Not applicable
   3.4. BS EN ISO 10874 class: 43
   3.5. Slip potential
      3.5.1. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: to match existing flooring
      3.5.2. Surface roughness (Rz) (minimum) to BS 1134: to match existing flooring
   3.6. Recycled content: Submit proposals
   3.7. Width: 2000 mm
   3.8. Thickness: to match existing flooring
   3.9. Colour/ pattern: to match existing vinyl flooring in room - submit samples
4. Adhesive (and primer if recommended by manufacturer): As clause 640
5. Seam welding: Hot welding with complimentary coloured rod as clause 680
6. Accessories: Edging trim for thresholds as clause 740
7. Finishing: Seal and polish as clause 820B

General requirements

210 Workmanship generally

1. Standard: Installation of sheet flooring should be carried out in accordance with BS8203:2017 Code of practice for the installation of resilient floor coverings
2. Base condition after preparation: Rigid, dry, sound, smooth and free from grease, dirt and other contaminants.
   Conduct moisture test on substrate. Floor must be below 75% relative humidity. If the floor is above 75% RH then it will require a surface DPM to make it dry followed by a Latex finish to make the floor smooth clean level and sound.
3. Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks and stains.

220 Samples

1. Covering samples: Before placing orders, submit representative sample of each type.

230 Control samples

1. General: Complete areas of finished work in approved locations as follows, and obtain approval of appearance before proceeding: Staff Room and 1no. basement area .

250 Layout – roll materials

1. Setting out of seams: Agree setting out for sheeting types M50/ 110 and 150 .

251 Layout – seams in roll materials

1. Setting out: Minimise occurrences of seams and cross seams.

270 Extra material

1. Provision of extra material: At completion, hand to Employer extra material of each type of covering to extent of TBC.

330 Commencement

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

340 Conditioning

1. Prior to laying: Condition materials by unpacking and separating in spaces where they are to be laid. Maintain resilient flooring rolls in an upright position. Unroll carpet and keep flat on a supporting surface.
2. Conditioning time and temperature (minimum): As recommended by manufacturer with time extended to 48 hours for materials stored or transported at a temperature of less than 10°C immediately prior to laying.

350 Environment

1. Temperature and humidity: It is essential that the laying area is at a steady temperature of 18-27°C, 48 hours before, during and 24 hours after installation. The material and adhesive should be conditioned in the same environment for at least 24 hours prior to the installation
2. Ventilation: Before during and after laying, maintain adequate provision.

Preparing bases

420 Existing bases

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

440 Substrates to receive thin coverings

1. Trowelled finishes: Uniform, smooth surface free from trowel marks and other blemishes. Abrade suitably to receive specified floor covering material.

470 Bases from which existing floor coverings have been removed

1. Substrate: Clear of covering and as much adhesive as possible. Skim with smoothing underlayment compound to give smooth, even surface as M10/160

480 Existing floor coverings with new sections applied

1. Substrate: Clear of covering and as much adhesive as possible. Skim with smoothing underlayment compound to give smooth, even surface as M10/160
2. Method:
   1. Cut vinyl sheeting to match area of floor where new sections are to be applied.

2. Tape the new piece over the existing retained vinyl flooring, ensuring the patterns align and cut through both layers of vinyl.
3. Remove the damaged layer of vinyl, use a putty knife to break the vinyl away from the adhesive on the subfloor if required. Scrape off the old adhesive and then use the putty knife to apply a fresh, even layer of vinyl floor adhesive to the area of the floor.
4. Firmly press the new layer of vinyl on and leave for the recommended drying time of the adhesive.
5. Hot weld edges as clause 680

Laying coverings

620 Colour consistency

1. Finished work in any one area/ room: Free from banding or patchiness.

640 Adhesive fixing generally

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

650 Seams

1. Patterns: Matched.
2. Joints: Tight without gaps.

670 Borders and feature strips in sheet material

1. Curl: Not acceptable.
2. Corners: Mitre joints.

680 Seam welding coverings

1. Commencement: At least 24 hours after laying, or after adhesive has set.
2. Method: Hot welded with Matching weld cable
3. Joints: Neat, smooth, strongly bonded, flush with finished surface.

720 Doorways

1. Joint location: On centre line of door leaf.

740 Edgings and cover strips

1. Manufacturer: Contractor's choice
   1.1. Product reference: Submit proposals
2. Material/ finish: Stainless Steel (brushed)
3. Fixing: Secure with edge of covering gripped. Use matching fasteners where exposed to view

780 Trafficking after laying

1. Covering types: Protect from heavy traffic
2. Traffic free period: 72 hours

Completion

820 Finishing A

1. Description: LINOLEUM FLOORING
2. Cleaning operations
   2.1. Wash floor with water containing neutral (pH 6-9) detergent. If necessary, lightly scrub heavily soiled areas.
      2.1.1. Note: Do not wash for 48 hours after installation
   2.2. Rinse with clean water, removing surplus to prevent damage to adhesive. Allow to dry.
3. Emulsion polish: Two coats of a type recommended by covering manufacturer.

820 Finishing B

1. Description: VINYL FLOORING
2. Cleaning operations
   2.1. Wash floor with water containing neutral (pH 6-9) detergent. If necessary, lightly scrub heavily soiled areas.
      2.1.1. Note: Do not wash for 48 hours after installation
   2.2. Rinse with clean water, removing surplus to prevent damage to adhesive. Allow to dry.
3. Emulsion polish: Two coats of a type recommended by covering manufacturer.

880 Waste

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

Ω End of Section

M60
Painting/clear finishing

Coating systems

110 Emulsion paint

1. Description: New paint to staff room walls and WC walls (above tiling) as indicated on MAG-BUT-02-B2-DR-A-47-0001 and MAG-BUT-05-00-DR-A-74-0001-4
2. Manufacturer: Edward Bulmer Natural Paint
   2.1. Contact Details:
      2.1.1. Address: 194 Ebury Street, SW1W 8UP
      2.1.2. Telephone: 01544 388 535
      2.1.3. Email: info@edwardbulmerpaint.co.uk
      2.1.4. Web: https://www.edwardbulmerpaint.co.uk/
   2.2. Product reference: Matt Emulsion
   2.3. Colour: as indicated on MAG-BUT-02-B2-DR-A-47-0001 and MAG-BUT-05-00-DR-A-74-0001-4
3. Surfaces: All surfaces should be clean, sound, dry and free from anything that could affect the adhesion of the materials to be applied
   3.1. Preparation: Remove all loose and flaking paintwork to a solid edge. Degrease thoroughly with a suitable detergent solution and rinse with clean water. Fill all holes, cracks, and imperfections with a suitable filler, sand and remove all dust, then apply primer as appropriate. Choice of filler should be based on compatibility with the surface to be filled, submit proposals. Filled areas can have a different level of absorbency.
4. Initial coats: All filled areas should be primed before applying finish coats.
5. Undercoats: As recommended by manufacturer
6. Finishing coats: Matt natural paint
   6.1. Number of coats: as required to cover previous paint coats
7. Application: In accordance with manufacturer's recommendations
8. Brush: Use a high-quality 6” natural grey bristle brush or a synthetic brush, sized for the area being painted
9. Roller: On smooth flat substrates use a high-quality medium pile roller, for textured substrates increase the nap of the roller.

130 Gloss paint

1. Description: Paint to new softwood skirtings to staff room as MAG-BUT-02-B2-DR-A-47-0001 and internal doorsets as MAG-BUT-05-00-DR-A-32-0001
2. Manufacturer: Edward Bulmer Natural Paint
   2.1. Contact Details:
      2.1.1. Address: 194 Ebury Street, SW1W 8UP
      2.1.2. Telephone: 01544 388 535
      2.1.3. Email: info@edwardbulmerpaint.co.uk
      2.1.4. Web: https://www.edwardbulmerpaint.co.uk/
   2.2. Product reference: Water Based Gloss
   2.3. Colour:
      2.3.1. Skirtings: Pure White
      2.3.2. Internal Doorsets: as indicated on schedule on MAG-BUT-05-00-DR-A-32-0001

3. Surfaces: The surface must be dry, clean, solid and coatable.
4. Initial coats: Water Based Eggshell Primer
   4.1. Number of coats: 1no. (2 coats over knots to prevent bleeding)
5. Finishing coats: Water Based Gloss Paint
   5.1. Number of coats: 2/3 coats
6. Application: In accordance with manufacturer's recommendations

Generally

215 Handling and storage

1. Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
2. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

280 Protection

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

300 Control samples

1. Sample areas of finished work: Carry out, including preparation, as follows:
2. Types of coating Location
3. M60/ 110. …….
4. Approval of appearance: Obtain before commencement of general coating work.

320 Inspection by coating manufacturers

1. General: Permit manufacturers to inspect work in progress and take samples of their materials from site if requested.

Preparation

400 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File.
3. Refer to CDM Construction Phase Plan where applicable.
4. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
5. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
6. Substrates: Sufficiently dry in depth to suit coating.
7. Efflorescence salts: Remove.
8. Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
9. Surface irregularities: Remove.
10. Joints, cracks, holes and other depressions: Fill flush with surface, to provide smooth finish.
11. Dust, particles and residues from preparation: Remove and dispose of safely.
12. Water based stoppers and fillers
    12.1. Apply before priming unless recommended otherwise by manufacturer.

12.2. If applied after priming: Patch prime.

13. Oil based stoppers and fillers: Apply after priming.
14. Doors, opening windows and other moving parts
    14.1. Ease, if necessary, before coating.
    14.2. Prime resulting bare areas.

420 Fixtures and fittings

1. Removal: Before commencing work remove: All loose furniture and coverplates, grilles, wall clocks, and other surface mounted fixtures.
2. Replacement: Refurbish as necessary, refit when coating is dry.

440 Previously coated surfaces generally

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

481 Uncoated wood

1. General: Provide smooth, even finish with arrises and moulding edges lightly rounded or eased.
2. Heads of fasteners: Countersink sufficient to hold stoppers/fillers.
3. Resinous areas and knots: Apply two coats of knotting.

580 Uncoated plaster

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled ‘polished’ areas: Key lightly.

622 Organic growths

1. Dead and loose growths and infected coatings: Scrape off and remove from site.
2. Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
3. Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

Application

711 Coating generally

1. Application standard: In accordance with BS 6150, clause 9.
2. Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats
   - 6.1. Thickness: To suit surface porosity.
   - 6.2. Application: As soon as possible on same day as preparation is completed.
7. Finish
   - 7.1. Even, smooth and of uniform colour.
   - 7.2. Free from brush marks, sags, runs and other defects.
   - 7.3. Cutting in: Always work to a wet edge, including cutting-in which should be carried out as the main field is applied, not in advance.
   - 7.4. Strokes: Keep final strokes all in the same direction.
8. Doors, opening windows and other moving parts: Ease before coating and between coats.

720 Priming joinery

1. Preservative treated timber: Retreat cut surfaces with two flood coats of a suitable preservative before priming.
2. End grain: Coat liberally allow to soak in, and recoat.

730 Workshop coating of concealed joinery surfaces

1. General: Apply coatings to all surfaces of components.

731 Site-coating of concealed joinery surfaces

1. General: After priming, apply additional coatings to surfaces that will be concealed when fixed in place.

Ω End of Section

N10
General fixtures/ furnishings/ equipment

Products

160 Shelving system

1. Description: Cabinet for battery back ups to basement store areas as indicated on MAG-BUT-08-B2-M2-A-00-4001, MAG-BUT-09-B2-M2-A-00-4001, MAG-BUT-10-B2-M2-A-00-4001 and MAG-BUT-11-B2-M2-A-00-4001
2. Manufacturer: Bott
   2.1. Product reference: Cubio with perforated doors
3. Dimensions:
   3.1. Height: 2000
   3.2. Width: 800
   3.3. Depth: 525
4. Shelves
   4.1. Number: 4
   4.2. Material: Galvanised Steel
5. Carcass or frame
   5.1. Material: Steel
   5.2. Finish/ Colour: Light grey (RAL7035)
6. Other components: Lock as manufacturers standard

300 Entrance mats

1. Manufacturer: Gradus
   1.1. Contact details
      1.1.1. Address: Chapel Mill
      Park Green
      Macclesfield
      Cheshire
      SK11 7LZ
      1.1.2. Telephone: +44 (0)1625 428922
      1.1.3. Web: www.gradus.com
      1.1.4. Email: imail@gradus.com
   1.2. Product reference: Esplanade 6000 Primary Barrier Matting (PVC scraper wipers)
2. Module Construction: Aluminium base with pvc bridging strips
3. Dimensions: 12 mm gauge.
4. Material: PVC with mill finish aluminum base.
5. Colour:
   5.1. PVC hinge: Black
   5.2. Wipers: Black
6. Integral accessories:
   6.1. Matwell: Recessed in existing/ renewed stainless steel matwell ring (subject to site investigation)
   Matwell ring to specified by Boon Edam
   6.2. Bespoke Radius Drip:

6.2.1. Material: Stainless Steel
6.2.2. Grade: SAE 316
6.2.3. Thickness: 2mm
6.2.4. Dimensions: as shown on drawing MAG-BUT-01-00-DR-A-90-0002
6.2.5. Fixing: Stainless steel screw fixing into side of matwell ring

7. Construction: Closed.
8. Flammability: Class Cfl-s1.
9. Classification: Tested to BSEN 1307

Execution - Not Used

Completion - Not Used

Ω End of Section

N13
Sanitary appliances and fittings

Products

300 WCs and Cisterns

1. Description: Rimless wall hung WC pan to all new WCs
2. WC standard: To Defra WC suite performance specification or equivalent approved by relevant water company
3. Type: Wall-hung, concealed high level cistern
4. Pan
   - 4.1. Standards: To BS EN 33 and BS EN 997, Class 2.
   - 4.2. Manufacturer: Dolphin Solutions
     - 4.2.1. Contact details
       - 4.2.1.1. Address: Southpoint
         Compass Park
         Junction Road
         Bodiam
         East Sussex
         TN32 5BS
       - 4.2.1.2. Telephone: +44 (0)1424 202224
       - 4.2.1.3. Web: www.dolphinsolutions.co.uk
       - 4.2.1.4. Email: info@dolphinsolutions.co.uk
     - 4.2.2. Product reference: DC2005 or equal
   - 4.3. Material: Vitreous China
   - 4.4. Finish: Clean White Gloss
5. Seat and cover
   - 5.1. Standard: To BS 1254
   - 5.2. Form: Slimline soft-close seat (included)
   - 5.3. Manufacturer: As pan
   - 5.4. Soft close: Required
6. Pan connector
   - 6.1. Standard: To BS 5627.
   - 6.2. Manufacturer: Contractor's choice
   - 6.3. Colour: To match pan
7. Cistern
   - 7.1. Standard: To BS EN 997, Class 2 & BS EN 14055, Class 2
   - 7.2. Manufacturer: As pan
     - 7.2.1. Product reference: DB5511.E Dolphin Blue Cistern 126mm with frame electronic or equal
   - 7.3. Material: Polypropylene
   - 7.4. Finish/ colour: anti-condensation lining
8. Inlet valve: with delayed refilling, WRAS approved
   - 8.1. Product: Azor Plus AG Inlet Valve
   - 8.2. Water supply connection: Bottom
9. Flushing arrangement: Cistern manufacturer's standard

9.1. Manufacturer: As cistern
9.2. Operating control: Electronic actuator
9.3. Flush volume: Dual flush 6 or 3 L

10. Flush Plate::
10.1. Manufacturer: as cistern
10.2. Product Reference: DB5580.E Dolphin Electronic Infrared Flush Plate
10.3. Finish: Brushed Stainless Steel
10.4. Size: 215 x 145 x 2 mm
10.5. Power: hardwired into 240v circuit (no battery)
11. Flush pipe: Concealed
11.1. Manufacturer: As cistern
12. Accessories:

Concealed support frames for cistern

311 Accessible WC equipment packages

1. Description: Doc M WC sets as indicated on drawings MAG-BUT-05-00-DR-A-74-0003 and MAG-BUT-05-00-DR-A-74-0004.
2. Manufacturer: Dolphin Solutions
2.1. Contact details
2.1.1. Address: Southpoint
Compass Park
Junction Road
Bodiam
East Sussex
TN32 5BS
2.1.2. Telephone: +44 (0)1424 202224
2.1.3. Web: www.dolphinsolutions.co.uk
2.1.4. Email: info@dolphinsolutions.co.uk
2.2. Product reference: DP6601 Prestige Doc M WC Set - Back to Wall
3. Standards: In accordance with Approved Document M.
4. Type approval certificate: TMV3 and WRAS approved.
5. Form: Complete accessible WC Doc M package and fittings.
6. Arrangement: Wall mounted pack.
7. Material and colour
7.1. Handrails: Stainless steel.
8. Water supply fittings: TMV3 sensor tap.
9. Execution: Installing flushing WC assemblies.
10. Transfer handing: Left-hand to female WCs as drawing MAG-BUT-05-00-DR-A-74-0004. Right-hand to male WCs as drawing MAG-BUT-05-00-DR-A-74-0003.

315 Wall-hung urinals

1. Description: Wall hung urinals to Male WCs as indicated on drawing MAG-BUT-05-00-DR-A-74-0003
2. Urinals
2.1. Manufacturer: Twyford Bathrooms
2.1.1. Contact details

2.1.1.1. Address: Lawton Road
Alsager
Stoke-on-Trent
Staffordshire
ST7 2DF

2.1.1.2. Telephone: +44 (0) 1926 516 800

2.1.1.3. Web: www.twyfordbathrooms.com

2.1.1.4. Email: enquiries@geberit.co.uk

2.1.2. Product reference: VC7004WH

2.2. Standards: To EN 13407.

2.3. Form: Bowl.

2.4. Materials

2.4.1. Body: Vitreous china.

2.4.2. Finish and colour: White.

2.5. Integral accessories: SR8096XX (or equal) Spectrum urinal fixing kit including plastic waste ZP6778XX

2.6. Cistern: CX9122XX (or equal) Plastic auto cistern assembly, 9 L

2.7. Flushpipes: SS6253SS (or equal) Flushpipe and spreader concealed (univ) 3 person

335 Wall-hung washbasins

1. Description: Wall hung hand rinse basins to new ungendered WCs as indicated on MAG-BUT-05-00-DR-A-74-0002
2. Manufacturer: Geberit Sales Ltd
   2.1. Contact details
   2.1.1. Address: Geberit House
   Edgehill Drive
   Warwick
   Warwickshire
   United Kingdom
   CV34 6NH
   2.1.2. Telephone: +44 (0)1926 516800
   2.1.3. Web: www.geberit.co.uk
   2.1.4. Email: enquiries@geberit.co.uk
   2.2. Product reference: Selnova Compact Handrinse Basin, Small Projection (501.517.00.7, Selnova Compact handrinse basin, small projection: white, B=40cm, H=15cm, T=25cm, Tap hole=right, Overflow=visible, Shelf space=without)or equal
3. Standard: To BS EN 14688.
4. Form: Wall-hung wash basin.
5. Materials
   5.1. Body: Vitreous china to BS 3402.
   5.2. Finish and colour: White.
6. Size: 400 x 250 mm.
7. Water supply, overflow and waste holes
   7.1. Water supply: Single tap hole, right.
   7.2. Overflow: Rear overflow hole.
   7.3. Waste: Bottom waste outlet.
8. Furniture: Not required.

9. Accessories: 151.039.21.1 (or equal) Bottle trap with dip tube for washbasin, connector BSP, horizontal outlet, gloss chrome-plated.
   152.050.21.1 (or equal) Waste outlet with free outlet and valve cover, 5 cm.
   500.122.00.1 (or equal) Fastening material for handrinse basin.
10. Weight: 7kg
11. Water supply fittings: as N13/336

336 Basin mixer taps

1. Description: Thermostatic mixer taps to wash basins to new ungendered WCs as indicated on MAG-BUT-05-00-DR-A-74-0002
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224
      2.1.3. Web: www.dolphinsolutions.co.uk
      2.1.4. Email: info@dolphinsolutions.co.uk
   2.2. Product reference: DB1650 Dolphin Blue Monobloc Mixer Tap
3. Form: Counter top mounted.
4. Materials
   4.1. Body: Stainless steel, grade 304 (1.4301).
   4.2. Finish and colour: Brushed.
5. Dimensions: 117 x 55 x 163 mm.
6. Thickness: 40 mm.
7. Inlet: Two flexible connectors with 1/2” BSP connection.

346 Wash troughs

1. Description: Solid surface wash troughs to ungendered, male and female WCs as indicated on drawings MAG-BUT-05-00-DR-A-74-0002, MAG-BUT-05-00-DR-A-74-0003 and MAG-BUT-05-00-DR-A-74-0004
2. Manufacturer: CDUK
   2.1. Contact details
      2.1.1. Project Contact: Jill Toal
      E: jill.toal@cdukltd.co.uk
      M: 07760 517354
      2.1.2. Address: CDUK
      Baker House, Thistle Way,
      Gildersome Spur,
      Leeds
      Yorkshire
      LS27 7JZ
      2.1.3. Telephone: 0113 201 2245
      2.1.4. Web: www.cdukltd.co.uk/
      2.1.5. Email: info@cdukltd.co.uk
   2.2. Product reference: Primo specialist Oxford Wash Trough (4-person) or equal

3. Form: Wall mounted. Install wall mounting brackets in accordance with manufacturer's recommendations (refer to drawing MAG - BUT - 05 - 00 - DR - A - 22 - 0001)
4. Stations: Four
5. Materials
   5.1. Body: Corian® Solid Surface
   5.2. Finish and colour: Corian® Glacier White
6. Size: 2400 x 550mm
7. Water supply, overflow and waste holes
   7.1. Water supply: Dyson Airblade Wash + Dry taps (client supply item)
8. Wastes: supplied with wash trough, manufacturer standard
   8.1. Standards: To BS EN 274-1, -2 and -3.
9. Traps: manufacturer standard
   9.1. Standards: To BS EN 274-1, -2 and -3.
10. Underframe and access panels: Lock and hinged panels below counter as K32/140 - a factory assembled frame, including removable access panels. All to be site fixed to vanity top.

429 Clothes hooks

1. Description: Coat hooks to cubicle walls/ doors as indicated on MAG-BUT-05-00-DR-A-74-0001, MAG-BUT-05-00-DR-A-74-0002, MAG-BUT-05-00-DR-A-74-0003 and MAG-BUT-05-00-DR-A-74-0004
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224
      2.1.3. Web: www.dolphinsolutions.co.uk
      2.1.4. Email: info@dolphinsolutions.co.uk
   2.2. Product reference: BC402 Dolphin Stainless Steel Coat Hook
3. Form: Wall mounted individual coat hooks.
4. Material: Stainless steel.
5. Colour: Silver.
6. Diameter: 35 mm.
7. Projection: 42 mm.

436 Support rails (A)

1. Description: Horizontal and vertical grab rails to ambulant WC cubicles as indicated on drawings MAG-BUT-05-00-DR-A-74-0002 and MAG-BUT-05-00-DR-A-74-0004
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam

East Sussex
TN32 5BS

2.1.2. Telephone: +44 (0)1424 202224

2.1.3. Web: www.dolphinsolutions.co.uk

2.1.4. Email: info@dolphinsolutions.co.uk

2.2. Product reference: BC5083-02 Dolphin Stainless Steel Grab Rails (BC 5083-01)

3. Form: Wall mounted.
4. Diameter: 32 mm.
5. Materials
   5.1. Body: Stainless steel.
   5.2. Finish and colour: Satin.
6. Dimensions: 600 x 32 x 82 mm.
7. Length: 600 mm.

436 Support rails (B)

1. Description: Horizontal grab rails to ambulant WC and accessible WC doors as indicated on drawings MAG-BUT-05-00-DR-A-74-0002, MAG-BUT-05-00-DR-A-74-0003 and MAG-BUT-05-00-DR-A-74-0004
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS

      2.1.2. Telephone: +44 (0)1424 202224

      2.1.3. Web: www.dolphinsolutions.co.uk

      2.1.4. Email: info@dolphinsolutions.co.uk

   2.2. Product reference: BC5083-02 Dolphin Stainless Steel Grab Rails (BC 5083-01)or equal
3. Form: Wall mounted.
4. Diameter: 32 mm.
5. Materials
   5.1. Body: Stainless steel.
   5.2. Finish and colour: Satin.
6. Dimensions: 450 x 32 x 82 mm.
7. Length: 450 mm.

438 Mirrors

1. Description: Large flush mirror as indicated on drawings MAG-BUT-05-00-DR-A-74-0005, MAG-BUT-05-00-DR-A-74-0006, MAG-BUT-05-00-DR-A-74-0007 and MAG-BUT-05-00-DR-A-74-0008
2. Manufacturer: Contractor's choice
   2.1. Product reference: Submit proposals
3. Type: 6mm silvered float glass to BS EN 1036
4. Size: as indicated on drawings referenced above
5. Edge treatment: 15mm square edge stainless steel surround, PPC matte black
6. Protective backing: Polypropylene safety film as BS 6262

442 Paper towel dispensers

1. Manufacturer: Dolphin Solutions
   1.1. Contact details
      1.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      1.1.2. Telephone: +44 (0)1424 202224
      1.1.3. Web: www.dolphinsolutions.co.uk
      1.1.4. Email: info@dolphinsolutions.co.uk
   1.2. Product reference: DP3106 Dolphin Prestige Paper Towel Dispenser
2. Form: Wall mounted.
3. Towels
   3.1. Towel type: Folded.
4. Materials
   4.1. Body: 18/10 satin chrome nickel steel.
   4.2. Finish and colour: Satin silver.
5. Operation: Pull out.
6. Dimensions: 448 x 298 x 120 mm.
7. Capacity: 450.

446 Sanitary towel disposal bins

1. Description: Sanitary bins to be provided in all ungendered, female and accessible WCs as shown on (74) series drawings
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224
      2.1.3. Web: www.dolphinsolutions.co.uk
      2.1.4. Email: info@dolphinsolutions.co.uk
   2.2. Product reference: BC 980 Dolphin Sanitary Bin
3. Form: Freestanding, swing lid.
4. Material: Stainless steel.
5. Finish and colour: Satin silver.
6. Size: 20 L.
7. Dimensions: 585 x 160 x 250 mm

449 Shelves

1. Description: Small shelves to Ungendered, family and female WCs as shown on MAG-BUT-05-00-DR-A-74-0001, 0002 and 0004

2. Manufacturer: Contractor's choice
   2.1. Product reference: Contractor's choice
3. Material: Softwood
4. Fixing method: Concealed brackets
5. Finish/ colour: Painted to match wall colour

458 Soap dispensers (A)

1. Description: Wall mounted soap dispensers to ungendered cubicles as indicated on drawing MAG-BUT-05-00-DR-A-74-0002
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224
      2.1.3. Web: www.dolphinsolutions.co.uk
      2.1.4. Email: info@dolphinsolutions.co.uk
   2.2. Product reference: BC926 Dolphin Stainless Steel Liquid Soap Dispenser (BC926S - Satin)
3. Form: Wall-mounted.
4. Materials
   4.1. Body: Stainless steel.
   4.2. Finish and colour: Satin.
5. Operation: Push-button.
6. Projection: 91 mm.
7. Height: 251 mm.
8. Width: 108 mm.
9. Type: Bulk-fill tank.
10. Capacity: 900 ml.
11. Fitting: Screws and plugs supplied for fitting into a solid wall.
12. Dispenser: Liquid soap dispenser.

458 Soap dispensers (B)

1. Description: Integrated soap dispensers to wash troughs and baby change stations as indicated on drawings MAG-BUT-05-00-DR-A-74-0001, MAG-BUT-05-00-DR-A-74-0002, MAG-BUT-05-00-DR-A-74-0003 and MAG-BUT-05-00-DR-A-74-0004
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224
      2.1.3. Web: www.dolphinsolutions.co.uk

2.1.4. Email: info@dolphinsolutions.co.uk

2.2. Product reference: BC637 Dolphin Top Fill Liquid Soap Dispenser (BC637 - Brushed satin)

3. Form: Counter-mounted.
4. Materials
   4.1. Body: Stainless Steel
   4.2. Finish and colour: Brushed Satin
5. Operation: Pump action.
6. Width: 20 mm.
7. Projection: 100 mm.
8. Height: 70 mm.
9. Holes for fixing: 30 mm.
10. Capacity: 1000 ml.

462 Toilet paper dispensers (A)

1. Description: Located as indicated on MAG-BUT-05-00-DR-A-74-0002, MAG-BUT-05-00-DR-A-74-0003 and MAG-BUT-05-00-DR-A-74-0004
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224
      2.1.3. Web: www.dolphinsolutions.co.uk
      2.1.4. Email: info@dolphinsolutions.co.uk
   2.2. Product reference: BC925 Stainless Steel Mini Jumbo Dispenser
3. Form: Wall mounted roll dispensers.
4. Materials
   4.1. Body: Stainless steel.
   4.2. Finish and colour: Satin.
5. Diameter: 274 mm.
6. Projection: 122 mm.
7. Capacity: 1 mini jumbo roll

462 Toilet roll holders (B)

1. Description: Single toilet roll holder located in family WC cubicles as indicated on MAG-BUT-05-00-DR-A-74-0001
2. Manufacturer: Dolphin Solutions
   2.1. Contact details
      2.1.1. Address: Southpoint
      Compass Park
      Junction Road
      Bodiam
      East Sussex
      TN32 5BS
      2.1.2. Telephone: +44 (0)1424 202224

2.1.3. Web: www.dolphinsolutions.co.uk
2.1.4. Email: info@dolphinsolutions.co.uk
2.2. Product reference: BC266 Dolphin Toilet Roll Holder (BC266)
3. Form: Wall mounted.
4. Materials: Stainless steel.
5. Finish and colour: Satin silver.
6. Dimensions: 70 x 135 x 98 mm.
7. Hood: With hinged wood.
8. Toilet roll holder: Single.

472 Hand dryers

1. Description: Wall mounted hand dryers in ungendered cafe WC as indicated on drawing MAG-BUT-05-00-DR-A-74-0002 and 5 (Client supply item)
2. Manufacturer: Dyson
   2.1. Contact details
      2.1.1. Address: Tetbury Hill
      Malmesbury
      Wiltshire
      SN16 0RP
      2.1.2. Telephone: 08003457788
      2.1.3. Web: https://www.dyson.co.uk/commercial/overview/architects-designers
      2.1.4. Email: specification@dyson.com
   2.2. Product reference: Dyson Airblade™ V Hand Dryer (HU02)
3. Form: High velocity air through HEPA filter.
4. Operation: Automatic.
5. Timer: 12-second drying time.
6. Electrical supply
   6.1. Power rating: 1.0 kW (1000 W).
   6.2. Rated operational voltage (Ue): 220–240 V a.c.
   6.3. Frequency: 50–60 Hz.
7. Body
   7.1. Material: Polycarbonate.
   7.2. Finish: Polished.
   7.3. Colour: Sprayed nickel.
   7.4. Ingress protection (minimum): IP24.
   7.5. Dimensions: 394 x 234 x 100 mm.
8. Noise level at 1 m (maximum): 79 dB.
9. Weight: 2.9 kg.

472 Wash and Dry Taps (A)

1. Description: Wash trough mounted hand dryers in WCs cubicles as indicated on drawings MAG-BUT-05-00-DR-A-74-0002, 0003, 0004, 0006, 0007 and 0008 (Client supply item)
2. Manufacturer: Dyson
   2.1. Contact details
      2.1.1. Address: Tetbury Hill
      Malmesbury

Wiltshire
SN16 0RP

2.1.2. Telephone: 08003457788

2.1.3. Web: https://www.dyson.co.uk/commercial/overview/architects-designers

2.1.4. Email: specification@dyson.com

2.2. Product reference: Airblade Wash+Dry Hand Dryer - Short (WD04)

3. Form: High velocity air through HEPA filter.
4. Operation: Infra-red
5. Timer: 14-second drying time.
6. Flow rate: 1.9L/minute with normal fitted aerator
7. Water pressure required: 1-8 bar
8. Water temperature control: Thermostatic mixer recommended
9. Automatic duty flush: 24 hours for 60 seconds after the last use
10. Electrical supply
    10.1. Power rating: 1.0 kW (1000 W).
    10.2. Rated operational voltage (Ue): 220–240 V a.c.
    10.3. Frequency: 50–60 Hz.
    10.4. Standby power consumption: Less than 0.5 W
    10.5. Operating temperature range: 0°-40°C, 32°– 104°F
11. Body
    11.1. Material: Stainless Steel
    11.2. Finish: Brushed
    11.3. Colour: Natural
    11.4. Ingress protection (minimum): IP35
    11.5. Dimensions: 159 x 286 x 303 mm.
        11.5.1. Motor Bucket Dimensions: 266 x 142 x 189mm.
12. Noise level at 1 m (maximum): 81 dB (A)
13. Mounting: Surface mounted. Motor bucket located below wash trough (to be concealed by vanity)
14. Minimum sink dimensions: 350mm (Width) x 300mm (Front-Back) x 100mm (Depth)
15. Spacing: Minimum 580mm
16. Installation: In accordance with manufacturer guidance

472 Wash and Dry Taps (B)

1. Description: Baby change station mounted hand dryers in WCs cubicles as indicated on drawings MAG-BUT-05-00-DR-A-74-0001 and 0005 (Client supply item)
2. Manufacturer: Dyson
    2.1. Contact details
        2.1.1. Address: Tetbury Hill
        Malmesbury
        Wiltshire
        SN16 0RP
        2.1.2. Telephone: 08003457788
        2.1.3. Web: https://www.dyson.co.uk/commercial/overview/architects-designers
        2.1.4. Email: specification@dyson.com
    2.2. Product reference: Airblade Wash+Dry Hand Dryer - Long (WD05)
3. Form: High velocity air through HEPA filter.

4. Operation: Infra-red
5. Timer: 14-second drying time.
6. Flow rate: 1.9L/minute with normal fitted aerator
7. Water pressure required: 1-8 bar
8. Water temperature control: Thermostatic mixer recommended
9. Automatic duty flush: 24 hours for 60 seconds after the last use
10. Electrical supply
    10.1. Power rating: 1.0 kW (1000 W).
    10.2. Rated operational voltage (Ue): 220–240 V a.c.
    10.3. Frequency: 50–60 Hz.
    10.4. Standby power consumption: Less than 0.5 W
    10.5. Operating temperature range: 0°-40°C, 32°– 104°F
11. Body
    11.1. Material: Stainless Steel
    11.2. Finish: Brushed
    11.3. Colour: Natural
    11.4. Ingress protection (minimum): IP35
    11.5. Dimensions: 309 x 286 x 303 mm.
        11.5.1. Motor Bucket Dimensions: 266 x 142 x 189mm.
12. Noise level at 1 m (maximum): 81 dB (A)
13. Mounting: Surface mounted. Motor bucket located below surface (to be concealed by vanity)
14. Minimum sink dimensions: 350mm (Width) x 300mm (Front-Back) x 100mm (Depth)
15. Spacing: Minimum 580mm
16. Installation: In accordance with manufacturer guidance

494 Baby changing units

1. Description: Solid surface baby changing stations to ungendered family WCs as indicated on drawing MAG-BUT-05-00-DR-A-74-0001
2. Manufacturer: Commercial Washrooms
    2.1. Product reference: SSBCS001 Solid Surface Baby Changing Station with Sink
3. Type: Fixed
4. Size: 600mm depth, length as indicated on drawing MAG-BUT-05-00-DR-A-74-0001
5. Upstand: 100mm
6. Wall mounting brackets: install in accordance with manufacturer's recommendations (2no. per 1200mm worktop length).
7. Integrated Sink:
    7.1. Manufacturer: Durasein
        7.1.1. Contact Details:
            7.1.1.1. Address: Parkhouse Interchange, Parkhouse Industrial Estate, Newcastle-under-Lyme, ST5 7FB.
            7.1.1.2. Telephone: 0845 603 7811
            7.1.1.3. Web: Durasein - Acrylic Solid Surface Sheets UK
            7.1.1.4. Email: info@durasein.co.uk
    7.2. Model: RLD104A Johann sink with overflow
    7.3. Finish: Glacier White

7.4. Size: 455 x 455 x 228mm
7.5. Waste: chrome plated slotted grid basin waste (for use with overflow)
8. Counter :
8.1. Body: Corian® Solid Surface
8.2. Finish and Colour: Corian® Glacier White
9. Underframe and Access Panels: Lock and hinged access panels below counter
9.1. Material: Solid Grade Laminate
9.2. Colour: Polyrey Gris Tourterelle (G029)
9.3. Accessories: Hinges as manufacturer's recommendations
10. Waste Chute: to lobby changing station only as indicated on MAG-BUT-05-00-DR-A-74-0001
10.1. Flap: KWC Franke (or equal) recessed self closing waste disposal flap [RODX605TT]
10.1.1. Material: Stainless Steel
10.1.2. Finish: Satin
10.1.3. Size: 195 x 330 x 53mm
10.2. Chute: KWC Franke (or equal) waste chute for vanity top [RODX607TT]
10.2.1. Material: Stainless Steel
10.2.2. Finish: Satin
10.2.3. Size: 121 x 175 x 175mm

495 Sanitary appliance brackets and supports

1. Description: to wash troughs and baby change station
2. Manufacturer: as wash trough
3. Type: Manufacturer's standard
4. Material: Manufacturer's standard
5. Finish: Manufacturer's standard

Execution

610 Installation generally

1. Standards: In accordance with BS 6465-1, -2 and -3.
2. Assembly and fixing: Surfaces designed to falls to drain as intended.
3. Fasteners: Non-ferrous or stainless steel.
4. Fixing: Fix appliances securely to structure. Do not support on pipework.
5. Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes being jointed or bedded.
6. Appliances: Do not use. Do not stand on appliances.
7. Supply and discharge pipework: Fix before appliances.
8. On completion: Components and accessories working correctly with no leaks.
9. Labels and stickers: Remove.

613 Compatibility of components

1. General: Each sanitary assembly must consist of functionally compatible components, preferably obtained from a single manufacturer.
1.1. Exceptions:

620 Noggings and bearers

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

630 Tiled backgrounds other than splashbacks

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

650 Installing WC pans

1. Seat and cover: Stable when raised.

670 Installing cisterns

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

710 Installing taps

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

720 Installing wastes and overflows

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

725 Installing hand dryers

1. Fused connection units
   1.1. Engraving: With 'HAND DRYER'.
2. Final connection: Concealed.

Ω End of Section

Q10
Kerbs/ edgings/ channels/ paving accessories

Types of kerbs/edgings and channels

180 Drainage channel systems with gratings

1. Manufacturer: ACO Building Drainage
   1.1. Address: ACO Business Centre
   Caxton Road
   Bedford
   Bedfordshire
   MK41 0LF
   1.2. Website: ACO Building Drainage - Home
   1.3. Email: abdtechnical@aco.co.uk
   1.4. Telephone: 01462 810431
   1.5. Project Contact: Scott Cain
   M: 07768 937 583 | scain@aco.co.uk
   1.6. Product reference: ACO AS1050 Discrete Drainage Channel
2. Size:
   2.1. Visible Slot Width: 58mm
   2.2. Spigot Depth: 80mm
3. Type of fall: Integral continuous fall as drawings
4. Bedding: Concrete haunching at 400mm centres as drawing MAG-BUT-01-00-DR-A-90-0002
5. Channel Material: 304 stainless steel
   Note: Material grade to be confirmed pending a review of chemical concentrations, temperature and duration of exposure.
6. Channel Finish: Fully Pickle Passivated (FFP) in accordance with EHEDG Document 18. Localised pickling or pickle pastes run the risk of failing to meet longer term durability requirements.
7. Cover gratings: Stainless steel, slotted
8. Performance:
   8.1. Flow rate: TBC
   8.2. Weight: Varies (Level invert channel between 3.9kg – 5.8kg per meter)
   8.3. Load Class: A15 to BS EN 124-1
9. Other requirements:
   9.1. Placement: as drawings, channel to sit flush with the floor finish
   9.2. Drainage: Bore to channels is to be perforated to allow for free percolation of water to outlets
   9.3. Shape: Linear where adjacent to fire exit doors
   Radius version where adjacent to revolving door, as drawings

Roads/paving accessories/ marking/ demarcation - Not Used

Laying

510 Laying kerbs, edgings and channels

1. Cutting: Neat, accurate and without spalling. Form neat junctions.

1.1. Long units (450 mm and over) minimum length after cutting: 300 mm.

1.2. Short units minimum length after cutting: The lower of one third of their original length or 50 mm.

2. 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.

3. 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.

520 Adverse weather

1. Conditions: Do not construct if the temperature is below 3°C on a falling thermometer or 1°C on a rising thermometer. Adequately protect foundations, bedding and haunching against frost and rapid drying by sun and wind.

570 Channels

1. Installation: To an even gradient, without ponding or backfall.

2. Lowest points of channels: 6 mm above drainage outlets.

580 Drainage channel systems

1. Installation: To an even gradient, without ponding or backfall. Commence laying from outlets.

2. Silt and debris: Removed from entire system immediately before handover.

3. Washing and detritus: Safely disposed without discharging into sewers or watercourses.

590 Drainage channel systems with built in fall

1. Installation: Top of channels level, installed in correct sequence to form an even gradient without ponding or backfall. Commence laying from outlets.

2. Silt and debris: Removed from entire system immediately before handover.

3. Washings and detritus: Safely disposed without discharging into sewers or watercourses.

600 Radius kerbs/ channels

1. Usage: Radii of 15 m or less.

620 Accuracy

1. Deviations (maximum)

1.1. Level: ± 6 mm.

1.2. Horizontal and vertical alignment: 3 mm in 3 m.

625 Regularity of paved surfaces

1. Maximum undulation of (non-tactile) paving surface: 3 mm.

1.1. Method of measurement: Under a 1 m straight edge placed anywhere on the surface (where appropriate in relation to the geometry of the surface).

2. Difference in level between adjacent units (maximum)

2.1. Joints flush with the surface: Twice the joint width (with 5 mm max difference in level).

2.2. Recessed, filled joints: 2 mm.

2.2.1. Recess depth (maximum): 5 mm.

2.3. Unfilled joints: 2 mm.

3. Sudden irregularities: Not permitted.

Ω End of Section

Q37
Green roofs

General

110 Intensive green roof

1. Description: to north and south entrance podiums as shown on drawings MAG-BUT-01-00-M2-A-90-0001, 0002 and MAG-BUT-03-00-M2-A-90-0001
2. Landscape finish: Intensive Hard Landscaping
3. Substrate: Concrete Deck
4. Waterproofing: BAUDER TOTAL ROOF SYSTEM - as per J41/110A/110B
5. Slip layer : **BauderGREEN PE 02** separation and slip layer (loose laid) rolled out in two layers, with sheets staggered. Installation as clause Q37/745.
6. Protection/ drainage layer: **BauderGREEN FSM 600** - 4mm protection mat. Installation as clause Q37/750C.
7. Water storage/ drainage layer: **BauderGREEN DSE 20** drainage board – 20mm. Installation as clause Q37/770C.
8. Board fill: MOT Type 3 Sub-base. Installation as Q37/775 to provide level surface for item 9
9. Bedding layer (hard landscaping): 30mm bedding layer of 2-5mm crushed and washed angular gravel aggregate (no fines). Installation as Q37/832A.

   Sand/cement screed bedding to perimeter abutments as Q37/832B
10. Landscaping depth: to be confirmed once substrate is exposed on site
11. Surfacing: Paving slabs - as clause Q37/465, installed on to the specified gravel bedding layer (refer Q37/832A). Installation of the paving as clause Q37/841B.
12. Accessories: BauderGREEN GA MR 250 access cover
    Size: 250 x 250 mm.

    Features removable grille plate and gravel guard surround suitable for most situations. Installation, as clause 830A.
13. Additional requirements: see clauses Q37/ 210, 710, 715A, 720, 910, 920 & 930.

Performance - Not Used

Products

465 Precast concrete paving slabs

1. Description: New paving slabs to podiums where existing are damaged/ cannot be re-used
2. Standard: To BS EN 1339, hydraulically pressed.
3. Manufacturer: Submit proposals
   3.1. Product reference: Submit proposals
4. Material: Precast concrete
5. Colour/ finish: to match existing slabs, submit proposals
6. Dimensions: length and width to match existing slabs, minimum 50mm depth
7. Fall: Falls along surface of paving are to be as existing to maintain threshold levels.

   Minimum falls in substrate to provide run-off from waterproofing layer: longitudinal fall of 1.25% (1:80) and cross-fall of 2.5% (1:40)
8. Water absorption: Manufacturer's Standard

9. Resistance to freeze thaw: Manufacturer's Standard
10. Breaking load (minimum): Manufacturer's Standard

Execution

710 Installation generally

1. Preparation: Clear all surfaces of debris.
   1.1. Timing: After certification of waterproof membrane integrity.
   1.2. Surface condition: Visually inspect waterproof membrane, report any damage.
2. Faults in waterproof membrane: Report.
3. Contamination: Do not use materials detrimental to healthy plant growth.
4. Storage: Do not overload.
   4.1. Point loads: Avoid.
5. Outlets: Do not block.
   5.1. Outlet grilles: Installed.

715 Landscaped roof related requirements

1. **Loadings**
   Once exposed, allow for inspection of the structural slab by Structural Engineer to ensure that the roof structure and deck are suitable to receive the dead load of the proposed green/blue roof system and landscape both during construction and on completion of the works.
2. **Additional Protection**
   A planned or contractual delay between the installation of the waterproofing and landscape will almost certainly necessitate additional/increased protection to the waterproofing. This protection may be temporary or permanent. Allow for cost of this this possible extra protection.
3. **Minimum upstand height requirements**
   The waterproofing should be taken up all abutment upstands, pipes, detailing protrusions etc. a minimum of 150mm above finished landscape surface level to comply with British Standards and current code of practice BS8217:2005.

   Perimeter drain to be installed adjacent to level thresholds (minimum upstand 75mm)
4. **Final inspection**
   No landscaping work should be installed until the waterproofing supplier have carried out a final inspection to the waterproofing and have passed this as suitable for guarantee. It is the responsibility of the roofing contractor to advise and organise this inspection with the manufacturer.
   Please note, there are/may be further ‘sign-off’ inspections required to complete the roof(s).
5. **Sign-off inspections**
   Green roof installations require an inspection and it is the responsibility of the installing contractor to inform the manufacturer when the installation has been completed.
6. **Damage risk**
   No landscaping should be installed while the roof area is subject to other site traffic. The manufacturer will carry out an inspection of the completed roof 4-6 weeks following installation and any site related damage by others will be reported to the client.
7. **First year maintenance**
   Allow for the cost of post installation maintenance for a minimum period of 1 year.

720 Adverse weather

1. Unfinished work: Secure from damage and wind uplift.
2. Conditions: Do not install or work with frozen materials.

745 Slip layer installation

1. Installation: to be rolled out loose over the waterproofing system as specified in section J41 Only required for roofs with a fall between 0-3º
2. Joints: Minimize.
   2.1. Overlaps (minimum): All laps to be 150mm with care being taken to ensure that roll sides join between layers.
3. Upstands: Extend to top of bedding layer. Sufficient foil must be allowed for to enable it to be taken up all upstand and edge details prior to installation of the protection layer.

750 C Protection layer installation

1. New Item: Protection fleece rolled out and laid loose. Laps to be sealed by lightly heating overlap area with a propane gas torch / hot air welding gun to melt the polypropylene fibres and then press seal the two fleece sheets together.
2. Joints: Minimize.
   2.1. Overlaps (minimum): 150 mm
3. Upstands: Sufficient protection fleece must be allowed for so that it may be installed to all abutment upstands and edge details, in accordance with the manufacturer's instructions. Extend to full height of the upstand and secure in place by using a lead or fabricated metal counter-flashing.
4. Outlets: Should be trimmed well back from ALL outlets.

770 C Drainage layer installation

1. Extent: Continuous over designated roof area.
2. Fitting: Loose laid over the protection layer. Boards are to be interlocked by a minimum of one profile cup and all board joints staggered.
3. Upstands: Carefully cut to fit closely around penetrations and outlets

775 Granular Fill

1. **Type**
   MOT Type 3 sub base
2. **Extent**
   Continuous over designated roof area.
3. **Installation**
   - Applied directly to the water storage/ drainage board, filling the cellular troughs up to provide a level surface for the bedding layer (clause Q37/832A). Allowance should be made for any settlement that may occur.
   - Granular fill should be stopped short of the abutment to a paviour width +150mm and substituted with bedding mortar as Q37/832A
   - Depending on size and access of the project, the specified granular fill can be supplied by the manufacturer by various methods i.e. bin bags, tipper truck or via a solo lorry pumping directly onto the roof area
   - Prior to costing this element of the installation the 'Approved Contractor' should contact the drainage mat supplier so that they may help to advice on the best solution.

830 Rainwater outlet access cover (for paved landscaping areas)

1. Location:
   - 250x 250mm rainwater access inspection cover to be provided over all rainwater outlets.
   - **Completion:** The feet of the unit should be manually adjusted so it finishes flush with the surrounding paved surface.
   1.1. Orientation: Align parallel with adjacent features.

2. Kerb: Form kerb from bedding mortar as clause 832B, with paving slabs laid over, flush with cover
3. Manufacturer: Bauder

832 A Bedding Layer

1. **Extent**
   To designated areas beneath permeable paving
2. **Installation**
   Apply evenly over to provide a level finish. Depth to be a minimum of 30mm and max 50mm. Provision should be made for containing the bedding layer at all abutments to ensure that loose gravel particles do not drop into the area beneath the drainage layer, where they may wash into the outlets.
3. **Perimeter edge and abutment restraint**
   It is important that provision is made to support and retain the mineral drain fill and aggregate bedding layer within the construction at abutments

832 B Laying course

1. Description
   Sand/cement laying course to perimeter paviours and groutbed for under steps, and to provide kerb for access covers
2. Type
   Grout
3. Manufacturer and product reference
   Contractor's choice
4. Standard
   In accordance with BS 7533-4

841 B Laying precast paving slabs

1. **Extent**
   To designated areas
2. **Paving installation**
   Slabs to be laid on to the specified bedding layer, installed as shown on the drawings (to match existing arrangement)
3. **Setting out**
   Minimize cutting.
4. **Joints**
   Left open for drainage. These open joints may be controlled by using either proprietary spacers or using suitable strips of cut tile of the correct thickness or similar, to control the gap size.
   - **Width:** 8mm.
   - **Perimeter upstands:** 8mm.
5. **Completion**
   Slabs must be level and stable

Completion

910 Inspection

1. Timing: Before handover.
   1.1. Give notice (minimum): Three days.

920 Completion

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.

3. Outlets: Clean and clear of obstructions.
4. Completed green roof: Protect from adjacent or high level working.

930 Documentation

1. Timing: Submit at handover.
2. Contents
   2.1. Manufacturers' guarantees and warranties.
   2.2. Procedures for maintenance
   2.3. Record drawings
3. Number of copies: as required by the client

Ω End of Section

Z11
Purpose made metalwork

To be read with preliminaries/ general conditions.

310 Materials generally

1. Grades of metals, section dimensions and properties: To appropriate British Standards. When not specified, select grades and sections appropriate for the purpose.
2. Prefinished metal: May be used if methods of fabrication do not damage or alter appearance of finish, and finish is adequately protected.
3. Fasteners: To appropriate British Standards and, unless specified otherwise, of same metal as component being fastened, with matching coating or finish.

320 Steel long and flat products

1. Hot rolled structural steels (excluding structural hollow sections and tubes): To BS EN 10025-1.
2. Fine grain steels, including special steels: To BS EN 10025-3 and -4.
3. Steels with improved atmospheric corrosion resistance: To BS EN 10025-5.

330 Steel plate, sheet and strip

1. Plates and wide flats, high yield strength steel: To BS EN 10025-6.

340 Hot rolled steel plate, sheet and strip

1. Flat products, high yield strength for cold forming: To BS EN 10149-1, -2 and -3.
2. Carbon steel sheet and strip for cold forming: To BS EN 10111.
3. Narrow strip, formable steel and steel for general engineering purposes: To BS 1449-1.8 and BS 1449-1.14.

350 Cold rolled steel plate, sheet and strip

1. Steel sections: To BS EN 10162.
2. Flat products, high yield strength micro-alloyed steels for cold forming: To BS EN 10268.
3. Carbon steel flat products for cold forming: To BS EN 10130 and BS EN 10131.
4. Uncoated carbon steel narrow strip for cold forming: To BS EN 10139 and BS EN 10140.
5. Narrow strip steel for general engineering purposes: To BS EN 10132-1, -2, and -3.
6. Carbon steel flat products for vitreous enamelling: To BS EN 10209.

360 Coated steel flat products

1. Hot dip zinc coated carbon steel sheet and strip for cold forming: To BS EN 10346 and BS EN 10143.
2. Hot dip zinc coated structural steel sheet and strip: To BS EN 10143 and BS EN 10346.
3. Hot dip zinc-aluminium (za) coated sheet and strip: To BS EN 10346.
4. Hot dip aluminium-zinc (az) coated sheet and strip: To BS EN 10346.
5. Organic coated flat products: To BS EN 10169.

380 Other steel sections

1. Equal flange tees: To BS EN 10055.
2. Equal and unequal angles: To BS EN 10056-1 and -2.
3. Wire, carbon steel for general engineering purposes: To BS 1052.

4. Wire and wire products, general: To BS EN 10218-2.
5. Tubes
   5.1. Seamless circular: To BS EN 10297-1.
   5.2. Seamless cold drawn: To BS EN 10305-1.
   5.3. Welded and cold sized square and rectangular: To BS EN 10305-5.
   5.4. Welded circular: To BS EN 10296-1.
   5.5. Welded cold drawn: To BS EN 10305-2.
   5.6. Welded cold sized: To BS EN 10305-3.

400 Stainless steel products

1. Chemical composition and physical properties: To BS EN 10088-1.
2. Sheet, strip and plate: To BS EN 10088-2.
3. Semi-finished products bars, rods and sections: To BS EN 10088-3.
4. Wire: To BS EN 1088-3.
5. Tubes
   5.1. Welded circular: To BS EN 10296-2.
   5.2. Seamless circular: To BS EN 10297-2.

410 Aluminium alloy products

1. Designations
   1.1. Designation system, chemical composition and forms: To BS EN 573-1, -2, -3 and -5.
   1.2. Temper designations: To BS EN 515.
2. Sheet, strip and plate: To BS EN 485-1 to -4.
3. Cold drawn rods, bars and tubes: To BS EN 754-1 and -2.
4. Extruded rods, bars, tubes and profiles: To BS EN 755-1 and -2.
5. Drawn wire: To BS EN 1301-1, -2 and -3.
6. Rivet, bolt and screw stock: To BS 1473.
7. Structural sections: To BS 1161.

Fabrication

515 Fabrication generally

1. Contact between dissimilar metals in components: Avoid.
2. Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
   2.1. Moving parts: Free moving without binding.
3. Corner junctions of identical sections: Mitre.

520 Cold formed work

1. Profiles: Accurate, with straight arrises.

525 Adhesive bonding

1. Preparation of surfaces of metals to receive adhesives
   1.1. Degrease.
   1.2. Abrade mechanically or chemically etch.
   1.3. Prime: To suit adhesive.
2. Adhesive bond: Form under pressure.

527 Welding

1. Preparation
   1.1. Joint preparation: Clean thoroughly.
   1.2. Surfaces of materials that will be self-finished and visible in the completed work: protect from weld splatter.
2. Jointing
   2.1. Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks.
   2.2. Dissimilar metals: Welding not permitted
   2.3. Strength requirements: Welds to achieve design loads.
   2.4. Heat straightening: Submit proposals
   2.5. Complex assemblies: Agree priority for welding members to minimize distortion caused by subsequent welds.
   2.6. Tack welds: Use only for temporary attachment.
   2.7. Jigs: Provide to support and restrain members during welding.
   2.8. Filler plates: Submit proposals
   2.9. Lap joints: Minimum 5 x metal thickness or 25 mm, whichever is greater.
   2.10. Weld terminations: Clean and sound.

530 Stainless steel fabrication

1. Guillotining or punching: Do not use for metal thicknesses greater that 10 mm.
2. Thermal cutting
   2.1. Carbonation in the heat affected zone: Remove, after cutting.
3. Bending
   3.1. Plates or bars: Cold bending radius not less than material thickness.
   3.2. Tubes: Cold bending radius not less than 2 x tube diameter.
4. Welding: In addition to general welding requirements:
   4.1. Protect adjacent surfaces from weld spatter.
   4.2. Pickle all welds before post fabrication treatments.
5. Protection: Provide protection to fabricated components during transit and on site.

555 Brazing

1. Standard: To BS EN 14324.
2. Testing
   2.1. Destructive testing: To BS EN 12797.
   2.2. Nondestructive testing: To BS EN 12799.

Finishing

710 Finishing welded and brazed joints visible in complete work

1. Standard: To BS EN ISO 8501-3.
   1.1. Preparation grade: P3
2. Butt joints: Smooth, and flush with adjacent surfaces.
3. Fillet joints: Neat.
4. Grinding: Grind smooth where indicated on drawings.

745 Preparation for application of coatings

1. General: Complete fabrication, and drill fixing holes before applying coatings.
2. Paint, grease, flux, rust, burrs and sharp arrises: Remove.

750 Liquid organic coating for aluminium alloy components

1. Standard: To BS 4842.

770 Chromium plating

1. Standard: To BS EN ISO 1456.

780 Galvanizing

1. Standard: To BS EN ISO 1461.
2. Preparation
   - 2.1. Vent and drain holes: Provide in accordance with BS EN ISO 14713-1 and -2. Seal after sections have been drained and cooled.
   - 2.2. Components subjected to cold working stresses: Heat treat to relieve stresses before galvanizing.
   - 2.3. Welding slag: Remove.
   - 2.4. Component cleaning: To BS EN ISO 8501-3.
   - 2.5. Grade: St 2

Completion

910 Documentation

1. Submit
   - 1.1. Manufacturer's maintenance instructions.
   - 1.2. Guarantees, warranties, test certificates, record schedules and log books.

920 Completion

1. Protection: Remove.
2. Cleaning and maintenance: Carry out in accordance with procedures detailed in fabricators' guarantees.

Ω End of Section

Z12
Preservative/ flame-retardant treatment

To be read with preliminaries/ general conditions.

110 Treatment application

1. Timing: After cutting and machining timber, and before assembling components.
2. Processor: WPA Benchmark-accredited for the specified treated components.

120 Commodity specifications

1. Standard: In accordance with the Wood Protection Association (WPA) publication 'Code of practice: Industrial Wood Preservation'.

130 Preservative treatment solution strengths/ treatment cycles

1. General: Select to achieve specified service life and to suit treatability of specified wood species.

167 Boron compound preservative treatment

1. Solution
   - 1.1. Manufacturer: Contractor's choice
     - 1.1.1. Product reference: Contractor's choice
   - 1.2. Application: High-pressure impregnation.
2. Moisture content of wood
   - 2.1. At time of treatment: Not more than 28%.
   - 2.2. After treatment: Timber to be surface dry before using.

610 Making good to preservative treatment on site

1. Preservative solution: Compatible with off-site treatment.
2. Application: In accordance with preservative manufacturer's recommendations.

Ω End of Section

Z20
Fixings and adhesives

Products

310 Fasteners generally

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

320 Packings

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

330 Nailed timber fasteners

1. Nails
   1.1. Steel: To BS 1202-1 or BS EN 10230-1.
   1.2. Copper: To BS EN 1202-2.
   1.3. Aluminium: To BS 1202-3.

340 Masonry fixings

1. Light duty: Plugs and screws.
2. Heavy duty: Expansion anchors or chemical anchors.

350 Plugs

1. Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

360 Anchors

1. Types
   1.1. Expansion: For use in substrate strong enough to resist forces generated by expansion of anchor.
   1.2. Adhesive or chemical
      1.2.1. For use in substrate where expansion of anchor would fracture substrate.
      1.2.2. For use in irregular substrate where expansion anchors cannot transfer load on anchor.
   1.3. Cavity: For use where the anchor is retained by toggles of the plug locking onto the inside face of the cavity.

370 Wood screws

1. Type
   1.1. Wood screws (traditional pattern).
      1.1.1. Standard: To BS 1210.
   1.2. Wood screws.
      1.2.1. Pattern: Parallel, fully threaded shank or twin thread types.
2. Washers and screw cups: Where required are to be of same material as screw.

380 Miscellaneous screws

1. Type: To suit the fixing requirement of the components and substrate.
   1.1. Pattern: Self-tapping, metallic drive screws, or power driven screws.
2. Washers and screw cups: Where required to be of same material as screw.

390 Adhesives

1. Standards
   1.1. Hot-setting phenolic and aminoplastic: To BS 1203.
   1.2. Thermosetting wood adhesives: To BS EN 12765.
   1.3. Thermoplastic adhesives: To BS EN 204.

410 Powder actuated fixing systems

1. Types of fastener, accessories and consumables: As recommended by tool manufacturer.

Execution

610 Fixing generally

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

620 Fixing through finishes

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

630 Fixing packings

1. Function: To take up tolerances and prevent distortion of materials and components.
2. Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
3. Locations: Not within zones to be filled with sealant.

640 Fixing cramps

1. Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
2. Fasteners: Fix cramps to frames with screws of same material as cramps.
3. Fixings in masonry work: Fully bed in mortar.

650 Nailed timber fixing

1. Penetration: Drive fully in without splitting or crushing timber.
2. Surfaces visible in completed work: Punch nail heads below wrot surfaces.
3. Nailed timber joints: Two nails per joint (minimum), opposed skew driven.

660 Screw fixing

1. Finished level of countersunk screw heads
   1.1. Exposed: Flush with timber surface.
   1.2. Concealed (holes filled or stopped): Sink minimum 2 mm below surface.

670 Pelleted countersunk screw fixing

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

680 Plugged countersunk screw fixing

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

690 Using powder actuated fixing systems

1. Powder actuated fixing tools: To BS 4078-2 and Kitemark certified.
2. Operatives: Trained and certified as competent by tool manufacturer.

700 Applying adhesives

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

Ω End of Section



Specification created using NBS Chorus