Watford Police Station, 3 George Street

ARCHITECTURAL SPECIFICATION

including Outline Scope of Architectural Works

Project no: **7664**

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Revisions:

A	-	Preliminary issue (incomplete) for TQR purposed only.	7 April 2022
B	-	Preliminary tender issue.	22 April 2022

Preliminary

Contents

VINCENT+GORBING

A81 Materials and Work Generally

GENERAL ITEMS AND STANDARDS

1025 CONTRACT ADMINISTRATOR (CA)

The term CA, when referred to in any part of this Specification, shall be as noted in the Main Contractor's documentation.

1051 GOOD PRACTICE

Where and to the extent that materials, products and workmanship are not fully specified they are to be:

1. Suitable for the purposes of the Works stated in or reasonably to be inferred from the Contract Documents, and
2. In accordance with good building practice, including the relevant provisions of current BSI documents, Agrement Certificates, BRE papers or equivalent approved.

1101 GUARANTEES / WARRANTIES

These are required to specific items/ elements as indicated in the individual specification clauses.

1152 MANUFACTURER'S RECOMMENDATIONS

1. Handle, store, prepare and use or fix each product in accordance with manufacturer's printed or written recommendations/instructions. Inform CA if these conflict with any other specified requirement.
2. The recommendations/instructions are those which are current ten working days before the date of tender. If they change between tender and construction inform the CA and obtain instructions before ordering materials or starting work.
3. Submit copies to CA when requested.

1200 GENERAL STANDARDS

All to be in accordance with the Building Regulations, all other relevant Regulations, Standards including British Standards or equivalent EU standards, HSE Regulations, Agrement Certificates, BS 8000, BRE Recommendations, The Workplace Regulations, etc. Where higher standards are required by this specification or to achieve the requirements indicated on the drawings, the enhanced standards must be applied.

1201 BRITISH STANDARDS

For products and materials specified to a British Standard obtain certificates of compliance from manufacturers when requested by CA. Products to equivalent approved EU standards are equally acceptable.

1202 AGREMENT CERTIFIED PRODUCTS

Use strictly in accordance with the terms and recommendations noted on the certificate unless specifically instructed otherwise.

1203 PROHIBITED MATERIALS AND PRODUCTS

All materials which are known to be deleterious at the time of specification are prohibited. Guidance is available from, *Good Practice in the Selection of Construction Materials* as published by the British Property Federation as well as from other sources.

1301 SUPERVISION

In addition to the constant management and supervision of the works provided by the Contractor's person in charge, all significant types of work must be under the close

control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.

1601 PRODUCTS TO BE NEW

All products are to be new unless otherwise specified. However, RE-CYCLED OR RE-CYCLABLE products MAY to be accepted where available – specific agreement required. Ensure that the whole quantity of each product and material required to complete the work is of consistent kind, size, quality and overall appearance. Handle, store and fix products with care to ensure that they are not damaged when incorporated into the work.

180 SINGLE SOURCES

Where a choice of manufacturer or source of supply is allowed for any particular product or material, the whole quantity required to complete the work must be of the same type, manufacture and/or source. Do not change without approval. Produce written evidence of sources of supply when requested by CA.

1851 CHANGES TO PRODUCT SPECIFICATIONS: Obtain confirmation from manufacturers that proprietary products and materials specified for use on this project have not been changed in any way since March 2022. Where such change has occurred, inform CA and do not place orders for affected products without further instructions.

1901 CHECKING COMPLIANCE OF PRODUCTS

Check all delivery tickets, labels, identification marks and, where appropriate, the products themselves to ensure that all products comply with the project documents. Where different types of any product are specified, check to ensure that the correct type is being used in each location. In particular, check that:

The sources, types, qualities, finishes and colours are correct, and match any approved samples.

All accessories and fixings which should be supplied with the goods have been supplied.

Sizes and dimensions are correct. Where tolerances of components are critical, measure a sufficient quantity to ensure compliance.

The delivered quantities are correct, to ensure that shortages do not cause delays in the work.

The products are clean, undamaged and otherwise in good condition.

Products which have a limited shelf life are not out of date.

1902 PROTECTION OF PRODUCTS

Prevent over-stressing, distortion and any other type of physical damage.

Keep clean and free from contamination. Prevent staining, chipping, scratching or other disfigurement, particularly of products exposed to view in the finished work.

Keep dry and in a suitably low humidity atmosphere to prevent premature setting, moisture movement and similar defects. Where appropriate store off the ground and allow free air movement around and between stored products.

Prevent excessively high or low temperatures and rapid changes of temperature in the products.

Protect adequately from rain, damp, frost, sun and other elements as appropriate. Ensure that products are at a suitable temperature and moisture content at time of use.

Ensure that sheds and covers are of ample size, in good weatherproof condition and well secured.

Keep different types and grades of products separately and adequately identified.

So far as possible keep products in their original wrappings, packings or containers, until immediately before they are used.

Wherever possible retain protective wrappings after fixing and until shortly before Practical Completion.

Ensure that protective measures are fully compatible with and not prejudicial to the products/materials.

1903 SUITABILITY OF RELATED WORK AND CONDITIONS: Ensure that all trades are provided with necessary details of related types of work. Before starting each new type or section of work, ensure that:

Previous, related work is appropriately complete, in accordance with the project documents, to a suitable standard and in a suitable condition to receive the new work.
All necessary preparatory work has been carried out, including provision for services, openings, supports, fixings, damp proofing, priming and sealing.
The environmental conditions are suitable, particularly that the building is suitably weathertight when internal components, services and finishes are installed.

1904 GENERAL QUALITY OF WORKMANSHIP:

Operatives must be appropriately skilled and experienced for the type and quality of work.
Take all necessary precautions to prevent damage to the work from frost, rain and other hazards.
Inspect components and products carefully before fixing or using and reject any which are defective.
Fix or lay securely, accurately and in alignment.
Where not specified otherwise, select fixing and jointing methods and types, sizes and spacings of fastenings in compliance with section Z20. Fastenings to comply with relevant British Standards.
Provide suitable, tight packings at screwed and bolted fixing points to take up tolerances and prevent distortion. Do not overtighten fixings.
Adjust location and fixing of components and products so that joints which are to be finished with mortar or sealant or otherwise left open to view are even and regular.
Ensure that all moving parts operate properly and freely. Do not cut, grind or plane prefinished components and products to remedy binding or poor fit without approval.

1905 BS 8000: BASIC WORKMANSHIP:

Where compliance with BS 8000 is specified, this is only to the extent that the recommendations therein define the quality of the finished work.
Where BS 8000 gives recommendations on particular working methods or other matters which are properly within the province and responsibility of the Contractor, compliance therewith will be deemed to be a matter of general industry good practice and not a specific requirement of the CA under the Contract.
If there is any conflict or discrepancy between the recommendations of BS 8000 on the one hand and the project documents on the other, the latter will prevail.

1906 WATER FOR THE WORKS: Clean and uncontaminated. If other than mains supply is proposed provide evidence of suitability. Test to BS 3148 if instructed.

SAMPLES/APPROVALS

1950 APPROVAL OF PRODUCTS

Where approval of a product is specified the requirement for approval relates to a sample of the product and not to the product as used in the Works. Submit a sample or other evidence of suitability. Do not confirm orders or use the product until approval of the sample has been obtained. Retain approved sample in good, clean condition on site. Ensure that the product used in the Works matches the approved sample.

1951 SAMPLES OF FINISHED WORK

Where a sample of finished work is specified for approval, the requirement for approval relates to the sample itself (if approval of the finished work as a whole is required this is specified separately). Obtain approval of the stated characteristic(s) of the sample before proceeding with the Works. Retain approved sample in good, clean condition on site. Ensure that the relevant characteristic(s) of the Works match the approved characteristic(s) of the sample. Remove samples which are not part of the finished Works when no longer required.

1952 APPROVALS

Where and to the extent that products or work are specified to be approved or the CA instructs or requires that they are to be approved, the same must be supplied and executed to comply with all other requirements and in respect of the stated or implied characteristics either:

To the express approval of the CA or
To match a sample expressly approved by the CA as a standard for the purpose.

1953 APPROVALS

Inspection or any other action by the CA must not be taken as approval of products or work unless the CA so confirms in writing in express terms referring to:

- Date of inspection
- Part of the work inspected
- Respects or characteristics which are approved
- Extent and purpose of the approval (eg appearance)
- Any associated conditions.

Any approval does not in any way detract from the Contractor's responsibility to comply with the drawings and specification.

ACCURACY/SETTING OUT

2050 SITE SURVEY

Allow for providing the Architect, the Structural Engineer and the Services Engineer with site survey dimensions / levels of limited existing areas / elements as necessary to complete their design. This will supplement the survey provided.

2052 TOLERANCES: Where not specified otherwise construct the Works to levels of accuracy so that in relation to BS.5606, Tables 2 and 3: (See Clause 2251).

1. All achieved sizes fall within the permissible deviations; and
2. Approximately two thirds of achieved sizes fall within one third of the permissible deviations.

The BS tolerances only apply in so far as they allow the overall finished product to be achieved as indicated on the drawings. Tighter tolerances apply as necessary to achieve details indicated on drawings and specified in the Specification.

2102 APPEARANCE AND FIT

1. Arrange the setting out, erection, juxtaposition of components and application of finishes (working within the practical limits of the design and the specification) to ensure that there is satisfactory fit at junctions and that the finished work has a well aligned, true and regular appearance.
2. Wherever satisfactory accuracy, fit and/or appearance of the work are likely to be critical or difficult to achieve obtain approval of proposals or of the appearance of the relevant aspects of the partially finished work as early as possible.

2152 CRITICAL DIMENSIONS

The following are critical and a higher level of accuracy is required:

- Openings to take windows / external doors / louvres to be within +/-2mm of stated dimensions.
- Any other dimensions where necessary to achieve the details indicated/described.

2202 NON-COMPLIANCE

Work which fails to meet the specified levels of accuracy, appearance and fit must not be rectified without approval. Submit proposals for such rectification and meet all costs arising, including effects on other work. Allow for the possibility that approval will not be given, necessitating removal and replacement of the work.

2251 SET OUT THE WORKS

Use methods and measuring instruments described in BS 5606, Section 5 and within the following permissible deviations:

Linear dimensions:	+/- 3mm in 15m
Angular dimensions:	+/- 5mm in 50m
Verticality:	+/- 2mm in 10m
Levels:	+/- 3mm in 60m

2303 SETTING OUT

Check the levels and dimensions of the site against those shown on the drawings, and record the results on a copy of the drawings. Notify CA in writing of any discrepancies and obtain instructions before proceeding.

2304 SETTING OUT

Inform CA when overall setting out is complete and before commencing construction.

2351 INSTRUMENTS

Provide instruments and assistance for checking the setting out and levels.

2451 RECORD DRAWINGS

Record details of all grid lines, setting-out stations, bench marks and profiles on the site setting-out drawing. Retain on site throughout the contract and hand to CA on completion.

WASTE AND RECYCLING, SUSTAINABILITY

2501 COMPLIANCE WITH COUNCIL'S WASTE CORE STRATEGY AND POLICIES – Compliance with these is required in accordance with any conditions attached to the planning approval.

2502 COMPLIANCE WITH COUNCIL'S SUSTAINABLE DEVELOPMENT CHECKLIST –

Compliance with these is required in accordance with any conditions attached to the planning approval.

SERVICES GENERALLY

3201 CONCEALED SERVICES:

To facilitate location for maintenance and repair, positions of concealed service runs to be clearly marked in unobtrusive locations, and to incorporate access points, to approval.

3551 SERVICE PENETRATIONS

Where service pipes, cables, etc penetrate walls, ensure that suitable proprietary sleeves are included as well as firestopping, etc.

WORK AT COMPLETION/MAKING GOOD DEFECTS

9051 MAKE GOOD

Make good all damage consequent upon the work.

9101 REMOVE

Remove all temporary markings, coverings and protective wrappings unless otherwise instructed.

9151 CLEAN the works thoroughly inside and out, remove all splashes, deposits, efflorescence, rubbish and surplus materials consequent upon the execution of the work.

9201 CLEANING

1. Cleaning materials and methods to be as recommended by manufacturer of product being cleaned.
2. In the absence of such recommendations cleaning materials and methods to be approved by CA.

9251 PAINTED SURFACES

Touch up minor faults in newly painted/repainted work, carefully matching colour, and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.

9301 MOVING PARTS

Adjust, ease and lubricate moving parts of new work as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances and controls.

9551 MAINTENANCE MANUALS

The Contractor is to provide full as built drawings, records, warranties, maintenance recommendations, etc in the form of a maintenance manual. This is to cover both the building elements – see M&E specifications for requirements relating to the M&E services. This is in addition to the H&S File.

FINISHES

9601 EXTERNAL FINISHES

Prior to ordering pre-finished materials and prior to applying site finishes, check with manufacturer and ensure that any special recommendations relating to the specific location of this project are complied with.

BUILDING REGULATIONS PART L COMPLIANCE (THERMAL)

9701 CERTIFICATION / AIR LEAKAGE TESTS TO REFURBISHED BUILDINGS

The Contractor is to provide all necessary information, reports, photograph and evidence as required by Building Control to demonstrate compliance with Part L. As compliance is under Part L2B, the need for air leakage tests is not anticipated. However all necessary evidence is to be provided including in relation to the M&E services installations.

9701 CERTIFICATION / AIR LEAKAGE TESTS TO RFURBISHED BUILDINGS

The Contractor is to provide all necessary information, certification and testing as required to comply with the Building Regulations Approved Document L2A including Section 2 (requirements for quality of construction, commissioning, etc) and Section 3 (requirements for providing information, etc).

As required by the Building Regulations, the person carrying out the work, the Contractor, needs to provide suitably qualified persons (generally the Site Manager and relevant Trades Managers, but qualifications to be agreed with the Building Control Authority to certify the installation of the insulation, air barriers, ductwork, services, etc. Suitable, signed site installation reports / construction checklists are to be provided.

Also, as required by the Building Regulations, carry out air permeability and pressure tests, ductwork leakage tests and all necessary tests, remedial work and re-testing to ensure compliance. NB An air leakage rate of **(see M&E consultant's CO_2 calculation) $m^3/(h.m^2)$** at 50Pa has been included in the CO2 emissions calculations and so this standard must be achieved.

All reports, test certificates and Log Book information is to be in accordance with the standards set out in the Approved Documents deemed to be applicable at the time.

The Contractor is to update the iSBEM or equivalent CO_2 emissions calculations with 'as built' data to enable Building Control to sign off the Part L element of the Building Regulations approval.

Regardless of how the Regulations are applied, the Contractor is to include the above noted pressure tests and other provisions.

BUILDING REGULATIONS COMPLIANCE (LOG BOOK)

9710 LOG BOOK

The Contractor is to provide the log book as required by Building Regulations. This is to be in accordance with the CIBSE Log Book template and toolkit. Contributions will be required from the consultants as necessary.

HEALTH AND SAFETY

9800 CDM REGULATIONS

Comply with the Construction (Design and Management) Regulations in all respects, including:

- Development of the Construction Phase of the Health and Safety Document prior to commencing on site;
- Compliance with the following HSE Approved Codes of Practice and recommendations;
- Compliance with specific COSHH regulations / assessments / recommendations for every product;
- Co-operate with the Principal Designer / Principal Designer's Advisor;
- Update the notification to the HSE (Form F10);
- Avoid hazardous techniques where possible;
- Provide all necessary protection and protective / lifting equipment if hazardous processes cannot be avoided;
- Hazardous items - Refer to the Pre-Tender Health and Safety Document;
- Prepare method statements for safe working to cover complex sequences and where noted in Risk Assessments;
- Compliance with scaffolding regulations and recommendations;
- Provide information for / compile the Health and safety File;
- Prepare record drawings and O & M Manuals;
- Comply with Asbestos Regulations and recommendations;
- Compliance with all Health and Safety Regulations, Legislation and recognised published guidance;
- Compile the H&S File prior to completion.

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B10 Outline Scope of Architectural Works

To be read with Preliminaries, general conditions and Specification A81

100 SCOPE

This section covers certain items of work which may not be noted elsewhere. Whilst this section is intended to assist, ***it is not exhaustive***, ie work items are shown elsewhere, on drawings, data sheets, schedules, detailed specification sections, etc which are not listed here.

101 GENERAL MAKING GOOD AND PREPARATION

As with any refurbishment project, there will be a need to carry out making-good following stripping out, removals, etc. There will also be a need for preparation work as necessary to complete the specified works items. An allowance must be made for all such items.

All existing elements, throughout the building and site, which are to be retained are to be made good and repaired to the general standard, ie to the standard of areas which have not been damaged and which are not defective in any way. Additionally, they are to be generally refurbished and, where applicable, refinished. This includes, for example, infilling skirtings where existing walls / partitions are to have doorways infilled.

110 **EXTERIOR WORKS TO THE BUILDING ENVELOPE**

No.	*Item*	*Key spec refs*
A.1.0	**WORKS TO WALLS / CANOPIES / EXTERNAL DOORS / WINDOWS**	
A.1.1	**Removal of Planters to Window Cills** Remove external planters and background construction to window cills to front elevation. Make good the surrounding elements. Install DPC trays and new cast stone sloping cills.	C20 F10 F22/110
A.1.2	**Works to Front and Rear Canopies** Remove existing cladding from entrance canopies to front and rear elevations. Cut back and adapt existing framing / remove and renew framing as necessary to suit the proposed reduced projection and new cladding. Fit new cladding, flashings, weathering, etc.	J31/130
A.1.3	**Removal of Signage and FF&E** Remove existing signage and any redundant fixtures and fittings. Make good any damage to the surfaces behind and around following removal.	N/A
A.1.4	**Removal of Doors / Shutters / form new Door Opening** Remove front main entrance doors and glazed screen complete, carry out all necessary adaptions and associated works. Remove 4 existing entrance / exit doors from the rear elevation (2 at ground level, 2 at upper floor levels off escape stair). Remove one window from the rear elevation and extend the opening downwards to form a new entrance door opening. Include a PCC /	C20 F10

	galvanized metal threshold linked to the DPC / DPM below and masonry reveals with cavity closers and DPCs. Ensure that the facing brickwork is carefully adapted to match existing. Remove all the external doors within the open basement stair wells. Remove the existing roller shutter from the basement car park entrance. Remove the existing external doors at roof level. Make good the surfaces and elements around following removal.	
A.1.5	**New Doors / Shutters** Fit new automated sliding, access-controlled doors and screens to the front entrance. Fit new entrance / escape doors to the rear elevation (various levels) with access controls / automation where shown and with fire resistance where shown. Fit new entrance / escape doors to the door openings within the open basement stair wells with access controls where scheduled. Fit new roller shutter to the basement car park entrance. Fit new external doors at roof level.	 L10/210 L10/211/212 L10/213 L10/214 L10/213
A.1.6	**Removal and Replacement of some Windows** Not required.	
A.1.7	**Works to Windows** Thoroughly clean and refurbish the existing windows throughout, (inside and out, including around the frame edges of the opening lights). Replace any defective gaskets, glazing and ironmongery, remove any film which has been applied to the glazing. NB. The sloping windows at second floor level have significant leaks – all the gaskets are to be replaced, the installations are to be water tested for further leaks and any other necessary repairs / refurbishment / replacement is to be carried out. Replace glazing to ground floor windows and other accessible windows, where indicated, to enhance their security. Replace glazing to certain windows, where indicated, to enhance their strength. (This is where the glazing acts as a guarding.) Replace the handles to all the opening windows with new lockable handles. Fit new window film to 50% of the windows – locations of windows which are to be filmed is tba. To some windows, the film is to provide privacy during daylight hours. To others (eg. Locker Room) it is to be translucent so as to provide privacy at all times. Allow for a range of films and for providing samples to window areas for selection.	 L10/230a L10/230b L10/230a&c L10/230a&d L10/230a L10/230a

A.1.8	**Cleaning and Minor Repairs** Thoroughly clean all external surfaces including removal of stains from brickwork, windows, gutters, RWPs, etc. Include a Provisional Sum for minor repairs.	N/A
A.1.9	**New Signage** Include an agreed Provisional Sum for new signage.	N/A
A.2.0	**GUTTERS AND RWPs**	
A.2.1	**Works to Existing** Thoroughly clean and flush out all gutters, RWOs and RWPs. Water test all the pipes outlets and gutters. Dismantle any sections which leak and reseal the joints. Replace any missing or loose fixings.	N/A
A.2.2	**Remove Redundant RWPs** Remove redundant RWPs from front and rear canopies (if applicable). Seal the drain connections at their bases and make good with finishes to match existing. Make good the surfaces behind and around the removed pipes.	N/A
A.2.3	**Suspended SW Drains** Flush and clean the suspended SW drains in the basement to CE's specification.	CE's spec
A.3.0	**FLAT ROOFS INCLUDING TO OPEN PLANT AREA**	
A.3.1	**Works to the Felt Finished Roof Area (This area is understood to have a felt covering to the original asphalt finish.)** Clean the flat roof area including gutters, RWOs and RWPs. Remove the felt where damaged and peeling back around the gutter and RWO areas to expose the original asphalt finish below. Cut out blisters in the asphalt to the gutters and carry out repairs to the asphalt. Apply a liquid plastic roofing system to the gutters and where work has been carried out, including into the RWO openings, to adjacent upstands, etc. Extend the treatment at least 300mm beyond the extent of these areas onto the sound sections of finish.	J31/110/111/112
A.3.2	**Repairs to the remainder of the Flat Roof (The construction is understood to consist of chippings to approximately 15mm asphalt to 80mm Foamglas to VCL to timber / metal deck.)** Clean all the flat roof areas including gutters, RWOs and RWPs. Cut out all the breather vents and repair the asphalt locally at each location. Cut out blisters in the asphalt to the gutters and carry out repairs to the asphalt. Apply a liquid plastic roofing system to the gutters, including into the	J31/110/111/112 J31/120

	RWO openings. Extend the treatment at least 300mm beyond the gutters. Carry out any necessary local repairs, including to any perimeter flashings. Replace leaf guards to RWOs. Ensure that roof overflows are clear and operational.	
A.3.3	**New Mansafe System and Anchor Points for Ladders to Upper Roof** Install new mansafe system to provide safe access to the entire roof area to allow cleaning of gutters, RWOs, etc. Fit new anchor points (min. 2) for ladders to allow safe access to any maintenance points / inspection points around the edge of the upper roof.	L35/310 L10/311
A.3.4	OPTIONAL EXTRA ROOFING ITEM: Provide a below the line extra over price for carrying out the following in addition to the works specified above. Remove all the chippings. Cover the entire flat roof area with a liquid plastic roof finish, including to upstands, etc.	J31/110/111/112 (to entire roof)
A.4.0	**OTHER WORKS IN OPEN PLANT AREA**	
A.4.1	**Repair and Repaint Exposed Structural Steelwork** Repair / treat corrosion / make good corroded structural steelwork to SE's spec as follows: *Application where rust is visible to the roof plantroom screen steelwork:* *Blast clean to bright metal SA2½ standard* *1 coat of Zinc Phosphate 75µm* *1 coat MIO 125µm* Repaint the exposed structural steelwork throughout.	SE's spec (included here) M60/152
A.4.2	**Repair and Re-Stain Exposed Timber Cladding and Fascias** Repair / locally replace / cut out and fill / make good and prepare the exposed timber surfaces. Apply new protective stain.	M60/190
A.5.0	**PITCHED ROOFS**	
A.5.1	**Clean, Survey and Repair** Carefully clean off moss litchen, etc. Inspect each section of pitched roof and highlight any damage / potential repairs required. At tender stage include a Provisional Sum for the repairs. (The repairs required are considered to be relatively minor in nature and limited in extent.) Carry out repairs as instructed including replacing / refixing missing / damaged / slipped tiles and flashings to match existing.	N/A
A.6.0	**REAR EXTERNAL ESCAPE STAIRCASE AND LADDER**	
A.6.1	**Replace Roofing Panels to Canopy to Staircase** Remove the existing plastic panels to outermost section of the	N/A

	canopy and replace with new heavy-duty GRP panels, similar to existing. Ensure that the panels are securely fitted and fixed.	
A.6.2	**Works to entire Staircase including Ladder to Roof** Treat corrosion, replace any missing / loose fixings, prepare and repaint all elements of the entire staircase, structure steps, balustrades, etc.	M60/152
A.6.3	**Works to Grilles to both sides of Basement Ramp** Treat corrosion, prepare and repaint all elements of the grilles to the walls to both sides of the basement ramp area. Infill the opening (approximately 100mm high) to the base of full length of the grille to the outer (boundary) wall. Infill using a black PPC finished security mesh fixed to the grille above and to the masonry below.	M60/152 Q40/350 (similar)

120 **WORKS TO BASEMENT**

No.	*Item*	*Key spec refs*
B.1.0	**ASBESTOS**	
B.1.1	**Asbestos Survey and Removal** Review the Asbestos Refurbishment and Demolition Survey (awaited at time of writing) and remove all asbestos (unless agreed otherwise) and make-good as necessary, including replacement of fire protection, etc.	C10/390/391 P10, etc
B.2.0	**GENERAL STRIP OUT AND DEMOLITION**	
B.2.1	**Strip-out of FF&E** Remove redundant fixtures, fittings, notice boards, etc after checking with HC if anything is still required.	C10
B.2.2	**General Strip Out and Demolition** See demolition plans and structural and M&E drawings for the extent of demolition and strip-out works. Make good all remaining elements on completion, eg infill masonry where adjoining walls have been demolished, infill openings and make-good surfaces where redundant services have been removed.	C10
B.3.0	**GENERAL WORKS**	
B.3.1	**Replace all the Internal Doorsets, infill above doors to reduce height to 2110mm structural openings** Replace all the doorsets as specified / scheduled. Where the doors currently extend to ceiling height with overpanels, infill above in plasterboard partitioning to spec K10/110. (Replacement of external doors and shutters is noted in A.1.5 above.)	L20
B.3.2	**Treatment to Leak in Soffit** Treat in accordance with the following, as provided by the Structural	SE's spec

	Engineer: • Keep drip tray installed • Only address water ingress from the outside face of ground slab external to the footprint of the superstructure above ground floor (do not attempt to resin inject the basement ceiling) • Expose the external waterproofing in the vicinity to where the leak is noticeable in the basement • It is anticipated that there will be a layer of bitumen overlaying the concrete slab • Identify any damage that has caused water ingress, paying particular attention to corners and folds in the waterproofing layer • Repair using a waterproofing system that is like-for-like to the existing system • Consult with the Structural Engineer and Architect during all stages of the investigations and repair. • Test the repair by checking for ingress to the drip tray after flood testing for 24 hours. • Replace the protection layer and finishes after repairing the leak.	
B.3.3	**Works to Sprinklers, Ventilation System, Lift Suspended Drainage, Underground Drainage, Drain Pumps and other M&E Services** All to MEP and CE's specifications.	MEP / CE specs
B.3.4	**Fencing to Area below Open Grille to Front** Fit new open mesh fencing with an access gate to prevent general access into this area.	Q40/350
B.3.5	**Clean all Surfaces** Thoroughly clean all surfaces, soffit, walls and floor using pressure washer to surfaces which will not be damaged by the water / pressure.	N/A
B.3.6	**Redecorate Lift Lobby** Repaint all surfaces, floor to be re-finished – see finishes plans / schedules / RDS. Remove the vertical timber decorative trims and wallpaper.	M50, M60
B.3.7	**White Lining** Burn off the existing redundant white / coloured lining, parking space numbers, arrows, etc. Paint new coloured lining and number to each parking space, hatched areas, arrows, wheelchair symbols, etc.	Q40/ 450
B.3.8	**Local Height Restrictors / Hung Warning Signs** To all obstructions with less than 2m headroom below provide visually clear restrictors / hung warning bumpers, signs, etc to the full length of the obstructions.	Q40/381
B.3.9	**Statutory Signage** Provide all necessary statutory signage – signs to be the a rigid, durable metal type, not the sticky vinyl type.	N/A
B.3.10	**Firestopping**	

	Allow for removing existing fire stopping and re-firestopping all penetrations through the soffit and through fire walls. Where the existing stopping is deemed to be sound, this may be omitted by agreement and instruction.	P10

130 **INTERIOR WORKS TO UPPER FLOORS (FLOORS ABOVE BASEMENT LEVEL)**

No.	*Item*	*Key spec refs*
C.1.0	**ASBESTOS**	
C.1.1	**Asbestos Survey and Removal** Review the Asbestos Refurbishment and Demolition Survey (awaited at time of writing) and remove all asbestos (unless agreed otherwise) and make-good as necessary, including replacement of fire protection, etc.	C10/390/391 P10, etc
C.2.0	**GENERAL STRIP OUT AND DEMOLITION**	
C.2.1	**Strip-out of FF&E** Remove remaining fixtures, fittings, notice boards, etc after checking with HC if anything is still required.	C10
C.2.2	**General Strip Out and Demolition** See demolition plans and structural and M&E drawings for the extent of demolition and strip-out works. Make good all remaining elements on completion, eg infill masonry where adjoining walls have been demolished, infill openings and make-good surfaces where redundant services have been removed. NB. Existing timber skirtings and window cill and head boards in offices, main staircase / stair corridors, etc are to remain. Refer to SE's drawings and documents re any structural works. Method Statements must be agreed with the SE in advance of commencing work. Any temporary support and bracing necessary is to be provided. Confirm that elements which are thought to be non-loadbearing are such prior to commencing with their removal. Any new lintels are to be to the SE's specification.	C10
C.3.0	**FLOOR REPAIRS / MAKING GOOD**	
C.3.1	**Repairs to Screeded Floors (limited areas)** Allow for screed repairs, infilling, local re-screeding and for levelling compound as necessary to form smooth, level surfaces, suitable for the new finishes. Where existing walls are removed to create larger rooms, the existing screed levels may vary on either side – allow for breaking out the screed for a distance of 1m either side and for re-screeding.	M10
C.3.2	**Works to Existing Raised Floors** Carefully lift all the floor panels without disturbing the pedestals. Re-fix any pedestals which break away, replacing any which become	N/A

	damaged. Clean out the voids after removing the redundant services. Fit new cavity barriers below all proposed and any remaining partition wall lines to ensure fire and acoustic performance. Also required to subdivide voids which exceed 20m (see fist floor fire strategy plan). Clean off the panels, remove glue, etc. Return the panels ensuring that they fit tightly with no rocking. Replace all missing, and damaged panels including all which have cut-outs for services. Replacement panels much match the existing and must be metal encapsulated and in compliance with the MOB specification, medium duty. NB. Allow for 50% new panels to upper floors, 10% to ground floor where the raised floor is to be largely overlaid.	P10/460
C.3.3	OPTIONAL EXTRA: Provide a below the line extra over price for replacing 100% of the raised floor panels.	MOB spec, medium duty
C.4.0	**GENERAL WORKS**	
C.4.1	**Partition Walling** Construct new partitions. NB. A special specification applies to the Taser Room, glazed / slatted partitions apply to some areas, some ground floor rooms are to have additional plasterboard and Ecophon linings – see plans and specifications. Full height doorways are to have their opening heights reduced to 2110mm. Infill above with partitioning K10/115, packed out with an additional lining as necessary to ensure that both faces align with the existing wall faces.	K10/115/120 K10/115
C.4.2	**Doors** Fit new doorsets and ironmongery throughout as scheduled. Access controls to MEP specification where shown. NB. This includes new doorsets/ access panels to all the service risers, cupboards and the like.	L20/210/220
C.4.3	**MEP Works** See MEP drawings and specification. Provide access panels in walls, boxings, ceilings, etc where required for access. All necessary 'builder's work in connection' and firestopping is deemed to be included.	MEP spec K10 P10
C.4.4	**Suspended Ceilings** Fit new ceilings throughout – see ceiling layout plans. Include cavity barriers where the ceiling voids exceed 20m in any direction.	K40/110/111/112 K10/241/255 K40/250
C.4.5	**Fitting Out** Fitting out to the extent shown including the Public Enquiry Office	N10

	(including counter and screens), toilet areas, showers, kitchens, tea points.	N13 L32
C.4.6	**Preparation of Flooring to receive Finishes** This includes making good surfaces, overlaying raised floors with plywood where they are to have a vinyl finish.	 M10 M50
C.4.7	**Decoration / Redecoration / Finishes** This is required throughout, to all surfaces – see finishes plans / schedules / RDS / detailed specifications. Remove the vertical timber decorative trims and wallpaper from the central core area and make-good the finish behind.	 M60
C.4.8	**Works to Existing Retained Joinery** Repair, infill and make-good all existing joinery elements which are to remain. This includes skirtings, window cill boards, window head boards, stair handrails, stair strings, stair edge trims, etc. (The timber ceiling trims at second floor level are to be removed.) All these elements are to be paint finished except the stair handrail which is to be re-lacquered.	 M60
C.4.9	**Statutory Signage** Provide all necessary statutory signage – signs to be of a rigid, durable metal type, not the sticky vinyl type.	 N/A
C.4.10	**Firestopping** Allow for removing existing fire stopping and re-firestopping all penetrations through the soffit and through fire walls. Where the existing stopping is deemed to be sound, this may be omitted by agreement and instruction.	 P10
C.4.11	**Lift** Works to MEP specification. Include new vinyl floor finish and thorough cleaning of all the other surfaces (not inspected).	 MEP spec M50 RDS

140 **EXTERNAL WORKS, IE TO THE SITE AREA SURROUNDING THE BUILDING**

No.	*Item*	*Key spec refs*
D.1.0	**WORKS TO FRONT OF BUILDING**	
D.1.1	**Cover to eastern Basement Vent Grille** Cover the eastern basement vent grille with fixed a metal cover with a non-slip epoxy coating – see details. OPTION: As noted on the Fire Strategy Plan, an option of keeping an 12m²of the existing grille open is required (to provide 6m²free ventilation area). The area below the open section is to be fenced off with a gate included, as B.3.4 above. A further option of cast iron and glass pavement lights to provide 6m²	 L30/220

	free ventilation area (with the glass broken out) is required, eg, Hayward Brothers.	
D.1.2	**Repairs to Asphalt Tanking / Surfacing to Open Staircases** Patch repair the bulging / damaged sections of asphalt to the open staircases hot melted asphalt of a similar specification to existing. Soften the asphalt and carefully cut out, dry out the substrate, make good the separating membrane, patch the asphalt level with the existing surface in two coats, lapped minimum 75mm onto half the depth of the surrounding existing asphalt. A specialist contractor will be required to determine the precise specification. Carefully paint the nosings in a non-slip contrasting paint, minimum 55mm to vertical and to horizontal.	-
D.1.3	**Repairs to External Walls, Cast Stone Cappings, Planters** Remove the coping stones from all the low-level walls to the planters, around the staircase, etc. Make good the brickwork below – where loose remove and clean off the bricks and relay to match existing – allow for reconstructing the top two courses. Fit new cast stone copings – see details. The copings to the staircase are to be taller to conceal the new capping to the staircase – see details. Remove all planting from the planters and replace all the soil with free draining fill to 300mm of the finished level and then with a 300mm depth of high-quality bedding compost. Alternatively, (if HC do not intend to plant the beds) fill with free draining fill to 200mm of the finished level and then with a 200mm depth of light brown Trent Pea Shingle with a stone diameter of 10-15mm. Seek instructions from the CA re this item. Thoroughly clean the brickwork to the existing walls to remove stains, etc.	F10/110 F22/110 - -
D.1.4	**New Metal Capping and Hatch to Open Staircase** Install new purpose made metal capping to the open staircase, incorporate an escape hatch – see details.	L30/210
D.1.5	**Re-Paving** Carefully remove the existing paving slabs and re-pave the front area to the extent indicated, including the ramp and steps. Incorporate contrasting coloured slabs to the ramp, tactile paving to the top and tread pavings to the steps. Eliminate the small step which currently exists between the public footway and the Police's paving near the ramp.	Q40/110 Q40/111 Q40/112 Q40/113 Q40/160
D.1.6	**New Handrails and Balustrades** Remove the existing and fix new PPC finished, galvanised steel handrails (balustrades where necessary) to both sides of the ramp and the stairs to the main entrance door – see details.	Q40/320
D.1.7	**Yellow Phone (Police Emergency Phone)** Fit a police yellow phone in the entrance area (free issue). Connections to MEP specification.	-

D.1.8	**Letter Box** Supply and fix a secure external letter box (provisional sum £250 for supply).	-
D.1.9	**Make Good Clean Ground Surfaces** Make good and thoroughly clean all the remaining original ground surfaces.	-
D.1.10	**Adapt Paving at Vehicle Entrance** From the site boundary, modify the kerb and paving line to provide a kerbed and paved footway alongside the vehicle access. Extend the raised footway to beyond the gate line as show, ending with a dropped kerb and tactile paving. Kerbs and paving all to match existing.	Q40/113 Q40/150 Q40/151
D.1.11	**New Entrance Gates** Remove the original gates to the vehicular access route to the side of the building. Provide new high speed vehicle access gate and pedestrian gate with intercoms, access controls and with a loop cut into the road to allow the gate to open automatically for exiting vehicles. The access control for vehicles is to be set on a robust galvanized post just behind the kerb line.	Q40/360
D.1.12	**Closure Panel / Fence adjacent to New Entrance Gate** **Fi**t a purpose made, closure panel / fence on the ledge to the adjacent building on the line of the new gates. This is to significantly reduce the ease of intruders accessing the site along the existing ledge.	Q40/351
D.1.13	**Signage** Provide all necessary statutory signage – signs to be of a rigid, durable metal type, not the sticky vinyl type. Include a Provisional Sum for non-statutory signage.	-
D.2.0	**WORKS REAR AND SIDE OF BUILDING**	
D.2.1	**New / Extended Paving to West Side of Building** Included in D.1.9 above	
D.2.2	**Repairs to Asphalt Tanking / Surfacing to Second Open Staircase** Patch repair the bulging / damaged sections of asphalt to the open staircases hot melted asphalt of a similar specification to existing. Soften the asphalt and carefully cut out, dry out the substrate, make good the separating membrane, patch the asphalt level with the existing surface in two coats, lapped minimum 75mm onto half the depth of the surrounding existing asphalt. A specialist contractor will be required to determine the precise specification.	-

	Carefully paint the nosings in a non-slip contrasting paint, minimum 55mm to vertical and to horizontal.	
D.2.3	**Repairs to External Walls, Cast Stone Cappings, Planters** Remove the coping stones from all the low-level walls to the planters and elsewhere. Make good the brickwork below – where loose remove and clean off the bricks and relay to match existing – allow for reconstructing the top two courses. Fit new cast stone copings – see details. Remove all planting from the planters and replace all the soil with free draining fill to 300mm of the finished level and then with a 300mm depth of high-quality bedding compost. Alternatively, (if HC do not intend to plant the beds) fill with free draining fill to 200mm of the finished level and then with a 200mm depth of light brown Trent Pea Shingle with a stone diameter of 10-15mm. Seek instructions from the CA re this item. Thoroughly clean the brickwork to the existing walls to remove stains, etc.	F10/110 F22/110 - -
D.2.4	**New Fencing and Closure Panels to Boundary Walls** New fencing / closures to fencing with – see plans for extent and details. Add a small mesh infill below the existing railings to the opening to the basement ramp to the eastern boundary of the building.	Q40/351 L30/230
D.2.5	**New Paving, Kerbs, Steps** New paving kerbs and steps in local areas to form raised areas, etc. Steps to incorporate special step paving slabs with non-slip inserts. Paving similar to existing except where shown otherwise. Form sub-base to steps in concrete below the pavings. Paving slabs to steps to be bedded in concrete. Kerbs and Trief kerbs all to CE's details.	Q40/111 Q40/112 Q40/113 Q40/150 Q40/151 Q40/160
D.2.6	**Car Wash Area** Remove the existing paving to the proposed car wash area and relay to revised falls to suit the revised gully and drainage to the area – see SE's proposals. NB Do not disturb the existing basement tanking which is below the paving and ensure that any new penetrations are fully sealed around.	Q40/113
D.2.7	**New Handrails and Balustrades** New PPC finished, galvanised steel balustrades and handrails to steps adjacent to the spiral escape stair – see details. New PPC finished, galvanised steel balustrades to new entrance landing adjacent to the vehicle ramp – see details.	Q40/320
D.2.8	**New Bin Store** Form new bin store using proprietary panels.	Q40/300
D.2.9	**New Bollards** Fit new bollards to locations shown.	Q40/395

D.2.10	**Make Good Clean Ground Surfaces** Make good and thoroughly clean all the remaining original ground surfaces.	-
D.2.11	**White Lining and Yellow Lining (and other colours)** Burn off the existing redundant white lining, parking space numbers, arrows, etc. Paint new white lining and number to each parking space, hatched areas, arrows, wheelchair symbols, etc.	Q40/450
D.2.12	**New Height Restrictor to Basement** Fit new height warning restrictor to basement ramp and signs.	Q40/380
D.2.13	**Statutory Signage** Provide all necessary statutory signage – signs to be of a rigid, durable metal type, not the sticky vinyl type.	-

VINCENT+GORBING

C20 Demolition / Stripping Out

To be read with Preliminaries, general conditions and Specification A81

GENERAL REQUIREMENTS

110 DESK STUDY/ SURVEY

- Scope: Before starting deconstruction/ demolition work, examine available information, and carry out a survey of:
  - the structure or structures to be deconstructed/ demolished,
  - the site on which the structure or structures stand, and
  - the surrounding area.
- Report and method statements: Submit, describing:
  - Form, condition and details of the structure or structures, the site, and the surrounding area.
  - Type, location and condition of features of historical, archaeological, geological or ecological importance.
  - Type, location and condition of adjoining or surrounding premises that might be adversely affected by removal of the structure or structures, or by noise, vibration and/ or dust generated during deconstruction/ demolition.
  - Identity and location of services above and below ground, including those required for the Contractor's use, and arrangements for their disconnection and removal.
  - Form and location of flammable, toxic or hazardous materials, including lead-based paint, and proposed methods for their removal and disposal.
  - Form and location of materials identified for reuse or recycling, and proposed methods for removal and temporary storage.
  - Proposed programme of work, including sequence and methods of deconstruction/ demolition.
  - Details of specific pre-weakening required.
  - Arrangements for protection of personnel and the general public, including exclusion of unauthorized persons.
  - Arrangements for control of site transport and traffic.
  - **NB – Salvaging of bricks from demolished wall section for use elsewhere.**

120 EXTENT OF DECONSTRUCTION/ DEMOLITION

- General: Subject to retention requirements specified elsewhere, deconstruct/ demolish structures to the extent shown. Where whole buildings are included, the sub-structures must be totally removed.

130 GROUNDWORKS

- Old foundations, slabs and the like: Break out in locations and to the extents stated.
- Contaminated material: Remove, and carry out remediation required by the Enforcing Authority.

140 BENCH MARKS

- Unrecorded bench marks and other survey information: Give notice when found. Do not remove marks or destroy the fabric on which they are found.

150 FEATURES TO BE RETAINED

- General: Keep in place and protect the following: TBA – seek advice from the CA.

SERVICES AFFECTED BY DECONSTRUCTION/ DEMOLITION

210 SERVICES REGULATIONS

- Work carried out to or affecting new and/ or existing services: Carry out in accordance with the byelaws and/ or regulations of the relevant Statutory Authority.

220 LOCATION OF SERVICES

- Services affected by deconstruction/ demolition work: Locate and mark positions.
- Mains services marking: Arrange with the appropriate authorities for services to be located and marked.
  - Marking standard: In accordance with National Joint Utilities Group 'Guidelines on the positioning and colour coding of underground utilities' apparatus'.

230 SERVICES DISCONNECTION ARRANGED BY CONTRACTOR

- General: Arrange with the appropriate authorities for disconnection of services and removal of fittings and equipment owned by those authorities prior to starting deconstruction/ demolition.

232 SERVICES DISCONNECTION ARRANGED BY EMPLOYER / CONTRACTOR

- Responsibility: The Employer will arrange with the appropriate authorities for disconnection of services and removal of fittings and equipment owned by those authorities prior to deconstruction/ demolition.
- Disconnection of remaining services: Arrange with the appropriate authorities. Remove fittings and equipment not owned by those authorities.
- Timing: Do not start deconstruction/ demolition until disconnections are completed.

240 DISCONNECTION OF DRAINS

- General: Locate, disconnect and seal disused foul and surface water drains.
- Sealing: Permanent, and within the site.

250 LIVE FOUL AND SURFACE WATER DRAINS

- Drains and associated manholes, inspection chambers, gullies, vent pipes and fittings:
  - Protect; maintain normal flow during deconstruction/ demolition.
  - Make good any damage arising from deconstruction/ demolition work.
  - Leave clean and in working order at completion of deconstruction/ demolition work.

260 SERVICE BYPASS CONNECTIONS

- General: Provide as necessary to maintain continuity of services to occupied areas of the site on which the deconstruction/ demolition is taking place and to adjoining sites/ properties.
- Minimum notice to adjoining owners and all affected occupiers: 72 hours, if shutdown is necessary during changeover.

270 SERVICES TO BE RETAINED

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

DECONSTRUCTION/ DEMOLITION WORK

310 WORKMANSHIP

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

320 GAS OR VAPOUR RISKS

- Precautions: Prevent fire and/ or explosion caused by gas and/ or vapour from tanks, pipes, etc.

330 DUST CONTROL

- General: Reduce airborne dust by periodically spraying deconstruction/ demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris.
- Lead dust: Submit method statement for control, containment and clean-up regimes.

340 HEALTH HAZARDS

- Precautions: Protect site operatives and general public from hazards associated with vibration, dangerous fumes and dust arising during the course of the Works.

350 ADJOINING PROPERTY

- Temporary support and protection: Provide. Maintain and alter, as necessary, as work proceeds. Do not leave unnecessary or unstable projections.
- Defects: Report immediately on discovery.
- Damage: Minimize. Repair promptly to ensure safety, stability, weather protection and security.
- Support to foundations: Do not disturb.

360 STRUCTURES TO BE RETAINED

- Extent: See drawings and note to 110 above.
- Parts which are to be kept in place: Protect.
- Interface between retained structures and deconstruction/ demolition: Cut away and strip out with care to minimize making good.

370 PARTLY DEMOLISHED STRUCTURES

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

380 DANGEROUS OPENINGS

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

390 ASBESTOS-CONTAINING MATERIALS – KNOWN OCCURRENCES

- General: Materials containing asbestos are known to be present as noted in the Asbestos Reports.
- Removal: To the agreed extent by a Licenced Contractor after serving notice to the HSE all in accordance with the Asbestos Regulations.

391 ASBESTOS-CONTAINING MATERIALS – UNKNOWN OCCURRENCES

- Discovery: Give notice immediately of suspected asbestos-containing materials when discovered during deconstruction/ demolition work. Avoid disturbing such materials.
- Removal: Submit statutory risk assessments and details of proposed methods for safe removal.

410 UNFORESEEN HAZARDS

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

420 OPEN BASEMENTS, ETC

- Temporary support: Leave adequate buttress walls or provide temporary support to basement retaining walls up to ground level.
- Safety: Make remaining sections of retaining and buttress walls safe and secure.
- Water movement: Make holes in basement floors to allow water drainage or penetration (depending on water table). Provide a hole for every 10 m², not less than 600 mm in diameter.

430 FILLING OF BASEMENTS, ETC

- Temporary support: Leave adequate buttress walls or provide temporary support to basement retaining walls up to ground level.
- Water movement: Make holes in basement floors to allow water drainage or penetration (depending on water table). Provide a hole for every 10 m², not less than 600 mm in diameter.
- Filling: Remove organic material and soil from basements and other voids. Fill and consolidate to Structural Engineer’s specification.

442 SITE SURFACE AT COMPLETION

- Levels: Grade the site to follow the levels of adjacent areas.
- Temporary surface: Cover the site as specified by the Main Contractor.

450 SITE CONDITION AT COMPLETION

- Debris: Clear away and leave the site in a tidy condition.

MATERIALS ARISING

510 CONTRACTOR'S PROPERTY

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

511 EMPLOYER'S PROPERTY

- Components and materials to remain the property of the Employer: TBA. Obtain agreement from the CA.
- Protection: Maintain until these items are removed by the Employer or reused in the Works, or until the end of the Contract.

520 RECYCLED MATERIALS

- Materials arising from deconstruction/ demolition work: Can be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification and in accordance with any site waste management plan.
- Evidence of compliance: Submit full details and supporting documentation.
  - Verification: Allow adequate time in programme for verification of compliance.

VINCENT+GORBING

F10 Brick / Block Walling (including Accessories)

To be read with Preliminaries, general conditions and Specification A81

TYPES OF WALLING

110 CLAY FACING BRICKWORK / REPAIRS

- Bricks: To BS EN 771-1.
  - Manufacturer and reference: Salvaged bricks from the works. Contractor to obtain new bricks if necessary, to match existing as closely as possible. If this is necessary, samples are to be obtained for agreement.
- Mortar: As section Z21, to match existing in colour, Group 2 generally, Group 1 to copings as clause 460 below.
- Bond: To match existing.
- Joints: Tooled joints to match existing.
- Features: To match existing.
- Ties: All to Structural Engineer's requirements, material/ finish: Grade 316 stainless steel where to external walls, hot dip galvanised to internal walls to BS EN ISO 1461:2009.
- Cramps to ends of brick copings: Grade 316 stainless steel cramps, 225mm long x 65mm high, two to each coping end.
- DPC's: Bitumen based, Standard: To BS 6398 - Class: B, manufacturer: Ruberiod, product reference: Permabit.
- Movement joints: Joint preparation and sealant application: As section Z22.
  Filler: Purpose made closed cell polyethylene foam.
  - Thickness: To match design width of joint.
  - Placement: Build in as work proceeds with no projections into cavities and to correct depth to receive sealant system.

  Sealant:
  - Designation: Low modulus silicone
  - Manufacturer: Adshead Ratcliffe
    Product reference: Arbosil 1090
  - Colour: to be agreed on site. Samples to be provided.
- Cast stone cills and copings: See specification section F22.

TESTING

410 COMPRESSIVE STRENGTH OF MORTAR FOR EACH WALLING TYPE

- Testing authority: UKAS accredited laboratory.
- Test method: To BS EN 1015-11.
- SE to advise all requirements for testing.
- Results: Submit.

415 FRESH MORTAR CEMENT CONTENT

- Test method: BREMORTTEST.
- Test specimens: Test mortar for the following wall types: F10/110
- Results: Submit.

WORKMANSHIP GENERALLY

430 CONDITIONING OF CLAY AND CALCIUM SILICATE BRICKS AND CLAY BLOCKS

- Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
- Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

460 MORTAR GROUPS

- Mix proportions: For a specified group select a mix design from the following:

- Group 1:
  1: 0–0.25: 3 (Portland cement: lime: sand with or without air entraining additive).
  1: 3 (Portland cement: sand and air entraining additive).
- Group 2:
  1: 0.5: 4–5 (Portland cement: lime: sand with or without air entraining additive).
  1: 3 (masonry cement: sand containing Portland cement and lime in approximate ratio 1: 1, and an air entraining additive).
  1: 2.5–3.5 (masonry cement: sand containing Portland cement and inorganic materials other than lime and air entraining additive).
  1: 3–4 (Portland cement: sand and air entraining additive.)
- Group 3:
  1: 1: 5–6 (Portland cement: lime: sand with or without air entraining additive).
  1: 3.5–4 (masonry cement: sand containing Portland cement and lime in approximate ratio 1: 1, and an air entraining additive).
  1: 4–5 (masonry cement: sand containing Portland cement and inorganic materials other than lime and air entraining additive).
  1: 5–6 (Portland cement: sand and air entraining additive).
- Group 4:
  1: 2: 8–9 (Portland cement: lime: sand with or without air entraining additive).
  1: 4.5 (masonry cement: sand containing Portland cement and lime in approximate ratio 1: 1, and an air entraining additive).
  1: 5.5–6.5 (masonry cement: sand containing Portland cement and inorganic materials other than lime and air entraining additive).
  1: 7–8 (Portland cement: sand and air entraining additive).

- Batching: Mix proportions by volume.
- Mortar type: Continuous throughout any one type of masonry work.

500 LAYING GENERALLY

- Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
- AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
- Clay block joints:
  - Thin layer mortar: Lay blocks on a full bed.
  - Interlocking perpends: Butted.
- Bond where not specified: To match existing.
- Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520 ACCURACY

- Courses: Level and true to line.
- Faces, angles and features: Plumb.
- Permissible deviations:
  - Position in plan of any point in relation to the specified building reference line and/ or point at the same level ± 10 mm.
  - Straightness in any 5 m length ± 5 mm.
  - Verticality up to 3 m height ± 10 mm.
  - Verticality up to 7 m height ± 14 mm.
  - Overall thickness of walls ± 10 mm.
  - Level of bed joints up to 5 m (brick masonry) ± 11 mm.
  - Level of bed joints up to 5 m (block masonry) ± 13 mm.

561 COURSING BRICKWORK WITH EXISTING

- Gauge: Line up with existing brick courses.

580 LAYING FROGGED BRICKS

- Single frogged bricks: Frog uppermost.
- Double frogged bricks: Larger frog uppermost.

- Frog cavity: Fill with mortar.

585 LAYING CELLULAR BRICKS

- Orientation: Cavities downward.

595 LINTELS

- Bearing: Ensure full length masonry units occur immediately under lintel ends.

610 SUPPORT OF EXISTING WORK

- Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

635 JOINTING

- Profile: Consistent in appearance.

645 ACCESSIBLE JOINTS NOT EXPOSED TO VIEW

- Jointing: Struck flush as work proceeds.

671 FIRE STOPPING

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

690 ADVERSE WEATHER

- General: Do not use frozen materials or lay on frozen surfaces.
- Air temperature requirements: Do not lay bricks/ blocks:
  - In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
  - In hydraulic lime: sand mortars when at or below 5°C and falling or below 3°C and rising.
  - In thin joint mortar glue when outside the limits set by the mortar manufacturer.
- Temperature of walling during curing: Above freezing until hardened.
- Newly erected walling: Protect at all times from:
  - Rain and snow.
  - Drying out too rapidly in hot conditions and in drying winds.

ADDITIONAL REQUIREMENTS FOR FACEWORK

710 THE TERM FACEWORK

- Definition: Applicable in this specification to brick/ block walling finished fair.
  - Painted facework: The only requirement to be waived is that relating to colour.

730 BRICK/ CONCRETE BLOCK SAMPLES

- General: Before placing orders with suppliers submit for approval of appearance labelled samples of the following: All facing bricks.
- Selection of samples: Representative of the range in variation of appearance.

740 FINISHED MASONRY WORK SAMPLE REPAIRS/ PANELS

- General: Before proceeding, construct a sample repair for review and approval prior to proceeding. Give notice when the mortar is dry.

750 COLOUR CONSISTENCY OF MASONRY UNITS

- Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
- Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
- Finished work: Free from patches, horizontal stripes and racking back marks.

760 APPEARANCE

- Brick/ block selection: Do not use units with damaged faces or arrises.
- Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
- Quality control: Lay masonry units to match relevant reference panels.

  - Setting out: To produce satisfactory junctions and joints with built-in elements and components.
  - Coursing: Evenly spaced using gauge rods.
- Lifts: Complete in one operation.
- Methods of protecting facework: Submit proposals.

780 GROUND LEVEL

- Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

790 PUTLOG SCAFFOLDING

- Use: Not permitted in facework.

800 TOOTHED BOND

- New and existing facework in same plane: Bond together at every course to achieve continuity.

830 CLEANLINESS

- Facework: Keep clean.
- Mortar on facework: Allow to dry before removing with stiff bristled brush.
- Removal of marks and stains: Rubbing not permitted.

VINCENT+GORBING

F22 Cast Stone Walling / Dressings

To be read with Preliminaries, general conditions and Specification A81

DESIGN

100 ALL CAST STONE / PRECAST CONCRETE COMPONENTS

- **Design** – The design is to be by a specialist sub-contractor / manufacturer employed by the Main Contractor. Details will subject to review by the Structural Engineer and Architect.
- **Drawings** - to be provided by the specialist sub-contractor / manufacturer for comment prior to proceeding. Comments on drawings are to be resolved prior to proceeding.

TYPES OF WALLING

110 CAST STONE CILLS TO FRONT ELEVATION TO REPLACE PLANTERS, CAST STONE COPINGS TO EXTERNAL WALLS TO PLANTERS, STAIRCASES, ETC

- **Stone Finish** –Ashlar to match existing un-weathered components (to all visible faces). Samples to be submitted to the CA for selection. Colour of all components is to be continuous 'through colour'.
- **Joints and pointing to stones** – No joints to cills where possible, otherwise joint locations to be agreed. Joint widths are to match existing. Sealant pointed to specification Z22. Shims to bed joints to be included as necessary to stone manufacturer's recommendations.
- **Concrete grade and cover** - To sub-contractor's design. Any variation from the guidance in this specification is subject to approval. A robust, durable product is required.
  Absorption: To BS 1217 CAT test.
  Compressive strength:
  - Average cube strength (minimum): 35MPa
  - Single cube strength (minimum): 28MPa
- **Reinforcement** - To sub-contractor's design. Any variation from the guidance in this specification is subject to approval.
- **Bed Joint Reinforcement**: Only if / as specified by the SE. See 305 below.
- **Ties** - To be included to SE's specification. All to be in Grade 316 stainless steel. All elements to be tied.
- **Lifting Eyes** – Include lifting eyes to aid mechanical handling as necessary to comply with CDM/ Manual Handling Regulations, etc.
- **Samples** - to be provided to the CA for agreement prior to proceeding.
- **Sealant**: To specification Z22, low modulus silicone, colour blended to the stone, matt finish.

GENERAL REQUIREMENTS

220 CONTROL SAMPLES

- Required samples: After finalization of design, one each of the following components: Sample stone for colour selection.
- Approval of appearance: Obtain before manufacture of remaining units.
- Identification and storage location: Clearly label and retain at factory for comparison with production units.

230 QUALITY ASSURANCE

- Records: Maintain for each type of component, including:
  - Correlation with records of mixes, including batch numbers and test samples.
  - Type of reinforcement.
  - Test reports (including cube identification numbers) and testing authority (cast stone manufacturer and/ or laboratory accredited by United Kingdom Accreditation Service (UKAS) for the tests specified).
  - Dates for casting and delivery to site.
  - Any other pertinent data, e.g. identification of approved control samples.

- Submit copies of records: On request.

255 COMPRESSIVE STRENGTH

- Cube strength: Sampling to BS 1217. Testing to BS EN 12390-1, 2 and 3 as appropriate, with compaction and curing representative of the methods used in production of the cast stone components.

300 REINFORCEMENT

- Non structural reinforcement: Include to resist shrinkage and handling stresses.
- Carbon steel reinforcement: To BS 4449 and BS 4483 as appropriate.
  - Cutting and bending: To BS 8666.
- Galvanized reinforcement: Galvanizing to BS EN ISO 1461 after cutting.
- Stainless steel reinforcement: To BS 6744, designation 1.4301.
  - Cutting and bending: To BS 8666.
- Condition at time of placement: Clean, free of corrosive pitting, loose materials and substances which adversely affect the reinforcement, mix, or bond between the two.
- Fixing: Accurate and secure. Prevent intrusion of wire or clips into the cover.

305 BED JOINT REINFORCEMENT

- Standard: To BS EN 845-3 or as / if otherwise specified by ABA.

312 COVER TO REINFORCEMENT

- General: Minimum cover to reinforcement:
  - Carbon steel:
    40 mm: External faces (exposed to weather).
    30 mm: Internal faces (protected from weather).
  - Galvanized steel:
    30 mm: External faces (exposed to weather).
    20 mm: Internal faces (protected from weather).
  - Austenitic stainless steel:
    10 mm or 2 x bar diameter: All faces (select the greater of the two).
  - Other materials/ coatings: Submit proposals including minimum cover.

335 MANUFACTURING ACCURACY

- Standard: To BS 1217, section 8.
- Additional tolerances: as necessary to achieve the finished work requirement.

340 MIXES GENERALLY

- Constituent materials and mix design: Achieve constant colour and texture for each finish type.
- Aggregates for facing mixes: Free from particles which may cause 'popouts', or unsightly marking or staining.
- Total chloride ion content (maximum): Cl 0.40.
- Admixtures containing calcium chloride: Do not use.

350 SEPARATE FACING AND BACKING MIXES

- Thickness of facing mix at any point (minimum): 20 mm.
- Distance of reinforcement from the junction of the two mixes (minimum): 10 mm.
- Joining facing and backing mixes: Bond so that they are effectively monolithic.

360 CASTING AND CURING

- Compaction: Thorough.
- Protection: Prevent premature drying out during curing period.
- Immature components: Prevent distortion from movement, vibration, overloading, physical shock, rapid cooling and thermal shock.
- Delivery to site: Not until at least 14 days after casting.

370 QUALITY OF FINISHES

- Appearance standard: As established by samples.

380 INSPECTION

- Completed components: Make available for inspection before delivery to site. Give notice when ready for inspection.

LAYING AND JOINTING

430 ADVERSE WEATHER

- General: Do not use frozen materials and do not lay on frozen surfaces.
- Temperature: Do not lay blocks/ dressings:
  - In cement gauged mortars when the air temperature is at or below 3°C and falling or below 1°C and rising (unless mortar has a temperature of not less than 4°C when laid and walling is thoroughly protected).
  - In hydraulic lime: sand mortars when the air temperature is at or below 5°C and falling or below 3°C and rising.
- Freezing conditions: Maintain temperature of the work above freezing until mortar has fully set.
- Precipitation: Protect newly erected walling against rain and snow by covering when precipitation occurs and at all times when work is not proceeding.
- Hot and dry conditions: Prevent newly erected masonry from drying out too rapidly.
- Remedial work: Rake out and replace mortar damaged by frost and where instructed, rebuild damaged work.

440 LAYING GENERALLY

- Selection: Do not use units with damaged faces or arrises.
- Accuracy:
  - Courses: Level and true to line.
  - Faces, angles and features: Plumb.
  - Setting out: Achieve satisfactory junctions and joints with adjoining or built-in elements and components.
- Absorbent units: Dampen in warm weather to reduce suction.
- Mortar joints:
  - Laying: Full bed of mortar with all joints and voids filled.
  - Temporary distance pieces: Lead or stainless steel. Remove when mortar is sufficiently strong.
  - Appearance: Neat and consistent.
- Cleanliness: Keep facework clean. Rubbing and other abrasive or chemical cleaning methods to remove marks and stains, not permitted.
- Cutting of reinforced units: Not permitted.

450 WALLING/ DRESSINGS BELOW GROUND LEVEL

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

490 PUTLOG SCAFFOLDING

- Use: Not permitted.

500 ONE PIECE SILLS/ THRESHOLDS

- Bed joints: Leave open except under:
  - End bearings.
  - Masonry mullions.
- Pointing on completion: Mortar to match adjacent work.

510 OPENINGS

- Method of forming: Rigid templates, accurately fabricated to the required size.

520 JOGGLE JOINTS

- General: Fill with bedding mortar. Tamp to expel air.

535 POINTING

- Joint preparation: Rake out to depth of 7–10 mm as work proceeds. Remove debris. Dampen surface.

- Mortar application: Neat and consistent.

540 SUPPORT OF EXISTING WORK

- Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

VINCENT+GORBING

J31 Liquid Applied and other Roofing

To be read with Preliminaries, general conditions and Specification A81

TYPES OF COATING

110 LIQUID APPLIED ROOF COATING TO ALL FLAT ROOF GUTTERS, RWOs AND ASSOCIATED UPSTANDS, ETC

- Substrate: Asphalt generally, also felt, possibly concrete, brickwork, lead.
- Preparation: Cut back and remove any areas of felt overlays to the gutters and upstands. Ensure all surfaces are sound, clean and dry, including RWOs. They must be free from defects, visible dampness, fungal growth, dust, dirt particles and any other form of surface contamination. Remove any chippings form the areas to be treated. For quality requirements of specific substrate and preparation methods, refer to the manufacturer's product data sheets.
- Repairs to blistered areas of gutters: Cut out the blisters and repair in asphalt as clause 540 below.
- Extent of coating: At least 250mm onto the roofs beyond the gutter lines.
- Repairs to perimeter flashings and RWOs: Carry out local repairs including to perimeter flashings. Replace the leaf guards.
- Primer for metal: Apply strictly to manufacturer's recommendations relevant to this application.
- Primer for concrete: Apply strictly to manufacturer's recommendations relevant to this application.
- Waterproof coating:
  - Manufacturer: TN International
  - Product reference: DACOSHIELD PUQC SYSTEM
  - Type: PU LIQUID
  - Primer: DACO-PREP POROSITY PRIMER
  - Application: CONTAINER
  - Reinforcement: DACOFLEECE GF FLEECE GF
  - Colour: Underlay: Light Grey: Top Coat: Dark Grey.
- Special requirements: Coating to fully cover RWOs.
- Contractor: Only TN International Contractors are to be used, eg Russell Trew Limited.

111 APPLICATION OF LIQUID PLASTIC COVERING

- Primer/ conditioner: Brush well in to ensure local or full area coverage according to type. Allow to dry before overcoating.
- Roof coatings: Monitor thickness by taking wet/ dry film thickness readings. Maintain full thickness around angles, junctions and features.
- Completed coatings: Firmly adhered, fully sealed, smooth, weatherproof and free-draining.
- Coating surfaces: Check when cured for discontinuities.
- Defective areas: Apply another coating.

112 DETAILS OF LIQUID PLASTIC COVERING

SEE THE STANDARD DETAILS INCLUDED AT THE END OF THIS SPECIFICATION.

120 REMOVAL OF BREATHER VENTS FROM THE ASPHALT ROOFS AND RESULTANT REPAIRS TO ASPHALT

- Carefully remove (cut-out) the existing breather vents.
- Make good all apertures in the existing asphalt where the roof vents have been removed using mastic asphalt as the top layer and PIR ridged foam insulation to infilled in the voids in the foam glass insulation.
- The top layer of asphalt surrounding the aperture is to be heated and smoothed to form a continuous bond to the asphalt infill.
- See also clause 540.

130 NEW PPC ALUMINIUM FASCIAS INCLUDING CAPPINGS TO CANOPIES TO FRONT AND REAR AND INCLUDING SOFFITS

- Refer to drawings for details and locations of joints. NB The only joints are to be in the locations shown.
- The final design of these elements (including the timber / galvanised steel framing behind) is to be by a specialist contractor following a detailed site survey and in accordance with this specification and with the wind loadings applicable to this site. See clause 205 below. Allow for the full range of RAL colours. The PPC finish is to carry a full 20 year guarantee.
- All elements are to be formed in PPC finished 3mm thick (minimum) aluminium to ensure no ripples. Corners of the roof fascias are to be formed in single preformed corner pieces so that joints are avoided at the corners. Joints will only be permitted where shown on the elevations and these are to be max 10mm wide, to neat consistent lines with sealant to the recess with the face of the sealant flush with the fascia. Sealant to be colour matched low modulus silicone type. All fixings to all elements are to be concealed so that none are visible from around the building. NB This spec applies to all the flashings, fascias, cappings, etc.

190 GUARANTEE FOR ROOFWORKS

- All work, including repairs, to be fully guaranteed for the 12 months Defects Liability Period. The guarantee for the PPC finish to the aluminium elements (130 above) is to be 20 years minimum.

PERFORMANCE

205 COMPLETION OF ROOFING DESIGN

- Description: The ultimate design responsibility of roofing / cladding to clause 130 above will be with the specialist sub-contractor which is to complete the design in accordance with this specification, the system manufacturer's recommendations and the drawings.
- Requirement: Complete the detailed design to satisfy specified performance criteria and coordinate with the detailed design of related and adjacent work.
- Design and production information: Detailed drawings to be provided well in advance of commencement of the works to allow the design team to make comments and for the comments to be incorporated and the outcomes agreed prior to commencing.

210 ROOF PERFORMANCE

- General: Firmly adhered, free draining and weathertight.

PRODUCTS

315 TIMBER FRAMING AND TRIMS

- Quality: Planed, free from wane, pitch pockets, structural SC4 grade, decay and insect attack (except ambrosia beetle damage).
- Moisture content at time of covering (maximum): 22%.
- Preservative treatment: As section Z12 and Wood Protection Association Commodity Specification C8.

EXECUTION GENERALLY

410 ADVERSE WEATHER

- Do not apply coatings:
  - In wet conditions or at temperatures below 5°C, unless otherwise permitted by coating manufacturer.
  - In high winds (speeds > 7 m/s), unless adequate temporary windbreaks are erected adjacent to working area.
- Unfinished areas of roof: Keep dry.

420 SUITABILITY OF SUBSTRATE

- Substrates generally:

  - Secure, clean, dry, smooth, free from frost, contaminants, loose material, voids, protrusions and organic growths.
  - Compatible with coating system.
- Preliminary work: Complete, including:
  - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
  - Fixing of battens, fillets and anchoring plugs/ strips.
- Moisture content and stability: Must not impair integrity of roof.
- Priming: As noted in 110.

EXISTING SUBSTRATES

515 EXISTING FLASHINGS SHOWN AS REMAINING

- General: Raise to facilitate cleaning of surfaces to receive coatings.
- Timing: Leave raised during coating application and lower only after full curing.
- Damaged lengths: Replace with new to match existing but to the recognised standard for the material.

520 PRELIMINARY POWER WASH TO EXISTING COVERINGS

- Timing: Before renewing existing coverings, water jet clean all areas. Allow to dry.

540 MAKING GOOD EXISTING MASTIC ASPHALT COVERING

- Defective areas / areas where vents are to be removed: Soften and carefully cut out.
  - Hammers, chisels, etc: Do not use to cut cold mastic asphalt.
  - Substrate: Dry out.
  - Separating membrane: Make good.
  - Mastic asphalt: Patch level with existing surface in two coats, the top coat lapped minimum 75 mm onto existing mastic asphalt and to half its depth.
  - Type of asphalt must be as existing so as to be compatible.

550 MAKING GOOD EXISTING METAL SHEET COVERING

- Loose coatings: Remove.
- Corrosion and oxidation: Abrade back to bright metal.
- Structurally unsound sheets: Replace as spec H71.

555 MAKING GOOD EXISTING CONCRETE / CAST STONE SURFACES

- Loose surfaces, sharp edges and projections: Remove.
- Hollow surfaces, voids and cracks: Fill with cement-based repair mortar.

560 EXISTING EDGE TRIMS

- Fasteners: Check security. Replace as necessary.
- Existing coverings: Cut out from edge trim recess sufficient to accommodate coatings.

565 EXISTING GUTTERS/ OUTLETS

- Dirt, debris and build up of previous coverings/ coatings: Remove to restore free flow of water. Prepare and line with liquid plastic as 110 above.

570 EXISTING CRACKS/ GAPS

- General: Rake out, clean and make good with sealants or repair systems recommended by coating manufacturer.

575 FINAL POWER WASH TO EXISTING COVERINGS

- General: Water jet clean all areas. Allow to dry.

580 STERILIZATION TREATMENT TO EXISTING COVERINGS

- Preliminary work: Complete including making good and cleaning down.
- Biocidal solution: Apply to all areas previously subject to organic growth. Allow to dry.

NEW SUBSTRATES/ VAPOUR CONTROL LAYERS/ WARM DECK ROOF INSULATION

610 FIXING TIMBER TRIMS

- Fasteners: Sherardized steel screws.
- Fixing centres (maximum): 200mm.

ROOF COATING SYSTEM

710 ADHESION TESTS

- Requirement: Carry out a trial coating to determine priming requirements and/ or system suitability.
- Nature of test: A 2m length of the coating system to an asphalt gutter, to a lead sheet and to a cast stone coping.
- Test results: Submit and arrange for inspection.

720 APPLYING PRIMERS/ CONDITIONERS

- Coverage per coat (minimum): See manufacturer's detailed data sheets.
- Surface coverage: Brushed well in to ensure local or full area coverage according to type.
- Coats: Allow to dry before overcoating.

740 MOVEMENT JOINTS IN SUBSTRATE

- Debonding tape: Apply over movement joints.
- Reinforcement strip: Apply over debonding tape.
  - Bedding: Preliminary coating application.
  - Joints: Lap in length.
  - Bond: Continuous over whole surface, with no air pockets.
  - Condition at completion: Smooth.

750 PRELIMINARY LOCAL REINFORCEMENT

- Reinforcement strip: Apply to junctions at upstands, penetrations and outlets, joints and fixings in discontinuous unit substrates.
  - Bedding: Preliminary coating application.
  - Joints: Lap in length.
  - Bond: Continuous over whole surface, with no air pockets.
  - Condition at completion: Smooth.

760 APPLICATION OF ROOF COATINGS

- Thickness: Monitor by taking wet/ dry film thickness readings.
- Continuity: Maintain full thickness of coatings around angles, junctions and features.
- Rainwater outlets: Form with watertight joints.
- Drainage systems: Ensure that the liquid coatings coat the RWOs and RWPs as noted to the 'special requirements' clause to 110 above.
- Edge trims: Apply coatings over horizontal leg of trim and into recess.

770 SKIRTINGS AND UPSTANDS

- Top edges of coatings: Where not protected by flashings, apply into chases cut to a minimum depth of 10 mm.
- Completion of chases: When coatings are fully cured, prepare chase and apply sealant as section Z22.
  - Sealant: To coating manufacturer's recommendations so as to ensure compatibility of curing agents.
    Colour: To match the coating.

SURFACING

810 BLINDING

- Applying dusting powder: To coating surfaces at end of curing period to neutralize tackiness. This requirement is subject to agreement.

COMPLETION

910 INSPECTION

- Coating surfaces: Check when cured for discontinuities.
  - Defective areas: Apply another coating.

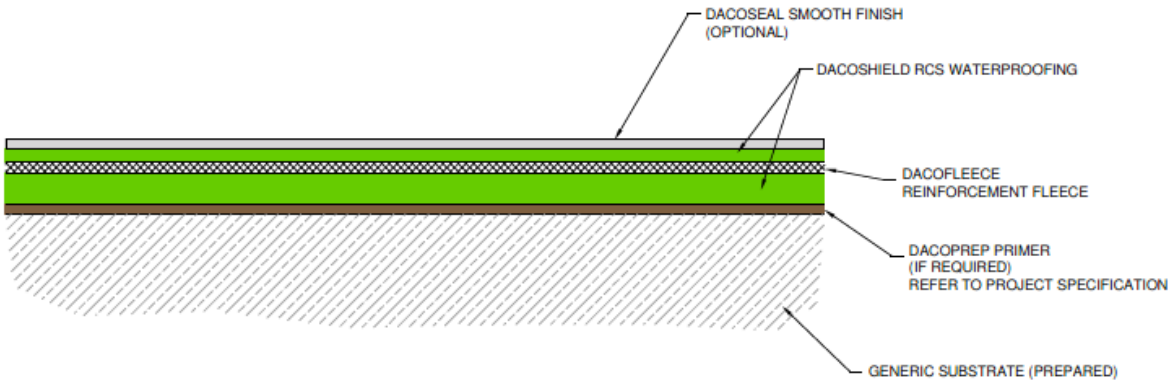
930 FLOOD TEST

- Condition of roof prior to testing:
  - Coating: Complete to a stage where integrity can be tested.
  - Surface: Clean.
- Outlets: Externally cover and seal. Protect against damage from water pressure using temporary kerbs. Do not use plugs to seal outlets.
- Flood levels: Submit proposals. In no case higher than existing kerbs.
- Flood duration: 3 days.
- Inspection: Regular to detect leaks.
- Completion of test: Slowly drain roof. Do not overload or flood outlets.
- Test results: Submit.

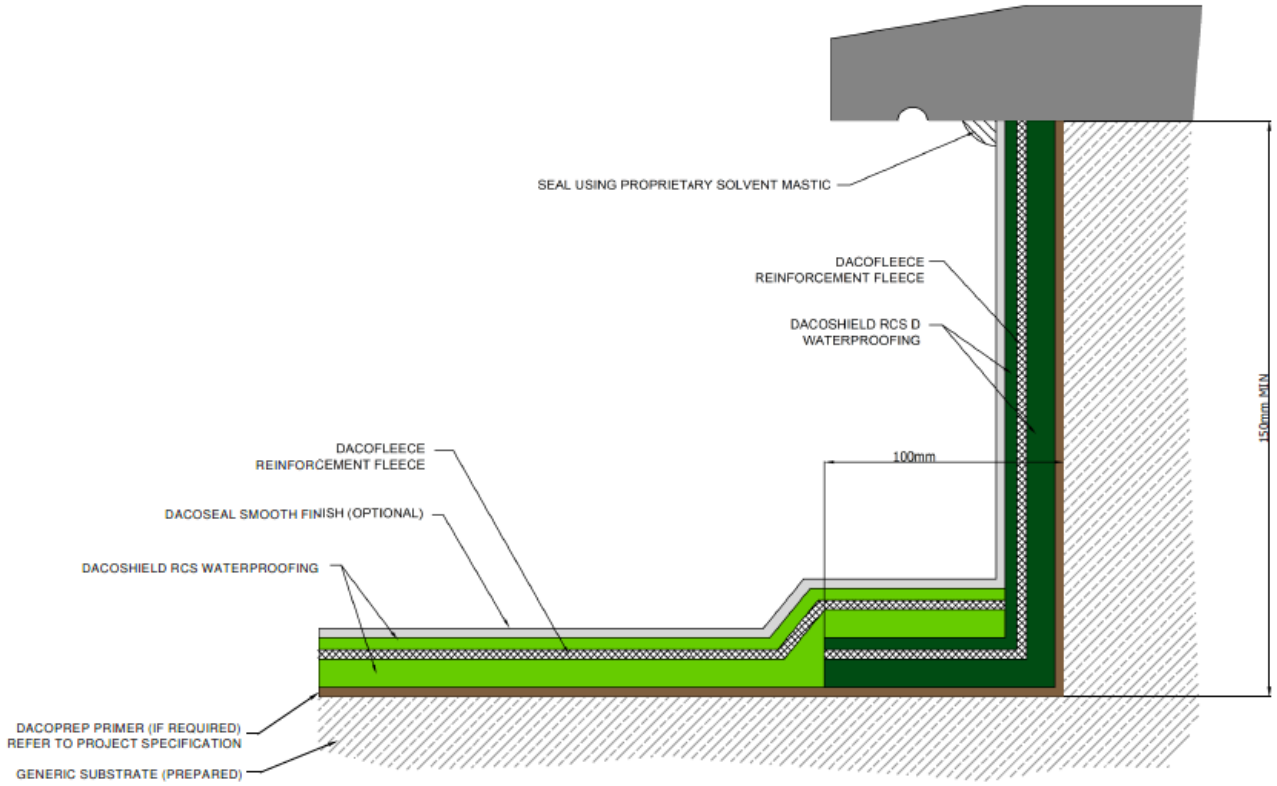
940 COMPLETION

- Roof areas: Clean.
  - Outlets: Clear.
  - Flashings: Dressed into place.
- Work necessary to provide a weathertight finish: Complete.
- Storage of materials on finished surface: Not permitted.
- Completed coatings: Protect against damage.

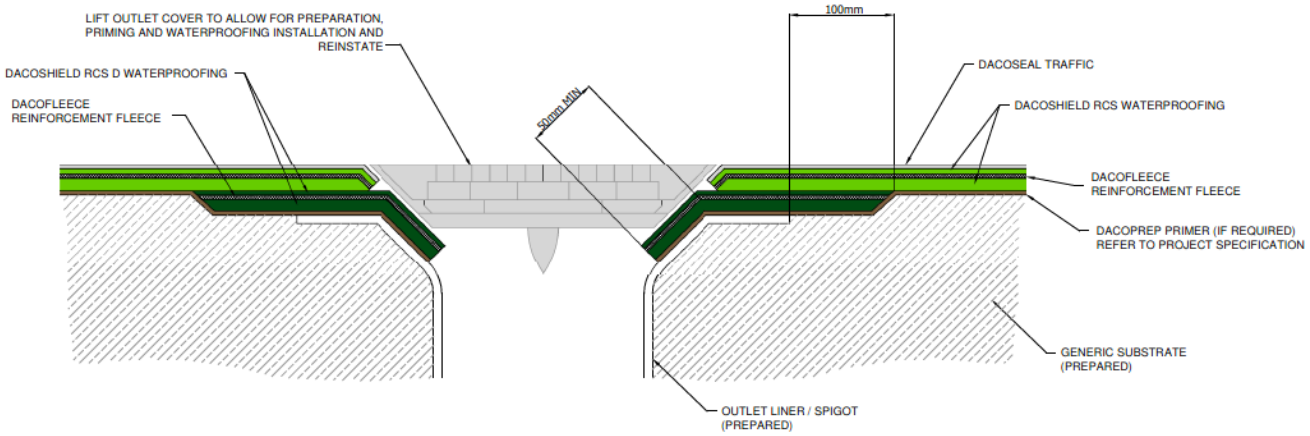
Standard Details of Liquid Plastic Roofing from TN International



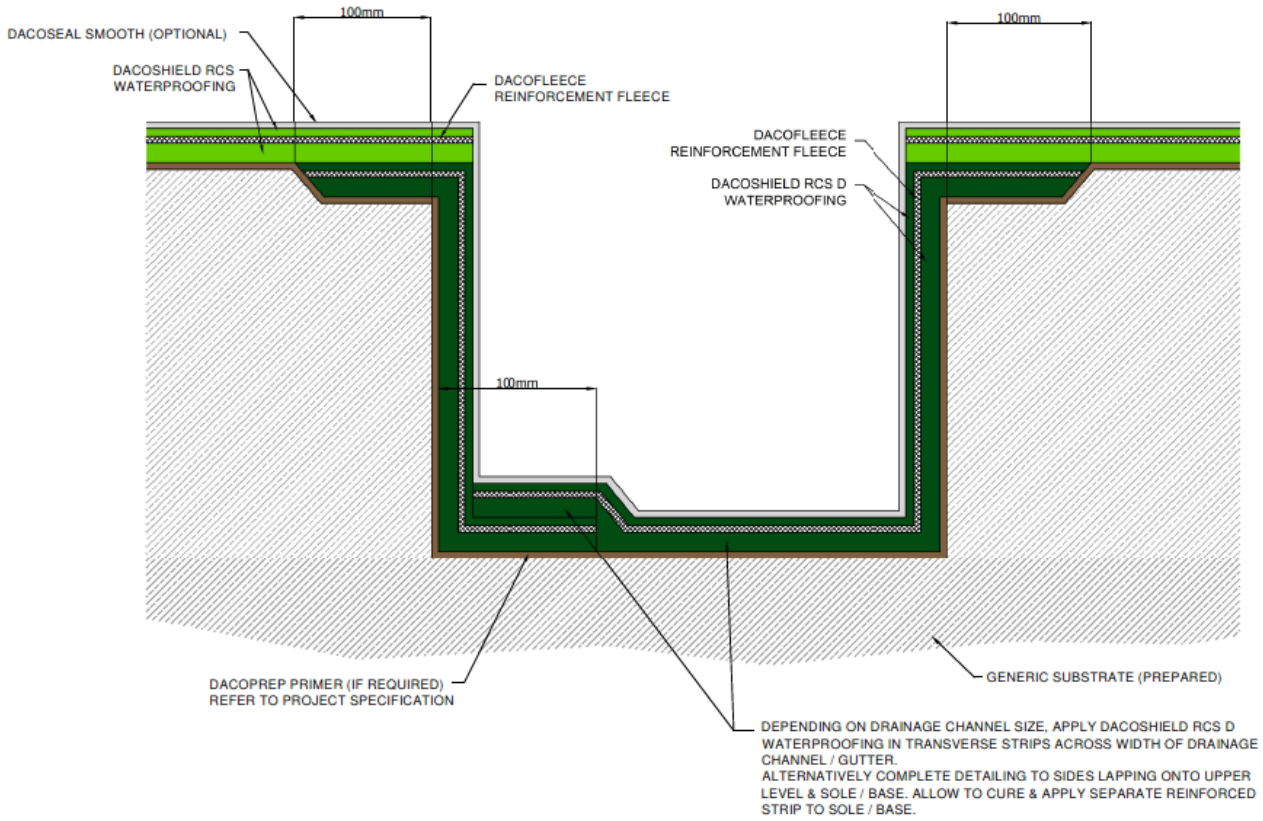
1 – Typical Build-up



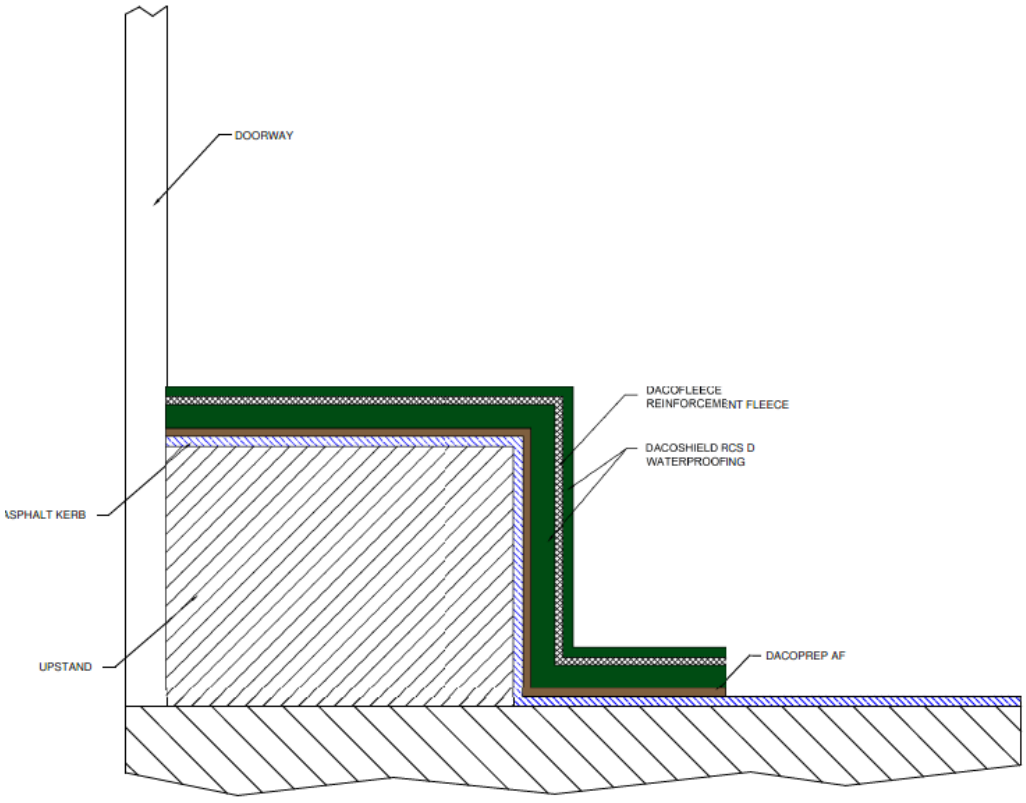
2 – Upstand



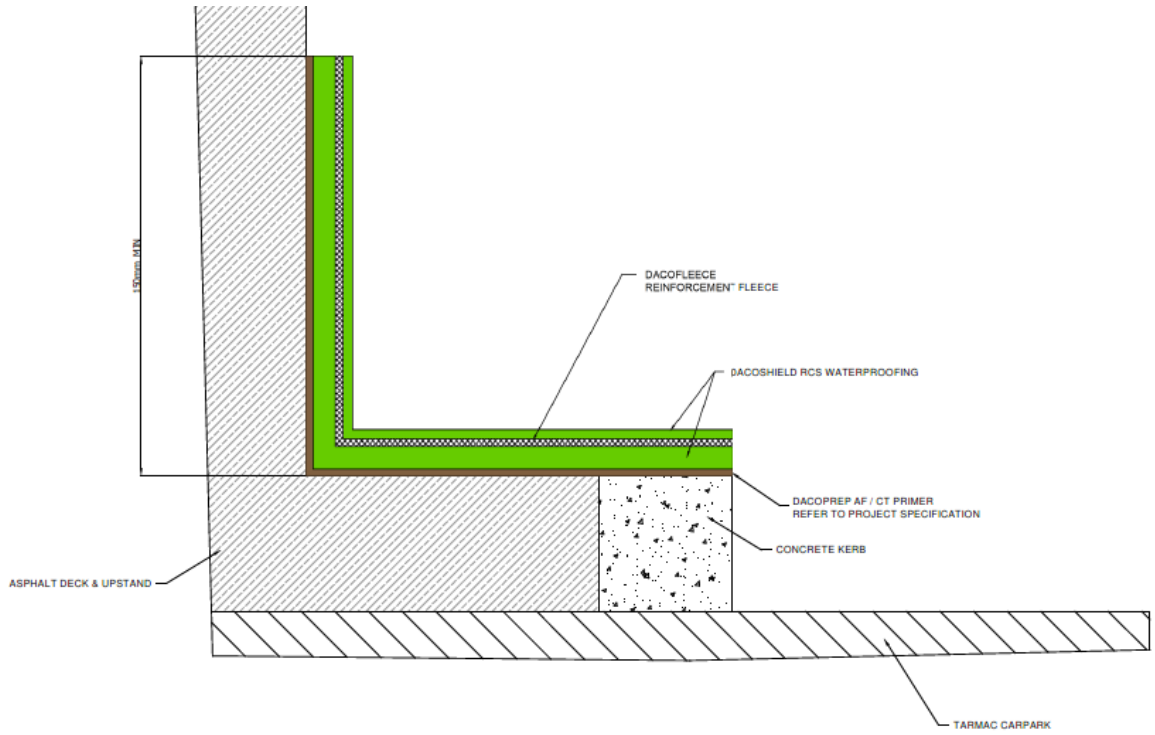
3 - RWO



4 – Gutter



5 – Door Threshold with Kerb



6 – Termination on Asphalt Upstand

VINCENT+GORBING

K10 Boarded Linings, Partitions, Ceilings

To be read with Preliminaries, general conditions and Specification A81.

TYPES OF DRY LINING

115 METAL STUD PARTITION SYSTEM

- Manufacturer: British Gypsum or similar
- System: Gypwall Classic
  - Controlling Document: White Book Education Sector Guide
  - Page: 35 – Type 5 (adapted)
  - Reference: A206198 (adapted)
- Partition type: Single row studs.
- Partition height: Maximum 4000mm (EN) 4800 (BS).
- Head condition: underside of structural slab.
  - Deflection allowance: To be advised by structural engineer.
- Structural performance:
  - Strength grade to BS 5234-2: Heavy.
  - Additional tests: Not required
  - Air pressure and deflection: Air pressure (maximum) 200 N/m^2 and deflection (maximum) height ÷ 240 mm.
- Fire resistance of complete partition assembly: 60 Minutes.
- Airborne sound insulation
  - Laboratory measurement of complete partition assembly:
  - Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: 52 dB (to be validated by acoustic consultant)
- Metal framing: Type recommended by board manufacturer to complete the partition assembly and achieve specified performance.
- Studs: 70 S 50 Gyproc C Studs
- Additional studs to freestanding ends: 2 No 70 x 50mm structural grade timber studs screwed together at each freestanding end to provide extra strength.
- Insulation: 1 No Layer 25mm Isover APR1200 Insulation
- Resilient layer: Not applicable.
- Linings: 2 No 12.5mm SoundBloc Activ to both sides of partition.
- Partition Width: 125mm nominal including skim coat.
- Finishing: 2mm Thistle Multi-Finish skim coat plaster as clause 680.
- Posts at door / screen opening: 90 x 90mm structural grade C24 softwood (two 90 x 45mm timbers bolted together).
- Patressing - to one or both sides where required to receive fixing to fittings including, but not limited to, sanitary ware, radiators etc.
- Fire rated box outs: Where data or electrical outlets are included, fire rated box outs to British Gypsum's recommendations are to be included.
- Other requirements:
  - Provide edge beads to all exposed board edges where wall finish stops.
  - Provide corner beads to all exposed corners.
  - Provide access panels where required by M&E Consultant, precise locations TBA.
  - Stagger joints in panels as manufacturers recommendations
- Accessories:
  - Acoustic and/or intumescent sealant to perimeter of all linings
  - Mineral fibre pack to junctions with internal door linings.
  - Fire Stopping around services as section P12.
  - Access panels at rodding points using flush, proprietary, metal panels, British Gypsum Profilex or similar with 'simulated bead frames', with tamper-proof locks, fire rated where in fire rated construction..

ADDITIONAL LININGS TO GROUND FLOOR INTERVIEW ROOM, CONSULTATION ROOM AND PJ ROOM:

- Additional (3rd) layer of 12.5mm SoundBloc Activ to inside of room, full height.
- Above dado trunking: Ecophon Akusto Super G 40mm thick wall panels above dado level with prefinished edge trims, Wall A system.

120 TIMBER STUD PARTITIONS TO TASER ROOM (TO McCLEAY MW03 STANDARD)

Partition type: Timber stud partition to meet the McCleay MW03 standard and 60 minutes fire protection.
Partition nominal thickness: 100mm plus linings.
Studs: 100 x 50mm structural grade SW at 400mm centres with 100 x 50mm structural grade SW noggins at 1200mm centres.
Linings and finishing:

- To attack face – 18mm plywood and 2 layers of 12.5mm British Gypsum Soundbloc, skim coated to clause 680.
- To protected face –2 layers of 12.5mm British Gypsum Soundbloc, skim coated to clause 680.

Mineral wool layer in centre of cavity: 50mm Isowool 1200.
Construction / fixings / details: As Clause 435 and to McCleay MW03 standard – obtain full standard from HC prior to commencing.
Door and other openings: All to to McCleay MW03 standard.
BWIC holes to be incorporated. Not permitted except strictly in accordance with McCleay MW03 standard. Firestopping required.

See illustration below.

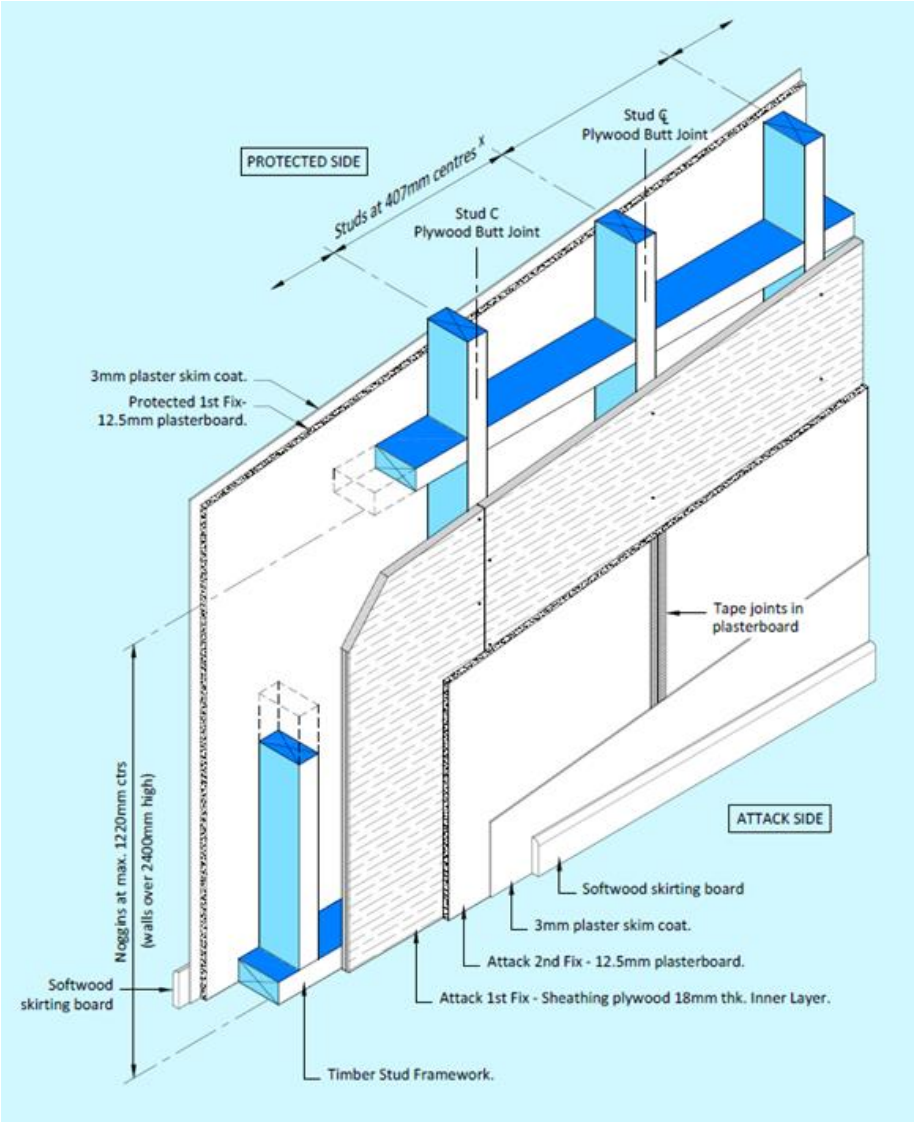


Illustration for illustrative purposes only – the spec is to b followed including additional plasterboard layers, etc.
NOTE: Photographs are to be taken and provided through each stage of the construction of this partition.

241 BOARDED MF SUSPENDED CEILING

- Structural soffits: Underside of slab / roof above.
- Manufacturer and reference: British Gypsum, System C100014
- Fire resistance (with mineral fibre roof insulation above as specified elsewhere, otherwise with 50mm deep British Gypsum Isover Spacesaver, Ready-Cut.): 30 minutes.
- Suspension system: Fixed directly to underside of timber joists or with British Gypsum galvanised Casoline MF all to manufacturers recommendations.
- Lining: 1 Layer 12.5mm Fireline.
- Fixing: As clause 590.
- Acoustic sealant: As clause 515
- Finishing: Skim coat to clause 680.
- Other requirements: Access hatches to spec L20/630.
- Standard: To BS EN 13964.
- Evidence of compliance: All ceilings kits to be CE marked. Submit Declaration of Performance (DoP).
- Electrical continuity and earth bonding: To M&E specification.

255 PLASTERBOARDED CEILING BULKHEAD

- Background: timber / MF framing at maximum 600mm centres.
- Boards: As specified to 240 / 241 above.
- Method of fixing: As clause 435 & 455.
- Screws: Zinc or cadmium plated self-drilling and tapping with countersunk heads, size to manufacturer's recommendations.
- Sizes: as recommended by board manufacturer.
- Fixing centres: 150 mm
- Finishing: Skim coat to clause 680.
- Other requirements: provide fixing battens behind all board edges which would otherwise be unsupported.

265 BOXINGS FOR SERVICES, ETC.

- Background: timber / MF framing as tight as possible to the column / pipe / feature.
- Boards: As specified to 115 above.
- Method of fixing: As clause 435 & 455.
- Screws: Zinc or cadmium plated self-drilling and tapping with countersunk heads, size to manufacturer's recommendations
- Sizes: as recommended by board manufacturer.
- Fixing centres: 150 mm
- Finishing: Skim coat as clause 680.
- Other requirements: provide 38 x 38mm fixing battens behind all board edges which would otherwise be unsupported.
- Form access panels at rodding points using flush, proprietary, metal panels, British Gypsum Profilex or similar with 'simulated bead frames', with tamper-proof locks, fire rated where in fire rated construction..

270 PATCH REPAIRS TO PLASTERBOARD CEILINGS

- Carefully cut out the area the existing to the nearest structural timbers, add 50 x 50mm treated SW noggins if necessary to support all edges of the new plasterboard patch.
- Lining: Gyproc 12.5mm Fireline board fixed with zinc or cadmium plated self-drilling and tapping with countersunk heads at 150mm centres as recommended by manufacturer. Fix to all four sides.
- Finishing: Plaster skim coat, 2-3mm British Gypsum Thistle Multi-Finish finshing coat. Merge skim coat to all sides so that the repair is invisible on completion.
- Insulation: To roof void – as specified generally to the void, elsewhere 50mm deep British Gypsum Isover Spacesaver, Ready-Cut.

290 GLAZED METAL PARTITIONS

Planet Partitioning's 'Advanced Frameless Glazing System', double glazed with 'Vertex' joints, to extend from floor to ceiling. This can achieve up to 54dBRw sound reduction. Allow for screen printed site applied film throughout to the inside face of the double-glazed units to provide obscured, partly obscured or minimal manifestation as required. Metal trims at head and cills are to be PPC finished – allow for a range of colours. Two-part deflection heads are to be provided throughout to provide a consistent appearance. Form plasterboard bulkheads above glazed partitions in metal stud partitioning to clause 115 above. Provide additional bracing studs from just above ceiling level at 45° to the soffit above, at 1200mm centres.

295 SLATTED TIMBER PARTITIONS

- Purpose made partition formed using timber veneered MDF slats supplied by Luxalon. Refer to drawings for details including veneer type. provide samples of the finished timber to the CA for agreement.
- Timber slats: 120 x 31mm with 94mm gaps between secured by PPC metal dowels at the 1/3 and 2/3 positions. Matching horizontal top and bottom rails.
- Finish: Euro Class B, s2 d0 fire retardant treatment, equal to British Class 0 rating which does not detract from the appearance of the timber.
- Fixings: Secure at head, base and sides with screws at with pelleted heads.
- Contractor's drawings: The contractor is to provide detailed drawings showing precise proposals to the CA for comment. All comments are to be resolved prior to commencing fabrication.

GENERAL/ PREPARATION

305 COMPLIANCE WITH PERFORMANCE REQUIREMENTS

- Testing/ Assessment: Submit UKAS accredited laboratory reports for the following: Systems which vary from those specified.
- Materials, components and details: As used in testing/ assessment reports. If discrepancies arise, give notice.

325 PREPARATION OF MASONRY TO RECEIVE WALL LININGS

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

335 ADDITIONAL SUPPORTS

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

375 NEW WET LAID BASES

- DPCcs: Install under full width of partitions/ freestanding wall linings.
  - Material: Bituminous sheet or plastics.

395 CONTROL SAMPLES

- General: Complete areas of finished work and obtain approval of appearance before proceeding.
- Type of dry lining: Ceiling.

COMPONENTS

400 GYPSUM BOARDS GENERALLY

- Standard:
  - Gypsum plasterboard to BS EN 520.
  - Gypsum fibre board to BS EN 15283-2.

  - Evidence of compliance: All sheets to be CE marked. Submit Declaration of Performance (DoP).

INSTALLATION

435 DRY LININGS GENERALLY

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

445 CEILINGS

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

455 METAL FRAMING FOR PARTITIONS/ WALL LININGS

- Setting out: Accurately aligned and plumb.
  - Frame/ Stud positions: Equal centres to suit specified linings, maintaining sequence across openings.
  - Additional studs: To support vertical edges of boards.
- Fixing centres at perimeters (maximum): 600 mm.
- Openings: Form accurately.
  - 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.
  - Services penetrations: Allow for associated fire stopping.

465 STAGGERED STUD PARTITIONS

- Horizontal frame members (noggins, bearers, etc.) and boards: Fix between alternate studs and not touching adjacent offset studs.

475 METAL FURRINGS FOR WALL LININGS

- Setting out: Accurately aligned and plumb.
  - Vertical furring positions: Equal vertical centres to suit specified linings, maintaining sequence across openings. Position adjacent to angles and openings.
  - Additional vertical furrings: To support vertical edges of boards and at junctions with partitions.
  - Horizontal furring positions: To provide continuous support to edges of boards.
- Adhesive bedding to furrings:
  - Dabs: Length 200 mm (minimum). Located at ends of furrings and thereafter at 450 mm (maximum) centres.
  - Junctions with partitions: Continuous bed with no gaps across cavity.

485 SUSPENDED CEILING GRIDS

- Setting out: Accurately aligned and level.
  - Grid members and hangers: Centres to suit specified linings and imposed loads.
  - Additional grid members: Provide bracing and stiffening at upstands, partition heads, access hatches, etc.
- Fixing: Securely at perimeters, grid joints, top and bottom hanger fixings.

505 INSTALLING MINERAL WOOL INSULATION

- Fitting insulation: Closely butted joints and no gaps. Use fasteners to prevent slumping or displacement.
- Services:
  - Electrical cables overlaid by insulation: Sized accordingly.
  - Ceilings: Cut insulation around electrical fittings, etc.

510 SEALING GAPS AND AIR PATHS

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

530 CAVITY FIRE BARRIERS WITHIN PARTITIONS/ WALL LININGS WHERE CAVITY LENGTH EXCEEDS 10M

- Metal framed systems:
  - Material: 50mm thick wire reinforced mineral wool.
  - Installation: Form accurately and fix securely with no gaps to provide a complete barrier to smoke and flame.
- Adhesive fixed wall lining systems:
  - Material: Adhesive compound.
  - Installation: Form in a continuous line with no gaps to provide a complete barrier to smoke and flame.

545 CAVITY FIRE BARRIERS WITHIN SUSPENDED CEILINGS

- Type: Rockwool Fire Barrier system, 60mm thick with foil facings.
- Fire resistance: to BS 476-20: Integrity / insulation: 30/15 minutes.
- Ceiling void subdivision: to prevent roof voids exceeding 20m in length and ceiling voids exceeding 10m if timber or other flammable material is present, otherwise 20m.
- Fixing at perimeters and joints: Secure, stable and continuous with no gaps, to provide a complete barrier to smoke and flame.
- Service penetrations: Cut and pack to maintain barrier integrity. Sleeve flexible materials. Adequately support services passing through barrier.
- Ceiling systems for fire protection: Do not impair fire resisting performance of ceiling system.

555 FIRE STOPPING AT PERIMETERS OF DRY LINING SYSTEMS

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

560 JOINTS BETWEEN BOARDS

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

565 VERTICAL JOINTS

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

570 HORIZONTAL JOINTS

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

575 PLANK PLASTERBOARD

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

590 FIXING GYPSUM BOARD TO METAL FRAMING/ FURRINGS

- Partitions/ Wall linings: Fix securely and firmly at the following centres (maximum):
  - Single layer boarding: To all framing at 300 mm centres. Reduce to 200 mm centres at external angles.
  - Multi-layer boarding: Face layer at 300 mm centres, and previous layers around perimeters at 300 mm centres.
- Ceilings: 230 mm. Reduce to 150 mm at board ends and at lining perimeters.

- Position of screws from edges of boards (minimum): 10 mm.
  - Screw heads: Set in a depression. Do not break paper or gypsum core.

592 FIXING INSULATION BACKED PLASTERBOARD TO METAL FURRINGS

- Fixing to furrings: In addition to screw fixings apply continuous beads of adhesive sealant to furrings.

595 DEFLECTION HEADS

- Fixing boards: Do not fix to head channels.

610 FIXING GYPSUM BOARD TO TIMBER

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

630 FIXING INSULATION BACKED PLASTERBOARD WITH ADHESIVE SPOTS

- Setting out boards: Accurately aligned and plumb.
- Fixing to substrates: Securely using adhesive spots and mechanical fastenings.
- Adhesive spot spacings to each board: Four vertical rows, at 400 mm centres in each row.
- Adhesive spot diameters (minimum): 25 mm.
- Mechanical fasteners: Nailable plugs in locations recommended by board manufacturer.

FINISHING

650 LEVEL OF DRY LINING ACROSS JOINTS

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

670 SEAMLESS JOINTING TO GYPSUM BOARDS

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

680 SKIM COAT PLASTER FINISH

- Plaster type: British Gypsum Thistle MultiFinish.
  - Thickness: 2-3 mm.
- Joints: Fill and tape except where coincident with metal beads.
- Finish: Tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

692 RIGID BEADS/STOPS

- Internal: To BS EN 13658-1.

- External: To BS EN 13658-2.

695 INSTALLING BEADS/ STOPS

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

725 REPAIRS TO EXISTING GYPSUM BOARD

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

VINCENT+GORBING

K32 WC and Shower Cubicle Doors, Ducts, Vanity Units

To be read with Preliminaries, general conditions and Specification A81

100 DESIGN OF ALL ELEMENTS

Designs to be completed by a specialist contractor in accordance with this specification and the architect's drawings. The contractor is to provide full drawings and details to the CA for comment. All comments are to be resolved prior to commencement.

112 WC CUBICLES, INCLUDING DOORS

- Overall cubicle height: 2100mm minimum, including, 100mm floor clearance.
- Cubicle dividers: 12mm solid grade laminate, single sheets. Supported on engineered anodised aluminium foot, with concealed height adjustment
- Door: extruded satin anodised aluminium headrail and fixings to vertical sections, with integral door closing buffers.
- Door and post sections: 12mm solid grade laminate. Supported on engineered anodised aluminium foot, with concealed height adjustment, incorporating sealed bearing providing self-closing mechanism. Pivots between foot and aluminium head rail, with anti-finger trap clearance on pivot side of door.
- Edge details: All edges to be machined square and with a slight rounding.
- Fittings: Engineered anodised aluminium lock, with concealed fixing through door, which locates directly into aluminium framework. Incorporating 18mm solid aluminium bar, with replaceable hard nylon shear tip and emergency release facility. Machined aluminium flush studs to door face. 3mm solid aluminium brackets with flush allen key stainless steel through fixings for wall, door and panel fixings. Coat hook to be stainless steel and to incorporate buffer. Grab handles and additional ironmongery to all ambulant WC cubicles to comply with the Building Regulations Approved Document M where shown.
- NOTE: Building Control requirements: WC compartment doors to have an emergency release mechanism so that they are capable of being opened outwards, from the outside, in case of emergency. Doors are to have hinges / arrangements to allow emergency outward opening.
- Possible manufactuer and reference: Formwise, Form.

121 GLASS DOORS TO SHOWERS

- Metal framed heavy duty glazed shower door formed in 6mm safety glass in white PPC aluminium frame. See plans for door arrangement.
- Seal to walls and to shower tray using suitable low modulus silicone sealant.

130 VANITY UNITS TO WASH BASINS

- Semi-countertop type - see drawings.
- Design to be completed by supplier in accordance with this specification and the drawings – all elements to be splash proof and fit for heavy use.
- All surfaces: Solid grade laminate, min 12mm thick to match laminated duct panels, cubicle doors, etc.
- Panels below basins: To be removable for maintenance.
- Edge details: Radiused as indicated on drawings.
- Splashback upstand: 250mm.
- Support system: to be detailed by sub-contractor to requirements indicated on architect's drawings.

140 DUCT/ WALL LININGS

- Design to be completed by supplier in accordance with this specification and the drawings – all elements to be splash proof and fit for heavy use.
- Panel facing: solid laminate.
- Shadow gaps: solid laminate.
- Edge details: All edges to be machined square and with a slight rounding.
- Support system: to be detailed by sub-contractor to architect's drawings.

180 DUCT PANEL SUPPORT FRAMING – SITE FABRICATED SOFTWOOD

- Framing: Softwood, free from decay and active insect attack and with no knots wider than half the width of the section.
  - Finished size: 50 x 50mm.
  - Moisture content at time of fixing (maximum): 18%.
  - Spacing (centres): See drawings.
  - Method of fixing: Screw fix throughout.
- Treatment: Organic solvent as section Z12 and Wood Protection Association Commodity Specification C8.

210 SAMPLES

- General: Before placing orders submit representative samples of the following: All finishes and ironmongery.
- Delivered materials/ products: To match samples.

250 INSTALLATION

- Programming: Do not install cubicles or duct/ wall panels before building is weathertight, wet trades have finished their work, wall and floor finishes are complete, and the building is well dried out.
- Accuracy: Set out to ensure frames and/ or panels and doors are plumb, level and accurately aligned.
- Modifications: Do not cut, plane or sand prefinished components except where shown on drawings.
- 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.
- Moisture and thermal movement: Make adequate allowance for future movement.

VINCENT+GORBING

K40 Demountable Suspended Ceilings

To be read with Preliminaries, general conditions and Specification A81

TYPES OF CEILING SYSTEM

110 SUSPENDED CEILING SYSTEM FOR GENERAL AREAS

- Structural soffit(s): Concrete floor soffits, roof decking & structural steelwork.
- Preparation: Ensure that the soffit above is made good.
- Standard: BS EN 13964:2014
- Evidence of compliance: All ceilings kits to be CE marked. Submit Declaration of Performance (DoP).
- Ceiling system:
  - Manufacturer and reference: Rockfon Tropic (600 or 1200) x 600mm x 15mm rockwool ceiling tiles with A24 edge profile in Rockfon Rocklink T24A suspension grid and system with matching Rockfon edge trims.
  - Soffit height above finished floor level: see ceiling plans.
- Sound absorption class: A to ISO 354.
- Reaction to fire: A1, EN 13501-1.
- Humidity / sag resistance: Stable up to 100% relative humidity.
- Perimeter trim: Rockfon edge trims to match the grid.
- Perimeter batten: form shadow gap to perimeter using a 19x38mm softwood / MDF batten scribed to wall. Underside of batten to be planed and painted matt black.
- Other requirements: Many rooms include sloping sections around the edges. At the change of pitch, include a continuous triangular white painted MDF member cut to the appropriate angle with two perimeter trims, one to each side.
- Bulkheads: Form plasterboard bulkheads and shafts at roof access hatch locations – see spec K10/255.
- Integrated services fittings: See ceiling layouts and M&E drawings.

111 MOISTURE RESISTANT AND CORROSION RESISTANT MINERAL FIBRE SUSPENDED CEILINGS

- Structural soffit(s): Concrete floor soffits, roof decking & structural steelwork.
- Preparation: Ensure that the soffit above is made good.
- Standard: BS EN 13964:2014
- Evidence of compliance: All ceilings kits to be CE marked. Submit Declaration of Performance (DoP).
- Ceiling system:
- Manufacturer and reference: Rockfon Koral Class A sound absorption tiles or equal approved.
- Suspension system: To include all hangers, fixings, main runners, cross members, primary channels, perimeter trims, splines, noggins, clips, bracing, bridging, etc., which are necessary to complete the installation. Corrosion resistant grade.
- Suspension grid: Corrosion resistant grade, Rockfon 24mm wide lay in grid - colour white, lay in grid - colour white. Allow for clipping tiles as necessary to avoid lifting.
- Perimeter trims: Corrosion resistant grade, Rockfon angle edge trim, corrosion resistant grade - colour white. Membrane material(s): mineral fibre tile.
- Size(s): 600mm x 600mm x 15mm thick, ref. as above.
- Finish/colour: standard, white.

112 ACOUSTIC MINERAL FIBRE SUSPENDED CEILINGS (POLICE INTERVIEW ROOMS)

Structural soffit(s): Structural roof members.
Ceiling system:
Manufacturer and reference: Ecophon Master Alpha, 600 x 600 x 40mm tiles with Tegular edge E in 24mm lay in grid.

Suspension system: To include all hangers, fixings, main runners, cross members, primary channels, perimeter trims, splines, noggings, clips, bracing, bridging, etc., which are necessary to complete the installation. Allow for clipping tiles as necessary to avoid lifting.
Suspension system: Grid type: Ecpphon T24 main runner with all necessary components to complete the exposed lay in grid system – colour: white, protective finish to suspension systems.
Perimeter trims: Ecophon channel trim, colour white.
Tile finish/colour: standard, white.

GENERAL/ PERFORMANCE

201 GENERAL REQUIREMENTS TO ALL SUSPENDED CEILINGS

- Notwithstanding the above specification, the sub-contractor must ensure the following:
- The ceiling grid/suspension system is to be completely secure and stable and is to meet the strength and stability requirements without the tiles being in place. Manufacturer's recommendations to be exceeded as necessary.
- All services are to be independently supported (ie not supported from the ceiling grid/hangers) unless specifically agreed otherwise.
- All services are to be fitted to the centre of the appropriate ceiling tile unless specifically shown otherwise. Any services, grilles, light fittings, detectors etc not included on the Architects ceiling layouts are not to be fixed until the location has been agreed. Precise setting out is required.
- Electrical bonding: See Clause 500.
- There are to be no surface fixings.
- The complete ceiling is to permit thermal movement due to temperature fluctuations, silently and without distortion.
- When not specified otherwise, comply with the relevant recommendations and performance requirements of BS 8290 for the selection and assembly of components and materials.

205 COMPLIANCE WITH PERFORMANCE REQUIREMENTS

- Testing/ assessment: Submit UKAS accredited laboratory reports for the following specified products.
- Materials, components and details: Use those used in the test and identified in the assessment reports. If discrepancies arise, give notice.

220 STRUCTURAL PERFORMANCE

- Loads: The ceiling system must safely support all anticipated loads, including services fittings:
  - Additional loads/ pressures to be sustained by ceiling system: To M&E details.
    Ceiling system subject to wind pressure: To be determined by the ceiling sub-contractor.
- Deflection (maximum) between points of support:
  - Span under 1200 mm: Span/400.
  - Span 1200-1800 mm: Span/500.
  - Span over 1800 mm: Span/600.
- Test standard: To BS EN 13964.

225 FIRE PERFORMANCE

- Completed ceiling system:
- Reaction to fire ratings:
  - Ceiling soffit surfaces: A1, EN 13501-1.
- Test reports or assessments: Include details of performance related to the particular elements of construction.
  - Ceilings with integrated luminaires: Test/ assess with luminaires in place.

230 ACOUSTIC PERFORMANCE

- Sound absorption to BS EN ISO 11654: See acoustician's specification.
- Sound attentuation: Dnf, w (minimum) to BS EN ISO 717-1: See acoustician's specification.
- Other acoustic requirements: Class: A to ISO 354.

COMPONENTS

245 STANDARDS

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

246 SUSPENSION SYSTEMS

- 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.

250 CAVITY BARRIERS TO CEILING VOIDS

- Type: Rockwool Fire Barrier system, 60mm thick with foil facings.
- Fire resistance: to BS 476-20: Integrity / insulation: 30/15 minutes.
- Ceiling void subdivision: to prevent roof voids exceeding 20m in length and ceiling voids exceeding 10m if timber or other flammable material is present, otherwise 20m.
- Fixing at perimeters and joints: Secure, stable and continuous with no gaps, to provide a complete barrier to smoke and flame.
- Service penetrations: Cut and pack to maintain barrier integrity. Sleeve flexible materials. Adequately support services passing through barrier.
- Ceiling systems for fire protection: Do not impair fire resisting performance of ceiling system.

EXECUTION

305 SETTING OUT

- General: Completed ceiling should present, over the whole of its surface exposed to the room below, a continuous and even surface, jointed (where applicable) at regular intervals.
- Infill and access units, integrated services: Fitted correctly and aligned.
- Edge/ perimeter infill units size (minimum): Half standard width or length.
- Corner infill units size (minimum): Half standard width and length.
- Grid: Position to suit infill unit sizes. Allow for permitted deviations from nominal sizes of infill unit.
- Infill joints and exposed suspension members: Straight, aligned and parallel to walls, unless specified otherwise.
- Suitability of construction: Give notice where building elements and features to which the ceiling systems relate are not square, straight or level.

310 BRACING

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

315 PROTECTION

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

320 TOP FIXING

- Building structure: Verify suitability.
- Structural soffit: NB Lime plaster to hollow pot clay floor and plasterboard / lath and plaster ceiling to ceiling joists.
  - Suitability to receive specified fixings: Evaluate and confirm.
- Fixing generally: In accordance with BS EN 13964.
- Fixing to:
  - Hollow pot clay slabs: Drill and insert suitable fixings to be agreed with the SE. Submit fixing proposals.
  - Plaster / board ceilings to timber joists: All fixings must be into joists. If necessary, include for galvanised strutting fixed to the joists to receive fixings from the suspension system.

  - Hollow structural members: Submit fixing proposals.

325 INSTALLING HANGERS

- Wire hangers: Straighten and tension before use.
- Installation: Install vertical or near vertical, without bends or kinks. Do not allow hangers to press against fittings, services, or insulation covering ducts/ pipes.
- 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.
- Extra hangers: Provide as necessary to carry additional loads.
- Fixing:
  - Wire hangers: Tie securely at top with tight bends to loops to prevent vertical movement.
  - Angle/ strap hangers: Do not use rivets for top fixing.

335 INSTALLING PERIMETER TRIMS

- Jointing: Neat and accurate, without lipping or twisting.
  - External and internal corners: Mitre joints generally. Overlap joints at internal corners are not acceptable.
  - Intermediate butt joints: Minimize. Use longest available lengths of trim. Align adjacent lengths.
- Fixing: Fix firmly to perimeter wall, edge battens or other building structure to manufacturer's recommendations.

340 EXPOSED GRIDS

- Main runners: Install level. Do not kink or bend hangers.
  - Spliced joints: Stagger.
  - Wire hangers passing through main runners: Use sharp bends and tightly wrapped loops.
  - Angle/ strap hangers: Do not use rivets for bottom fixing.
  - Angular displacement of long axis of one runner in relation to next runner in line with it: Not visually apparent.
- Cross members supported by main runners or other cross members: Install perpendicular to intersecting runners.
- Cross tees: Flat and coplanar with flanges of main runners after panel insertion.
  - Cross tees over 600 mm long, cut and resting on perimeter trim: Provide an additional hanger.
- Holding down clips: Locate to manufacturer's recommendations.
  - Fire protecting/ resisting ceiling systems: Use clip type featured in the fire test/ assessment.

355 INSTALLING INFILL UNITS

- General:
  - Perimeter infill units: Trimmed, as necessary, to fully fill space between last grid member and perimeter trim. Prevent subsequent movement.
  - Deeply textured infill units: Minimize variations in apparent texture and colour. In particular, avoid patchiness.
- Concealed grids: Install infill units uniformly, straight and aligned. Avoid dimension creep.
  - Infill units around recessed luminaires and similar openings: Prevent movement and displacement.

385 UPSTANDS AND BULKHEADS

- Vertical ceiling systems: Support and brace to provide alignment and stability.
- High upstands: Provide support at base of upstand.

390 OPENINGS IN CEILING MATERIALS

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

395 INTEGRATED SERVICES

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

- Small fittings: Support with rigid backing boards or other suitable means. Do not damage or distort the ceiling.
  - Surface spread of flame rating of additional supporting material: Not less than ceiling material.
- Services outlets:
  - Supported by ceiling system: Provide additional hangers.
  - Independently supported: Provide flanges to support ceiling system.

401 CEILING-MOUNTED LUMINAIRES

- Support: To be agreed between the M&E contractor and consultant and the ceiling contractor.
  - Independently supported luminaires: Suspension adjusted to line and level of ceiling.
  - Ceiling supported luminaires: Modifications and/ or extra support required as determined between the M&E contractor and consultant and the ceiling contractor.
- Surface mounted luminaires: Units installed so that in event of a fire the designed grid expansion provision is not affected.
- Modular fluorescent recessed luminaires: Compatible with ceiling module. Extension boxes must not foul ceiling system.
- Recessed rows of luminaires: Provide flanges for support of grid and infill units, unless mounted above grid flanges. Retain in position with lateral restraint.
- Fire protecting/ resisting ceiling systems: Luminaires must not diminish protection integrity of ceiling system.
- Access: Provide access for maintenance of luminaires.

406 TRUNKING

- 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

- Fan coil units:
  - Inlet/ Outlet grilles: Trim ceiling grid and infill units to suit.
  - Space beneath: Sufficient for ceiling system components.
  - Suspension and connections: Permit accurate setting out and levelling of fan coil units.
- Air grilles and diffusers:
  - Setting out: Accurate and level.
  - Linear air diffusers: Retain in place with lateral restraint. Provide flanges for support of grid and infill units.
  - Grille/ Diffuser ceiling joints: Provide smudge rings and edge seals.
- Smoke detectors and PA speakers:
  - Ceiling infill units: Scribe and trim to suit.
  - Independent suspension: To be agreed with the M&E contractor and consultant and the ceiling contractor.
  - Flexible connections: Required.
- Sprinkler heads: Carefully set out and level.

415 INSTALLING INSULATION

- Fitting: Fit accurately and firmly with butted joints and no gaps.
- Insulation within individual infill units: Fit closely. Secure to prevent displacement when infill units are installed or subsequently lifted.
  - Dustproof sleeving: Reseal, if cut.
- Width: Lay insulation in the widest practical widths to suit grid member spacings.
- Services: Do not cover electrical cables that have not been sized accordingly. Cut insulation carefully around electrical fittings, etc. Do not lay insulation over luminaires.
- Sloping and vertical areas of ceiling system: Fasten insulation, to prevent displacement.

421 CEILING SYSTEMS INTENDED FOR FIRE PROTECTION

- Junctions of ceiling systems with perimeter abutments and service penetrations: Seal gaps with tightly packed mineral wool or intumescent sealant to prevent penetration of smoke and flame.
- Ceiling system/ wall junctions: Maintain protective value of ceiling system.
  - Fixings and grounds: Noncombustible.

  - Metal trim: Provide for thermal expansion.
- Access and access panels: Maintain continuity of fire protection.

425 INSTALLING CAVITY FIRE BARRIERS

- Maximum ceiling void dimension in any direction: 20m.
- Fixing:
  - General: Fix barriers securely to channels or angles at abutments to building structure.
  - At perimeters and joints: Provide permanent stability and continuity with no gaps to form a complete barrier to smoke and flame.
- Joints: Form to preserve integrity in fire.
- Service penetrations: Cut barriers neatly to accommodate services. Fit fire resistant sleeves around flexible materials. Fill gaps around services to fire barrier manufacturer's recommendations to maintain barrier integrity. Adequately support services passing through the barrier.
- Ceiling systems intended for fire protection: Do not impair fire resisting performance of ceiling system.
- Ceiling systems not intended for fire protection: Do not mechanically interlink barriers with ceiling system.

500 ELECTRICAL CONTINUITY AND EARTH BONDING

- Inclusion in finished work: to M&E consultant’s requirements.

COMPLETION

520 USER INSTRUCTIONS

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

530 SPARES

- General: At Completion supply the following: To be agreed with the Main Contractor.

VINCENT+GORBING

L10 Windows, External Doors, Louvres

To be read with Preliminaries, general conditions and Specification A81

GENERAL

100 SCOPE OF WORK

101 INITIAL INFORMATION

Tenderers to provide full details and samples of all systems proposed together with initial sketches indicating locations and applications of the various systems. This is to ensure that all the systems are agreed from the outset. All systems proposed at tender stage must be suitable in all respects. General sizes of components such as widths and depths of mullions / transoms must be indicated in this specification and on drawings and to suit the existing construction.

102 DESIGN RESPONSIBILITY

This is a design sub-contract package and the Sub-Contractor is to take full responsibility for the design, manufacture and installation.

103 SURVEY

The appointed sub-contractor is to carry out a comprehensive survey of all the existing windows, external doors, curtain walling, louvres, etc so as obtain all the structural opening dimensions as well as dimensions and details of the existing installations and adjacent components to all jambs, heads and cills. Their designs are to be developed to take into account the existing construction to all sides and to avoid disturbing the finishes and construction as much as possible. Note the width of the new narrow fixed window elements between the opening vents must be similar to existing to ensure that they align with existing internal elements.

104 STRIPPING OUT

Where shown as to be replaced, existing windows, doors and louvres are to be carefully stripped out so as to avoid damage to the surrounding finishes and components – see spec C10 and the asbestos survey.

105 ANCILLARY WORKS

Full making good to existing components and finishes around the replacement installations is required in accordance with the details although the extent of this work under the window package is to be established with the Main Contractor.

106 DRAWINGS, SAMPLES, CERTIFICATION

Prior to commencement, the Sub-contractor is to provide copies of fully detailed fabrication drawings covering all components and elements, samples and test data / certificates. The drawings are to show the relationships to the existing elements and finishes on all sides of the openings. Comments provided by the Main Contractor / consultants are to be resolved prior to commencing fabrication. Structural calculations are also to be provided where requested. Compliance with the performance criteria must be demonstrated.

107 METHOD STATEMENT

A detailed, staged installation programme and method statement will be required for agreement.

108 MAINTENANCE MANUALS

Full Maintenance Manuals to be provided by the Sub-Contractor on completion including as-built record drawings and recommendations for safe cleaning of windows in accordance with BS.8213 and HSE Note G25 and Building Regulations Approved Document K 2013.

109 GUARANTEES

Refer to Contractor's documentation. Notwithstanding this, full a guarantee covering product, materials and installation is required for at least 15 years is required. A collateral design warranty will also be required.

110 EVIDENCE OF PERFORMANCE

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

120 SITE DIMENSIONS

- Procedure: Before starting work on all items take site dimensions of all the openings, record on shop drawings and use to ensure accurate fabrication.

140 CONTROL SAMPLES

- Designated items: One refurbished second floor window which currently leaks. Complete the works to the sample window and test with high pressure hose.

REPLACEMENT WINDOWS - DESCRIPTION OF THE INSTALLATIONS / WORKS REQUIRED

201 ALUMINIUM WITH STEEL CORE FRAMED REPLACEMENT EXTERNAL FIRE-RESISTANT WINDOWS (may not be applicable – refer to B10 and drawings)

a. Opening lights: none.
b. Restrictors: none.
c. Trickle ventilators: none.
d. Cills: All units are to incorporate heavy grade (min 2.5mm thick) external aluminium cills – similar to existing.
e. All framing members and cills, head and jamb trims are to be finished with an Agrement certified polyester powder coat system with min 20 year guarantee specific to the location. See also specification section Z31. Colour: to match existing.
f. All system members are to be thermally broken.
g. Complete window assembly to provide fully certified REI 30 fire resistance to BS EN 13501-2, including the glazing.
h. Glazing to meet the PAS 24 / SbD standard and the performance standards noted in this specification. See clause 602 for further details including solar performance.
i. All installations are to independently tested and certified to comply with ‘‘Secured by Design’, CWCT, PAS24: 2016 and LPS 1175 standards and the Building Regulations.
j. Where glazing to the acts as a guarding, it must be designed as a guarding, to resist the horizontal loads laid down in the Building Regulations Part K and BS EN 1991-1-1 with its UK National Annex and PD6688-1-1.
k. Manifestations are to be included as necessary to comply with the Building Regulations Part K.
l. Privacy film is required to a proportion of the windows as indicated. Allow for a range of films and provide samples for agreement on site.
m. Thermal performance – see clause 531, glazing – see clause 602.
n. Seals between window frames and openings: EPDM Illbruck Tremco or equal approved to sides, sealed to existing DPCs. Also, low modulus, silicone mastic sealant to all edges, colour to match frames, subject to confirmation.
a. Window system manufacturer and reference subject to compliance with this specification: Kawneer AA720 Fire Resistant – sightlines of framing to match existing as closely as possible.

REPLACEMENT DOORS AND SHUTTERS - DESCRIPTION OF THE INSTALLATIONS / WORKS REQUIRED

210 ALUMINIUM FRAMED, SLIDING, REPLACEMENT GLAZED EXTERNAL DOORS AND SIDE SCREENS TO FRONT ENTRANCE

a. All framing members and cills, head and jamb trims are to be finished with an Agrement certified polyester powder coat system with min 20 year guarantee specific to the location. See also specification section Z31. Colour: to match existing.
b. All system members are to be thermally broken. The sidscreens members are to have a face dimension not exceeding 60mm.
c. Cills: All units are to incorporate heavy grade (min 2.5mm thick) external aluminium cills – similar to existing.

d. Glazing to meet the PAS 24 / SbD standard and the performance standards noted in this specification. See clause 602 for further details including solar performance.
e. All installations are to independently tested and certified to comply with ‘‘Secured by Design’, CWCT, PAS24: 2016 and LPS 1175 standards and the Building Regulations.
f. Manifestations are to be included as necessary to comply with the Building Regulations Part K.
g. Thermal performance – see clause 531, glazing – see clause 602.
h. Seals between window frames and openings: EPDM Illbruck Tremco or equal approved to sides, sealed to existing DPCs. Also, low modulus, silicone mastic sealant to all edges, colour to match frames, subject to confirmation.
i. Include a back-up power supply to allow opening in event of power failure
j. Door to be operated by access control to MEP spec.
k. Include two manual morticed hook locks for additional night-time security (not linked to the controls).
l. .Include all necessary equipment, side safety sensors (rather than pocket screens), etc. to comply with the relevant BS7036. A robust, secure and reliable installation is required.
m. Manufacturer and ref: subject to compliance with this specification: To be agreed, possibly Tormax, if the PAS 24 SbD standard is met.

211 ALUMINIUM FRAMED, SIDE HUNG, REPLACEMENT GLAZED EXTERNAL DOORS

b. Glazed heavy duty aluminium framed swing doors.
c. All framing members and cills, head and jamb trims are to be finished with an Agrement certified polyester powder coat system with min 20 year guarantee specific to the location. See also specification section Z31. Colour: to match existing.
d. Include fanlight above where indicated with glazed / spandrel panel as shown. Fanlights to comply with all the performance requirements of this specification.
e. Manifestation to be included to an agreed pattern where full glazing is included as necessary to comply with the Building Regulations Part K.
f. All installations to be independently tested and certified to PAS24: 2016 and licensed under the Secured by Design initiative. All installations are to comply with ‘‘Secured by Design’ and Association of Composite Door Manufacturer’s PAS24 / the equivalent LPS 1175 standards and the Building Regulations.
g. Glazing to meet the PAS 24 / SbD standard and the performance standards noted in this specification. See clause 602 for further details including solar performance.
h. Seals between door frames and openings: EPDM Illbruck Tremco or equal approved to sides, sealed to existing DPCs. Also, low modulus, silicone mastic sealant to all edges, colour to match frames, subject to confirmation.
i. Thermal performance – see clause 531, glazing – see clause 602.
j. Include Dorma / Assa Abloy heavy duty powered door opening devices to the doors where indicated / scheduled.
k. Where doors are to be mechanically operated, include matching, neatly housed / concealed automatic operation mechanisms as well as safety sensors, safety edges, Part M approved swipe controls where indicated and push button controls, etc, where indicated.
l. Ironmongery: Generally from the door system manufacturer’s range including Include Part M compliant handles, weather seals, ‘level’ threshold strip, Assa Abloy electric strikes linked to the access control system where shown, Assa Abloy locks throughout, additional deadlocks to access controlled doors for use in event of the powered locks failing, concealed closers, concealed espagnolette bolts with push pads / bars to escape doors, etc.
m. Manufacturer and reference subject to compliance with this specification: Kawneer AA720 Reflex thermally broken, heavy duty doors and frames – this is subject to compliance with this specification and the drawings.
n. Contact details: Kawneer UK Ltd. Astmoor Road, Runcorn, Cheshire WA7 1QQ Tel. 01928 502 500. Bob Powell Regional Sales Manager, tel. 07798 814035, e-mail bob.powell@arconic.com

212 ALUMINIUM WITH STEEL CORE FRAMED REPLACEMENT EXTERNAL FIRE-RESISTANT DOORS

a. All as to 211 above but the complete door assembly is to provide fully certified REI 30 fire resistance to BS EN 13501-2, including the glazing.
b. Manufacturer and reference subject to compliance with this specification: Kawneer AA720 FR thermally broken, fire resistant heavy duty doors and frames – this is subject to compliance with this specification and the drawings.

213 STEEL EXTERNAL REPLACEMENT DOORSETS

a. Manufacturer and reference: Ascot Doors or equivalent insulated security door – subject to compliance with this specification and drawings or equal approved.
b. Core: rigid block insulated core.
c. Thermal performance: Overall assembly as installed to achieve an area weighted U value of 1.8 W/m2 °C or superior, calculated as laid down in the Building Regulations L2.
d. Facings: Minimum 1.2mm thick mild steel zinc plated to both faces.
e. Finish as delivered to complete doorset: Polyester powder coated. See also specification section Z31. Colour: TBA, allow for the full RAL spectrum.
f. Door frame: Minimum 1.6mm thick zinc plated mild steel with double rebate profile. To incorporate insulation.
g. Fire requirements: None and FD30S, depending on location.
h. Glazing (where required) to meet the PAS 24, LPS 1175, SbD standard and the performance standards noted in this specification. See clause 602 for further details including solar performance. Glazing to be tested to BS EN 356:2000 P1A (security standard).
i. Louvres where required: Refer to MEP information. Galvanised and PPC finished steel louvres with insect mesh. Free ventilation area to MEP details.
j. Complete installation to comply with PAS24, SbD, LPS 1175 and Building Regulations Approved Document Q.
k. Other requirements: full weather stripping to head, jambs, low profile threshold with heavy duty 'level access' type threshold strip seal.
l. Ironmongery: All from the door system manufacturer's range including Include Part M compliant handles, weather seals, 'level' threshold strip, Assa Abloy latches / strikes linked to the access control system where shown, Assa Abloy locks, additional deadlocks to access controlled doors for use in event of the powered locks failing, concealed closers, concealed espagnolette bolts with push pads / bars to escape doors, etc. Fixing: to manufacturer's recommendations.

214 EXTERNAL OPEN GRILLE ROLLER SHUTTER

a. Manufacturer and reference: Samson, Stackdoor Secure RS1 with inverter motor, non-contact laser safety system and chain override for use in event of motor or power failure. This product is subject to compliance with all the requirements and coordination with the existing opening.
b. Free ventilation area: Minimum 80%.
c. Finish: Hot dipped galvanised / stainless steel / anodised aluminium suitable for the external conditions. If necessary for the external conditions.
d. Certified security standard: Secured by Design, LPS1175 A1 SR1.
e. Operation: Electrically operated linking to existing power supply. Include safety sensors / safety edges. NB. A manual over-ride is essential so that the door can always be opened.

REFURBISHING EXISTING WINDOWS

230 REFURBISHMENT OF EXISTING WINDOWS GENERALLY

a. **Scope of Works to all Windows**:
   - Replace any blown glazing units, to match existing.
   - Replace all the handles to the opening windows with new SAA finished lockable handles.
   - Replace any damaged or worn gaskets around the opening windows.
   - Deep clean the frames and glass, inside and outside and within the openings and around the edges of the opening windows.
   - Deep clean, overhaul and lubricate the ironmongery and ensure that it functions fully.
   - Replace any missing or failing mastic sealant to all edges.
   - Apply privacy film to 50% of the windows as indicated, locations tba. To some windows, the film is to provide privacy during daylight hours. To others (eg. Locker Room) it is to be translucent so as to provide privacy at all times. Allow for a range of films and provide samples for agreement on site.

b. **Additional Scope of Works to Second Floor Windows with Sloping Sections**:
   - Spray test the windows with a hose to determine the cause of the leaks.
   - Replace all the gaskets, both around the glazing and around the opening lights.
   - Replace the mastic sealant to all edges.

- Retest by spraying the windows vigorously with a hose for at least 10 minutes. Carry out any further works necessary to the gaskets, sealant, etc until the test is passed. (Call CA to witness the final tests.)

c. **Additional Reglazing to Ground Floor and other Accessible Windows to Enhance Security**:
   - Replace glazing to PAS 24, LPS 1175, SbD standard, see clause 602. Appearance of glazing to match existing. Where the glazing also acts as a guarding, it must be designed as a guarding, to resist the horizontal loads laid down in the Building Regulations Part K and BS EN 1991-1-1 with its UK National Annex and PD6688-1-1.
   - Replace the gaskets to the glazing as necessary.

d. **Additional Reglazing to Windows which act as Guardings**:
   - Replace glazing with units designed as a guarding, to resist the horizontal loads laid down in the Building Regulations Part K and BS EN 1991-1-1 with its UK National Annex and PD6688-1-1. The new units are also to comply with PAS 24, LPS 1175, SbD standard, see clause 602. Appearance of glazing to match existing.
   - Replace the gaskets to the glazing as necessary.

300 DESIGN STANDARDS

301 APPLICABLE STANDARDS

All installations to comply with all current Building Regulations, British Standards including BS644:2009; BS EN 942, BS6375:2009; BSEN1026, 12207, 1027, 12208, 12211, 12210:2000; BSEN13049:2, BRE Publications and other recognised recommendations. Also Secured by Design and PAS 24 / LPC standards as noted above.

400 GENERAL CONDITIONS

410 DRAWINGS / SAMPLES

See Clause 100 for drawing submission requirements. No approval, agreement or acceptance by the Architect or other parties shall exclude the Sub-Contractor of his design responsibility or other responsibilities under the Contract.

Samples of the systems, glazing etc. proposed are required at Tender stage. Prior to manufacture, additional samples of any items deemed necessary including ironmongery, timber, colour coating samples and sealant are to be provided. All samples must be clearly identified and marked with the Sub-Contractor's name.

The sub-contractor must be able to adequately demonstrate the performance of the systems proposed from test data etc.

420 TESTS

All systems proposed must be certified in accordance with/to confirm compliance with the following British Standards:

BS5368 Parts 1-4: Permeability, Watertightness and Wind Resistance Tests.

BS6375 Part 1: Classification for Weathertightness.

BS6262 - Glass in Buildings.

The tests must be carried-out by an approved test Authority. The tests must deal with arrangements of greater span, greater exposure and higher pressures than the maximum applicable to this project.

Copies of Test Certificates to be provided. If tests are specifically arranged, notify CA to allow him to be present.

425 MOISURE CONTENT OF TIMBER

Moisture content on delivery: 12-19%.

430 TOLERANCES/MOVEMENT

All systems are to accommodate all structural tolerances and structural and thermal movements without failure or loss of performance.

Overall dimensions each unit/multiple unit to each opening to be within +/- 2mm of those stated regardless of the size.
The overall design gap between the edge window member and the adjacent component is 3mm.
Where considered necessary to comply with the above, take site dimensions.
The Main Contractor should confirm compliance with the tolerances stated in preliminaries.
All juxtapositions of components are to be well aligned, true and regular in appearance.

440 QUALITY CONTROL

Full details of Quality Control and Quality Assurance systems to be provided to CA prior to commencement.

450 PROTECTION OF THE WORKS

The Sub-Contractor shall be responsible for providing and ensuring that the new works are adequately protected at the completion of each day and during periods of inclement weather, providing all protection against damage to the installation at all times.

460 CO-ORDINATION

The Sub-Contractor must ensure co-ordination of the work with the other Contractors and with related building elements.

470 MAINTENANCE MANUALS

Manuals are to be provided by the Sub-Contractor on completion of the works which will include drawings recording as built and installed system, complete with recommendations and procedures for periodic inspection and maintenance for all components including cleaning and maintenance of all finishes, including the cleaning of windows.
Incorporate a Glazing Schedule.
A Window Cleaning Statement is to be provided which is to indicate the recommended method of cleaning each window in accordance with BS 8213: Part 1 and the HSC's Health Safety and Welfare Regulations 1992 (Regulation 16) and Building Regulations Approved Document K 2013.
Copies of all test and other certificates to be included, similarly all guarantees.
All systems/components used must be clearly identified and suppliers' names and addresses listed.

500 DESIGN AND PERFORMANCE REQUIREMENTS

501 CALCULATIONS/SUPPORTING DATA

Provide copies of structural calculations and supporting data on which design is based.

510 NOISE REDUCTION CRITERIA

Sub-contractor to state anticipated noise reduction performance of the systems proposed at tender stage.

520 STRUCTURAL CRITERIA

Allow for all dead and imposed loads including from wind and maintenance forces.

521 DEFLECTIONS OF FRAMING

To be max. three quarters of that defined in BS5516 and no permanent distortion is to result. The specified limit is to be reduced if detriment to the sealant and/or other elements could result. Additionally to this, opening windows to be stable so as not to deflect and distort when opened and closed under normal heavy use. Additionally, the glazing must not distort more than 1/175th of its width or height and timber members must not distort more than 1/125th of their span.

522 THERMAL AND STRUCTURAL MOVEMENT

The system is to accommodate thermal movement and structural movement noiselessly, without distortion, damage, stress or reduction in performance. Movement joints to be fully weathertight and invisible.

Thermal safety calculations to be carried-out to ensure that the glass will not develop thermal stress.

523 PERFORMANCE REQUIREMENT RELATING TO WIND LOADING

The Sub-Contractor shall design the installation to meet and exceed the requirement of the specification and the relevant clauses of BS 6399-2.
Wind loads may not act uniformly across the building and the system design shall include for interaction at unit joints and different pressure action on individual or continuous units.The pressure coefficients are to be assessed in accordance with BS 6399-2 and BS 6375-1:
Basic wind speed (v) tbd.
Topography factor SI = Category tbd.
Ground roughness = Category tbd.
Statistical factor S3 tbd.
All the above are to be determined by the Sub-Contractor from the guidance provided in the standards and to be agreed with the structural Engineer. Notwithstanding the above systems must be design to suit a dynamic wind pressure of at least 2000N/m² i.e. 2000 Pa. (BS6365 Part 1, class C)

524 AIR INFILTRATION

(i) Fixed wall: Allowable air infiltration 0.6cu.m. per h per sq.m. when subjected to a test pressure of 150 sq.m. (15mm H20).

(ii) Notwithstanding the above, the infiltration rate through the glazing system as a whole, shall not result in an air change rate occurring anywhere within the building in excess of a quarter air change per hour at a wind strength of Force 8 Beaufort applicable to a depth of 3m internally to the glazing and 1m³ per hour per m² at a test pressure of 600 Pa.(BS6365 Part 1, class C)

(iii) The above are subject to confirmation from the Mechanical and Electrical Consultant.

(iv) Notwithstanding the above, air leakage must be within the limits laid down in the Building Regulations Approved Document L2.

525 WIND RESISTANCE

To be established in accordance with BS 5368: Part 3 and BS 6375: Part 1.

530 AIR SEAL/VAPOUR BARRIER/ WATER INFILTRATION

All systems shall have a continuous and vapour-tight layer (within the limits specified) immediately to the building side of all insulation. The air and vapour-tight layer may consist of different materials at different points in the systems but joints between these materials shall continue the integrity of the air and vapour seal.
There shall be no water penetration or joint leakage on the inner seal of the systems when tested under air pressure up to 300 Pa. (BS6365 Part 1, class C)

531 THERMAL INSULATION

Thermal insulation of glazed window installations shall have a U value of 1.8 W/msqK or superior for the windows an for the doors. NB. This is the area weighted average in accordance with the Building Regulations Part L2B. Area weighted U value of the insulated double glazed ‘look alike’ spandrel panels and aluminium panels to be 0.28 W/sqmK or superior including the relevant proportion of framing.

532 CONDENSATION

The Sub-Contractor's attention is drawn to the problem of interstitial and surface condensation and the design should be analysed to ensure that this does not occur. Similarly, so that surface condensation does not occur internally. Internal condensation channels are to be provided in the glazing bars and transoms to collect condensation from the edges of the glass panels.

540 FIXINGS

All fixings to be supplied and designed by the Sub-Contractor and all are to be fully concealed. They must be accommodated within the zones/areas behind the finishes as indicated on details. Continuous/excessive cold bridging caused by fixing cleats, etc. will not be accepted. Sub-Contractor to provide insulation between/around fixing cleats as indicated on details and wherever necessary to maintain a continuous line of insulation with adjacent components. Performance of all fixings to be as generally specified in other clauses.

Fixings indicated on drawings are schematic only.
All fixings to be non-corrosive, the materials used must be suitable of the location.
Fixings to the structure are subject to the Frame Contractor's approval. Periodic site torque loading tests to be carried-out on fixing bolts.

541 COMPATIBILITY OF MATERIALS

The supplier is to incorporate measures to ensure that electrolytic action does not occur. All materials used are to be fully compatible with one another and the adjacent building components.

542 RESISTANCE TO WATER PENETRATIONS

(i) All components shall be gasketted, baffled, overlapped and sealed as required to provide an effective pressure equalised barrier so as to be weather and vapour proof.
(ii) All components shall be vented and drained to building exterior.

543 RESISTANCE TO PRESSURE, IMPACT AND ABRASION

The design, manufacture, transportation, site handling and assembly sequence shall be arranged so as to ensure that the surfaces of the system are resistant to the pressures, impacts and abrasions to be expected in normal use and under the maintenance programme proposed for the building. Where conditions are more severe during the construction phase, adequate means of protecting the system shall be adopted.

544 RESISTANCE TO CORROSION ETC.

All materials to be suitably corrosion resistant for their purpose taking into account location relative to other materials, geographic location and water run-off from one component to another.
All materials to be fully resistant to fungal and other forms of biological attack.

545 LIGHTNING CONDUCTOR SYSTEM

An assessment of the necessity for a system is to be carried-out on the basis of current recommendations by the Sub-Contractor together with the Mechanical and Electrical Sub-Contractor. If a system is required the Window Sub-Contractor is to allow for all necessary connections to the main lightning conductor system.
IEE and BS6651 recommendations to be followed unless otherwise agreed with the Mechanical and Electrical Consultant.

546 GLAZING

Obtain certificate from glazing supplier confirming suitability and compatibility of all types of glazing for their intended purpose.

547 GASKETS AND SEALANTS

All to be continuous and of high performance type to accommodate all thermal and structural movements and windloads. Sealants between frames and adjacent building components to be low modulus silicone type, colours to match adjacent components subject to confirmation.
NB: Approved security glazing tape to be used to glazing. Ensure compatibility of glazing materials with the glass (particularly laminated glass).

600 MATERIALS

601 GENERAL DESCRIPTION

(i) All materials shall be the best of the respective kinds as described in the sub-contract and herein specified.
(ii) All metal extrusions and sheet metal are to be made from aluminium alloy/galvanised steel suitable for the finishes process. Timber to be suitable for the finishes specified.
(iii) Any damaged materials shall be removed from the site and replaced at no additional cost.
(iv) The Sub-Contractor is to state the durability/period of replacement parts and finishes and the minimum anticipated period to first major maintenance.
(v) See also specification Z11, which also applies to items specified under this section.

The minimum acceptable period to first major maintenance assuming all conditions to be 'normal' to be as follows (see also spec A81):

Weatherstripping/gaskets	25 Years
Sealants	25 Years
Fittings/Ironmongery	25 Years
External Finish	25 Years (subject to agreed and specified maintenance to painted timber)
Glazing Units	25 Years
System Components	40 Years

602 GLASS AND GLAZING

All double glazed units to be double sealed to BS.5713 (hermetically sealed) and are to be Kitemarked.
Precise type of glass to be finalised by Sub-Contractor in accordance with this specification above and all current recommendations and Secured by Design requirements, PAS 24 and BS952, BS6262, BS6206, BS5516, Building Regulations Approved Document Parts B (fire resistance integrity and insulation), L2A, L2B (thermal) and K, (glazing which acts as a guarding).
See Clause 522 regarding Thermal Safety calculations.
All glass to be free from bubbles, cracks, inclusions, ripples, dimples and other defects.
Subject to the requirements of this specification, the minimum glazing requirements are:

TO EXISTING WINDOWS:
- Inner pane 6.8mm clear (laminated safety glass throughout).
- Argon filled cavity, width to suit existing glazing rebates.
- Outer pane 6mm toughened safety glass throughout, with anti-sun coating to match existing.

TO NEW WINDOWS AND GLAZED ENTRANCE DOORS:
- Inner pane 6.8mm clear (laminated safety glass throughout).
- 16mm Argon filled cavity, width to suit existing glazing rebates.
- Outer pane 6mm toughened safety glass throughout, with anti-sun coating to match existing and to comply with current G value standards.

700 FINISHES

701 POLYESTER POWDER COATING

Polyester powder coating to be to an Agrement certified system and to relevant British Standards (Synthapulvin or equal approved). Precise specification to suit the local environment. 20 year guarantee specific to the location.

800 EXECUTION

810 PROTECTION OF COMPONENTS

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

830 PRIMING/ SEALING

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

740 CORROSION PROTECTION OF METAL

- Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
  - Timing of application: Before fixing components.

750 BUILDING IN

- General: Not permitted unless indicated on drawings.
  - Brace and protect components to prevent distortion and damage during construction of adjacent structure.

760 REPLACEMENT WINDOW INSTALLATION

- Standard: To BS 8213-4.

765 WINDOW INSTALLATION GENERALLY

- Installation: Into prepared openings.
- Gap between frame edge and surrounding construction:
  - 2-6Mmm
- Distortion: Install windows without twist or diagonal racking.

770 DAMP PROOF COURSES IN PREPARED OPENINGS

- Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

781 FIXING OF STEEL FRAMES

- Standard: As section Z20.
- Fasteners: To specialist sub-contractor's specification.
  - Spacing: When not predrilled or specified otherwise, position fasteners not less than 50 mm and not more than 190 mm from ends of each jamb, adjacent to each hanging point of opening lights and at maximum 900 mm centres.

782 FIXING OF ALUMINIUM FRAMES

- Standard: As section Z20.
- Fasteners: Fasteners: To specialist sub-contractor's specification.
- Spacing: When not predrilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

790 FIRE RESISTING FRAMES

- Gap between back of frame and reveal: Completely fill as indicated on the manufacturer's fire certified details.

810 SEALANT JOINTS

- Sealant:
  - Manufacturer: As recommended by the specialist window contractor. Type / use of sealant to Hare Hall must be agreed in advance. Modern sealants will not be acceptable.
  - Colour: TBA.
  - Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 IRONMONGERY (see specifications above)

- Fixing: In accordance with any third-party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
- Generally to be of the type used in the window / door tests to ensure compliance with the performance.
- Checking/ Adjusting/ Lubricating: Carry out at Completion and ensure correct functioning.

VINCENT+GORBING

L20 Internal Doors, Shutters, Hatches

To be read with Preliminaries, general conditions and Specification A81

GENERAL

110 EVIDENCE OF PERFORMANCE

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements. This includes to existing elements which are upgraded.

112 TIMBER PROCUREMENT

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

115 FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

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

120 NON-FIRE RESISTING DOORS/ DOOR ASSEMBLIES/ DOORSETS

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

150 SITE DIMENSIONS

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

170 CONTROL SAMPLES

- Procedure:
  - Finalize component details.
  - Fabricate one of each of the following designated items as part of the quantity required for the project.
  - Obtain approval of appearance and quality before proceeding with manufacture of the remaining quantity.

- Designated items: One typical upgraded door in the 1920s extension and one in Hare Hall.

200 GUARANTEES

- Refer to Main Contractor's documentation for requirements in relation to guarantees.

PRODUCTS

210 NEW PAINTED TIMBER DOORSET

- Manufacturer: Shadbolt or equal approved.
- Core: solid.
- Facings: Factory primed smooth veneered plywood.
- Lippings: matching hardwood lippings to all four edges. Lippings to be covered by the veneer to the faces.
- Moisture content on delivery: 12% $^{+/-}$ 2%.
- Glazing details (where applicable): Vision panels to be glazed using min 6mm clear laminated safety glass and with fire rated clear safety glass where necessary to comply with fire rating as scheduled. Vision panel beads to be in solid timber to match the door face. Glazing beads to fit tight with concealed fixings to one side and neatly mitred corners. Vision panel size: see schedule. Some vision panels are to be covered with translucent film to obscure vision – see schedule.
- Finish: doors to be factory primed for painting on site.
- Door frame and architraves: To be in smooth matching hardwood. All joints at jambs/heads to be tight, close butt joints. Frame fixings to be pelleted so as to be invisible on completion, behind stops where possible. Continuous fire-resistant packing / filling to be provided between all frames and walls.
- Other requirements: Smoke and intumescent seals incorporated as necessary to meet fire rating and to meeting stiles of all double leaf doors.
  Only certified fire resisting constructions will be permitted.
  Fire ratings as scheduled / indicated on drawings.
- Architraves: Matching timber architraves as detailed.
- Decoration to new doors and joinery: see spec M60.
- Note: Special split doorleaf to accessible WCs.

Note: Special split doorleaf to accessible WCs

211 NEW PAINTED TIMBER ACOUSTIC RATED DOORSET

- All details as to 210 above except as noted below.
- Thickness: 54mm.
- Acoustic seals: To all edges including drop down acoustic seal to threshold.
- Acoustic rating: Door performance is measured in accordance with BS EN ISO 10140 and rated according to BS EN ISO 717-1: 35dB minimum.

220 PAINTED TIMBER INTERNAL FLUSH DOORSETS WITH PAINTED FRAMES – SECURE DOOR TO TASER ROOM ONLY

- All as 210 above but door and frame to be to enhanced security standards to meet PAS 24 (certification required) and Building Regulations Approved Documents B (FD30 certified) and Q. The following specific requirements apply:

Component / material	Requirement
Construction material	Solid or laminated timber with a minimum density of 600kg/m3
Doors, rails, styles and muntins	Minimum 44mm thick. After rebating, frame components must retain 32mm of timber.
Panels (if present)	Minimum 15mm thick, securely held in place with beading glued and mechanically fixed. Panel must not exceed 230mm in its smaller dimension.

Locking - main entrance	PAS 3621/8621/10621 multi-point lock **or** BS 3621/8621/10621 single-point mortice lock plus rim night-latch to the same standard – with access control to MEP spec.
Locking - other entrances	PAS 3621/8621/10621 multi-point lock **or** BS 3621/8621/10621 single-point mortice lock plus two morticed bolts with a minimum 20mm projection – with access control to MEP spec.
Hinges	If accessible from outside should incorporate hinge bolts.
Glazing	Any glazing breakage of which would permit a burglar to manipulate the lock must be minimum class P1A to EN 356:
Signs:	'Fire door keep locked shut' signs.
Closer:	Heavy duty, fire certified closer.
Kick plate:	200mm high x width of door minus stops

EXECUTION

710 PROTECTION OF COMPONENTS

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

730 PRIMING/ SEALING

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

750 FIXING DOORSETS

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

760 BUILDING IN

- General: Not permitted unless indicated on drawings.

780 DAMP PROOF COURSES IN PREPARED OPENINGS

- Location: Correctly positioned in relation to door frames. Do not displace during fixing operations.

790 FIXING OF WOOD FRAMES

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

800 FIXING OF LOOSE THRESHOLDS

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

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

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

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

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

820 SEALANT JOINTS

- Sealant:
  - An approved solvent based sealant, except where intumescent sealant is required to achieve the fire certification of the door / installation in which case the door manufacturer's recommendations must be followed.
  - Colour: To be agreed.
  - Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

830 FIXING IRONMONGERY GENERALLY

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

840 FIXING IRONMONGERY TO FIRE RESISTING DOOR ASSEMBLIES

- General: All items fixed in accordance with door leaf manufacturer's recommendations ensuring that integrity of the assembly, as established by testing, is not compromised.
- Holes for through fixings and components: Accurately cut.
  - Clearances: Not more than 8 mm unless protected by intumescent paste or similar.
  - Lock/ Latch cases for fire doors requiring > 60 minutes integrity performance: Coated with intumescent paint or paste before installation.
- Unless specified otherwise, install panic bolts/ latches in accordance with BS EN 1125.

850 LOCATION OF HINGES

- Hinges for fire resisting doors / all doors: Positioned in accordance with door leaf manufacturer's recommendations.

VINCENT+GORBING

L30 Purpose Made Metalwork

To be read with Preliminaries, general conditions and Specification A81

PRELIMINARY INFORMATION/REQUIREMENTS

110 BASIS OF DESIGN

- All items are to be designed by the specialist sub-contractor in accordance with the architect's drawings, the structural engineer's requirements and documents and this specification.
- The supplier/subcontractor must complete the design and detailing of all elements including the staircases and handrails to ensure compliance with the structural and safety requirements of BS 5395. Copies of drawings must be submitted to all parties for comments in advance of fabrication and comments to be resolved prior to fabrication. Structural calculations are to be provided to the SE.
- Balustrades to be designed to withstand, without damage, the horizontal forces stated in BS 6399-1. Note that infill panels and handrails to be designed to take loadings specified in the standard.
- Cappings and covers to be designed to received vertical loadings to the structural engineer's requirements / specification.

130 SITE DIMENSIONS

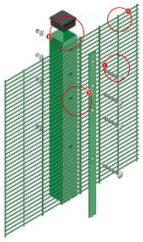
- Site dimensions must be taken and recorded on shop drawings before completing the necessary design work for the items below.

SYSTEMS / ITEMS

210 CAPPING ABOVE OPEN STAIRWAY FROM BASEMENT (INCLUDING HORIZONTAL DOOR AND BALUSTRADING)

- Drawing: A-00-301.
- Design: See 110 above.
- Description: Capping formed in rolled steel framing with a mesh infill and a horizontal door. Also adapted and new balustrading and gate below the capping. The purpose of the capping is to secure the open stairwell whilst allowing the occupants of the basement to escape at all times as well as fire service access.
- Dimensions: See drawings for general extent, take site dimensions to finalise.
- Height: All elements of the capping must be at least 2050mm (clear) above the half landing of the staircase below and, when the horizontal door is open, must be at least 2050mm clear of the nosing lie of the upper stair flight.
- Material and finish to all elements: Hot dipped galvanised steel with PPC finish. See also Specification Z31.
- Arrangement: See plans and the description above.
- See 110 above re design, loadings, etc. In addition, the following loadings apply to the capping, including the hatch: live loading of 0.6kN/m2 blanket live load with a separate 1kN point load at any point.

  NEW BALUSTRADING AND GATE TO TOP OF STAIR – FURTHER DETAILS
  - Balusters and horizontal rails with mesh to outer face.
  - Mesh type: 358 mesh.
  - Secure, heavy duty grade 316 stainless steel hinges to gate with a secure panic latch to the inside, no operation from outside.



ADAPTIONS TO EXISTING BALUSTRADE TO SIDE OF STAIR – FURTHER DETAILS
- Cut back and adapt as necessary to accommodate the new capping installation.
- Re-finish as necessary to match existing.

HORIZONTAL CAPPING – FURTHER DETAILS
- Horizontal support rails at 100mm centres with mesh to outer face.
- Mesh type: 358 mesh.

HORIZONTAL OPENING DOOR (HATCH) – FURTHER DETAILS
- Possible manufacturers: Cellar Access, Burton Upon Trent, Bilco, type JA-L (adapted).
- NB. The frame must be three sided to allow access through the open side.
- Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
- Operation of the cover shall not be affected by temperature.
- Release of the cover from inside is to be by way of pulling a handle to facilitate automated opening on gas straps / compression spring operators. The door must remain secure in the open position until it is closed. Additionally, there must be an agreed means of opening from the outside by the Fire Service to allow them access for fire-fighting at all times. Accessories to be included to provide these functions.
- Heavy forged Type 316 stainless steel hinges, with Type 316 stainless steel pins.
- Door to be strong and secure to prevent access from outside other than by the Fire Service.
- Infill to door to be either solid or open 358 mesh supported at 100mm centres.

220 COVER TO BASEMENT GRILLE

- Drawing: A-00-302.
- Design: See 110 above.
- Description: Galvanised and non-slip finished Durbar steel plate capping fixed to a grid of galvanised steel tophat sections, stooled up from (to form a fall) and fixed by clamping to the existing galvanised steel grate. Gutter with downpipes and cover flashing to one side.
- Material and finish to all elements: Hot dipped galvanised steel with PPC finish. See also Specification Z31.
- Arrangement: See plans and the description above.
- Surface finish to galvanised Durbar plate: Watco Safety Grip Flex – 1 coat of Watco GalvaPrime primer and 1 coat of Safety Grip Flex, applied strictly to manufacturer's recommendations.
- Flashing above gutter: Galvanised steel with galvanised support brackets below to ensure robustness.
- Gutter and rainwater pipes: ½ round 110mm diameter uPVC gutter and 68mm downpipes with shoes discharging in the basement.
- Trim to open edges: Robust galvanised steel angle cover trim, securely fixed.

230 INFILL BELOW EXISTING GRILLE ABOVE RAMP TO BASEMENT CAR PARK ON EASTERN BOUNDARY

- Design: See 110 above.
- Description: Galvanised and black PPC finished steel meshinfill clamped to the underside of the existing grille above and to the brickwork below. Final details TBA.
- Material and finish to all elements: Hot dipped galvanised steel with PPC finish. See also Specification Z31.

FABRICATION

510 FABRICATION GENERALLY

- Shop drawings: Submit.

EXECUTION

620 EXECUTION GENERALLY

- Structural members: Do not subject to nondesign loading. Do not modify, cut, notch or make unspecified holes.
- Frameworks: Assemble and brace, including temporary members required for installation.
  - Temporary support: Do not use access systems as temporary support or strutting for other work.
- External durability of fastenings: Corrosion resistant material or with a corrosion resistant finish.
- Bolted joints:
  - Contact between dissimilar metals: Avoid.
  - Bolts and washers: Select types, sizes and quantities of fasteners or packings and spacings to retain supported components without distortion or loss of support.
- Welded joints:
  - Standards:

    Aluminium alloys: TIG or MIG welding to BS EN 1011-4.
    Carbon steel: Metal arc welding to BS EN 1011-1 and -2.
    Stainless steel: TIG welding to BS EN 1011-3.
  - Surfaces to be jointed: Clean.
  - Tack welds: Use only for temporary attachment.
  - Traces of flux residue, slag and weld spatter: Remove.
  - Surface of welds: Grind smooth.
  - Joints: Fully bonded with no holes of cracks.
- Finished components:
  - Free: From distortion, cracks, burrs and sharp arrises.
  - Corner junctions of identical sections: Mitre.
  - Handrails: Smooth and continuous, with no sharp edges.

660 ANCHORING

- Fixing positions: Coordinate location of holding down bolts and wall fixings with services fixing positions.

COMPLETION

910 CLEANING

- General: Clean surfaces and wipe down finishes.

920 INSPECTION

- Notice for inspection (minimum): 10 working days.

930 DOCUMENTATION

- Operation and maintenance instructions: Submit.
- Record drawings: Submit.

950 GUARANTEE

- Refer to Main Contractor’s documentation for requirements in relation to guarantees.

VINCENT+GORBING

L35 Fixed Utilitarian Access Systems

To be read with Preliminaries, general conditions and Specification A-0181

PRELIMINARY INFORMATION/REQUIREMENTS

110 BASIS OF DESIGN

- All items are to be designed by the specialist sub-contractor in accordance with the architect's drawings and this specification.
- The supplier/subcontractor must complete the design and detailing of all elements including the staircases and handrails to ensure compliance with the structural and safety requirements of BS 5395. Copies of drawings must be submitted to all parties for comments in advance of fabrication and comments to be resolved prior to fabrication. Structural calculations are to be provided to the SE.
- Type of activity/occupancy category to BS 6399-1: Access for maintenance.
- Balustrades to be designed to withstand, without damage, the horizontal forces stated in BS 6399-1. Note that infill panels and handrails to be designed to take loadings specified in the standard.

130 SITE DIMENSIONS

- Site dimensions must be taken and recorded on shop drawings before completing the necessary design work for the items below.

150 'UTILITARIAN'

- Although the systems are for utilitarian use, these elements are to be finely designed and manufactured as the building is in a Conservation Area.

SYSTEMS / ITEMS

310 ROOF RESTRAINT SYSTEM (MANSAFE SYSTEM) TO MAIN FLAT ROOF

- Complete system designed by an approved specialist contractor, to comply with all current safety recommendations.
- System designed to BS EN 1808 - Code of Practice for Permanent Access.
- Installations to provide safe access to the entire flat roofed area to allow cleaning of the roof and the roof outlets.. NB Any mansafe lines / anchor points shown on the roof plans are nominal. The precise lines of the system are to the specialist contractor's design. **This is to be a restraint system rather than a fall arrest system**. Fixings to the roof are to be avoided, fixings for anchor points are to be into the walls wherever possible.
- Include everything necessary to operate the system, harnesses, operation and maintenance manuals, etc.
- Workmanship: To section Z11, galvanising to BS EN ISO 1461:2009.

311 ANCHOR POINTS FOR LADDERS TO UPPER ROOF

- Complete system designed by an approved specialist contractor, to comply with all current safety recommendations.
- System designed to BS EN 1808 - Code of Practice for Permanent Access.
- Three secure fixing points to secure mobile ladders along the low side of the upper flat roof (above the plant room area).
- Include everything necessary to operate the system, harnesses, operation and maintenance manuals, etc.
- Workmanship: To section Z11, galvanising to BS EN ISO 1461:2009.

FABRICATION

510 FABRICATION GENERALLY

- Shop drawings: Submit.

EXECUTION

620 EXECUTION GENERALLY

- Structural members: Do not subject to non-design loading. Do not modify, cut, notch or make unspecified holes.
- Frameworks: Assemble and brace, including temporary members required for installation.
  - Temporary support: Do not use access systems as temporary support or strutting for other work.
- External durability of fastenings: Corrosion resistant material or with a corrosion resistant finish.
- Bolted joints:
  - Contact between dissimilar metals: Avoid.
  - Bolts and washers: Select types, sizes and quantities of fasteners or packings and spacings to retain supported components without distortion or loss of support.
- Welded joints:
  - Standards:

    Aluminium alloys: TIG or MIG welding to BS EN 1011-4.
    Carbon steel: Metal arc welding to BS EN 1011-1 and -2.
    Stainless steel: TIG welding to BS EN 1011-3.
  - Surfaces to be jointed: Clean.
  - Tack welds: Use only for temporary attachment.
  - Traces of flux residue, slag and weld spatter: Remove.
  - Surface of welds: Grind smooth.
  - Joints: Fully bonded with no holes of cracks.
- Finished components:
  - Free: From distortion, cracks, burrs and sharp arrises.
  - Corner junctions of identical sections: Mitre.
  - Handrails: Smooth and continuous, with no sharp edges.

660 ANCHORING

- Fixing positions: Coordinate location of holding down bolts and wall fixings with services fixing positions.

COMPLETION

910 CLEANING

- General: Clean surfaces and wipe down finishes.

920 INSPECTION

- Notice for inspection (minimum): 10 working days.

930 DOCUMENTATION

- Operation and maintenance instructions: Submit.
- Record drawings: Submit.

950 GUARANTEE

- Refer to Main Contractor’s documentation for requirements in relation to guarantees.

M10 Floor Screeds/Toppings

To be read with Preliminaries/General conditions and Section A81.

TYPE(S) OF SCREED/TOPPING

140 PROPRIETARY QUICK DRYING LEVELLING SCREED TO EXISTING FLOOR SLAB WHERE 25-50MM THICKNESS IS REQUIRED TO ACHIEVE THE SPECIFIED FFL

- Substrate: Existing concrete slab.
- Preparation: Remove exiting finishes and screed in their entirety, make good the slab as necessary. Shot blast the floor slab surface and prime with Isocrete Polymer 70 bonding agent.
- Screed manufacturer: Flowcrete UK Ltd.
- Product reference: Isocrete Standard K-Screed.
- Screed type: Bonded as clause 260.
- Reinforcement for crack control: As Clause 392.
- Thickness:
- Nominal: minimum 25, maximum 50mm
- Mix:
- Cement: Standards as clause 302.
- Aggregates: Standards as clause 305.
- Coarse aggregate single size: Not required. (For screed thickness in excess of 75mm, a proportion of the sand is replaced by coarse aggregate, 5 mm (or 6 mm) single size).
- Proportions: To manufacturer's recommendations.
- In situ crushing resistance (ISCR) category: A/B. (3/4mm maximum indentation).
- Mass of test weight: 4 kg.
- Flatness/ Surface regularity: Maximum permissible deviation: SR2 generally
- Finish:
- Method: Trowelled as clause 540
- To receive: Vinyl, carpet or tiles.
- Other requirements: Separation joints should be formed against walls and columns by using strips of compressible material. Where thin finishes require a smoothing compound, smooth with Isocrete Isotex underlayment.

141 PROPRIETARY QUICK DRYING LEVELLING SCREED TO EXISTING FLOOR SLAB WHERE UP TO 50-100MM THICKNESS IS REQUIRED TO ACHIEVE THE SPECIFIED FFL

- Substrate: Existing concrete slab.
- Preparation: Remove exiting finishes and screed in their entirety, make good the slab as necessary. Ensure slab is clean and dry.
- Separating membrane: See clause 292.
- Screed manufacturer: Flowcrete UK Ltd.
- Product reference: Isocrete Standard K-Screed.
- Screed type: Unbonded as clause 292.
- Reinforcement for crack control: As Clause 392.
- Thickness:
- Minimum 50mm, maximum 100mm.
- Mix:
- Cement: Standards as clause 302.
- Aggregates: Standards as clause 305.
- Coarse aggregate single size: Not required. (For screed thickness in excess of 75mm, a proportion of the sand is replaced by coarse aggregate, 5 mm (or 6 mm) single size).
- Proportions: To manufacturer's recommendations.
- In situ crushing resistance (ISCR) category: A/B. (3/4mm maximum indentation).
- Mass of test weight: 4 kg.
- Flatness/ Surface regularity: Maximum permissible deviation: SR2 generally

- Finish:
- Method: Trowelled as clause 540
- To receive: Vinyl, carpet or tiles.
- Other requirements: Separation joints should be formed against walls and columns by using strips of compressible material. Where thin finishes require a smoothing compound, smooth with Isocrete Isotex underlayment.

142 PROPRIETARY QUICK DRYING LEVELLING COMPOUND TO EXISTING SLAB WHERE UP TO 20MM THICKNESS IS REQUIRED TO ACHIEVE THE SPECIFIED FFL

- Substrate: Existing concrete slab or possibly existing screed if 100% sound.
- Preparation: Remove exiting finishes and screed in their entirety, make good the slab as necessary. Shot blast the floor slab surface and prime with Isocrete 'Primer'.
- Screed manufacturer: Flowcrete UK Ltd.
- Product reference: Isocrete 1500 compound.
- Thickness:
- Minimum 0mm, maximum 20mm.
- Flatness/ Surface regularity: Maximum permissible deviation: SR2 generally
- Finish: Smooth to receive: Vinyl, carpet or tiles.
- Other requirements: Separation joints should be formed against walls and columns by using strips of compressible material.

GENERALLY / PREPARATION

205 DESIGN LIFE OF SCREEDS

- Duration: The life of the building.
  - Subject to heavy use and wear and tear.
- Condition of use: Subject to correct loading and traffic usage throughout duration.

210 SUITABILITY OF BASES

- General:
  - Suitable for specified levels and flatness/ regularity of finished surfaces. Consider permissible minimum and maximum thicknesses of screeds.
  - Sound and free from significant cracks and gaps.
- Cleanliness: Remove plaster, debris and dirt.
- Moisture content: To suit screed type. New concrete slabs to receive fully or partially bonded construction must be dried out by exposure to the air.

220 PROPRIETARY LEVELLING/ WEARING SCREEDS

- General: Materials, mix proportions, mixing methods, minimum/ maximum thicknesses and workmanship must be in accordance with recommendations of screed manufacturer.
- Instructions of Flowcrete UK Ltd, The Flooring Technology Centre, Booth Lane, Moston, Sandbach, Cheshire, CW11 3QF (tel 01270 753753) by one of their Approved Licensees.

230 CONTROL SAMPLES

- General: Complete small agreed areas of finished work and obtain approval of appearance before proceeding.

250 CONDUITS CAST INTO OR UNDER SCREEDS

- Haunching: Before laying insulation for floating screeds, haunch up in the specified screeed on both sides of conduits.

251 CONDUITS CAST INTO OR UNDER SCREEDS

Reinforcement: Overlay with reinforcement selected from:
500 mm wide strip of steel fabric to BS 4483, reference D49, or
Welded mesh manufactured in rolls from mild steel wire minimum 1.5 mm diameter to BS 1052, mesh size 50 x 50 mm.
Placing reinforcement: Mid depth between top of conduit and the screed surface.
Screed cover over conduit (minimum): 25 mm.

260 FULLY BONDED CONSTRUCTION:

Preparation: Generally in accordance with BS 8204-1.
Removing mortar matrix: Shortly before laying screed, expose coarse aggregate over entire area of hardened substrate. Where slab is existing, shot blast the entire surface.
Texture of surface: Suitable to accept screed and achieve a full bond over complete area.
Bonding coat: As clause 275.

275 CEMENT SLURRY BONDING:

Slurry type: SBR polymer modified cement. Use Isocrete Polymer 70 bonding agent where Isocrete K Screed is required applied to the manufacturer's recommendations.
Application: Shortly before laying screed, thoroughly wash clean the surface and keep well wetted for several hours. Remove free water then brush in cement slurry bonding coat of creamy consistency.
Screeding: While slurry is still wet.

291 FLOATING CONSTRUCTION

Insulation: Type: See spec P10/110
Installation: Lay with tight butt joints. Continue up at perimeter abutments for full depth of screed.
Edge strips at perimeter abutments:
Type: 8 mm PE foam strips with PE skirt to all internal surfaces.
Installation: To full depth of screed at perimeter abutments.
Separating layer (to also act as a VCL and DPM):
Type: 1200g polyethylene with lapped, taped and sealed joints.
Installation: Lay over insulation and turn up at perimeter abutments. Lap 100mm at joints.

292 UNBONDED CONSTRUCTION

Edge strips at perimeter abutments:
Type: 8 mm PE foam strips with PE skirt to all internal surfaces.
Installation: To full depth of screed at perimeter abutments.
Separating layer:
Type: 500g polyethylene with taped and sealed joints.
Installation: Lay over slab and turn up at perimeter abutments. Lap 100mm at joints.

BATCHING/ MIXING

302 CEMENTS

Cement types: In accordance with BS 8204-1, clause 5.1.3.

305 AGGREGATE STANDARDS

- Cement: Portland to BS EN 197-1, class 42.5 or Portland blast furnace to BS 146, class 42.5.
- Sand: To BS EN 12620.
  - Grading limit: To BS 8204-1, table B1.
- Coarse aggregate: To BS EN 12620.

310 BATCHING WITH DENSE AGGREGATES

- Mix proportions: Specified by weight.
- Batching: Select from:
  - Batch by weight.
  - Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Use accurate gauge boxes. Allow for bulking of damp sand.

330 MIXING

- Water content: Minimum necessary to achieve full compaction, low enough to prevent excessive water being brought to surface during compaction.

- Mixing: Mix materials thoroughly to uniform consistency. Mixes other than no-fines must be mixed in a suitable forced action mechanical mixer. Do not use a free fall drum type mixer.
- Consistency: Use while sufficiently plastic for full compaction.
- Ready-mixed retarded screed mortar: Use within working time and site temperatures recommended by manufacturer. Do not retemper.

332 SCREED ADDITIVE

- The screed is to include a proprietary additive complying with the following:
- The screed system is to have a current Agrément certificate from the British Board of Agrément.
- The additive is to be a powder, of black colour to enable easy confirmation of its use.
- The additive is to be factory blended and batched into individual sachets of accurate weight to suit the size of screed batch.

335 IN SITU CRUSHING RESISTANCE (ISCR)

Standards and category: To BS 8204-1, table 4.

- Testing of bonded and unbonded screeds: To Annex D.
- Testing of floating levelling screeds: To Annex E

340 ADVERSE WEATHER

- Screeds surface temperature: Maintain above 5° C for a minimum of four days after laying.
- Hot weather: Prevent premature setting or drying out.

LAYING

345 LEVEL OF SCREED SURFACES

- Permissible deviation: ±5 mm from datum (allowing for thickness of coverings).

350 SCREEDING TO FALLS

Minimum screed cover: Maintain at the lowest point.
Falls: Gradual and consistent.

355 FLATNESS/ SURFACE REGULARITY OF FLOOR SCREEDS

- Sudden irregularities: Not permitted.
- Deviation of surface: Measure from underside of a 2 m straightedge (between points of contact), placed anywhere on surface using a slip gauge to BS 8204-1 or -2 (or equivalent).
- Surface regularity standards:
  - SR1: 3 mm high standard.
  - SR2: 5 mm normal standard.
  - SR3: 10 mm utility standard.

375 COMPACTION OF SCREEDS

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

392 GENERAL REINFORCEMENT

- Type: Isocrete PP Fibres
- Installation: To be mixed with the screed at the dosage recommended by the manufacturer.

395 STRIP REINFORCEMENT

- Location: Across daywork joints and over the support beams/walls of a precast concrete floor.
- Type: To BS 4483, table 1: D49
  - Width of strips: 500 mm minimum
- Installation: Place between the two layers of screed and centre over joints. Lap ends minimum 100 mm.

405 JOINTS IN LEVELLING SCREEDS GENERALLY

- Laying screeds: Lay continuously using ‘wet screeds’ between strips or bays. Minimize defined joints.
- Daywork joints: Form with vertical edge.

406 BAY JOINTS / MOVEMENT JOINTS IN LEVELLING SCREEDS

- Screed type: All
- Location of joints: To complete perimeter of all areas (on line of TMJ between skirting tiles and floor tiles where the floor is tiled) and to intermediate locations to co-incide with tile movement joints indicated on plans (where applicable.)

FINISHING/ CURING

510 FINISHING GENERALLY

- Timing: Carry out all finishing operations at optimum times in relation to setting and hardening of screed material.
- Prohibited treatments to screed surfaces:
  - Wetting to assist surface working.
  - Sprinkling cement.

520 WOOD FLOATED FINISH

- Finish: Slightly coarse, even texture with no ridges or steps.

530 SMOOTH FLOATED FINISH

- Finish: Even texture with no ridges or steps.

540 TROWELLED FINISH TO LEVELLING SCREEDS

- Floating: To an even texture with no ridges or steps.
- Trowelling: To a uniform, smooth but not polished surface, free from trowel marks and other blemishes, and suitable to receive specified flooring material.

550 TROWELLED FINISH TO WEARING SCREEDS:

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

650 CURING

- General: Prevent premature drying. Immediately after laying, protect surface from wind, draughts and strong sunlight. As soon as screed has set sufficiently, closely cover with polyethylene sheeting.
- Curing period: Keep polyethylene sheeting in position for a minimum of: 5 days
- Drying after curing: Allow screeds to dry gradually. Do not subject screeds to artificial drying conditions that will cause cracking or other shrinkage related problems.

700 FOLLOWING TRADES: Take adequate precautions to prevent damage to screeds/toppings, including covering by suitable means. Make good all defective work in **screeds** before applying finishes.

VINCENT+GORBING

M20 Plaster and Render Coatings

To be read with Preliminaries, general conditions and Specification A81

TYPES OF COATING

210 GYPSUM PLASTER TO MASONRY WALLING

- Substrate: Existing masonry.
  - Preparation: Brush clean, remove all original plaster. Rake out joints in brickwork. Attention is drawn to clause 646 – EML required to dissimilar backgrounds, over concrete elements, lintels, infill bricks, etc.
  - Adhesion test: This spec is subject to confirmation following provision of a sample area as recommended by British Gypsum to ensure adhesion.
- Manufacturer: British Gypsum.
- Undercoats: To BS EN 13279-1.
  - Product reference: Thistle Hardwall
  - Thickness (excluding dubbing out and keys): 11mm
- Final coat: Finish plaster to BS EN 13279-1.
  - Product reference: Thistle multi-finish
  - Thickness: 2mm.
  - Finish: Smooth as 777 below.
- Accessories: Angle Beads, stop beads, all galvanised as indicated on drawings to all edges, corners, joints, etc as clause 630, 640.

220 PATCH REPAIR TO GYPSUM PLASTER

- Carefully cut out any loose material.
- Infill the plaster in construction to match existing. Apply a 150mm wide strip EML mesh across the any junctions between dissimilar backgrounds.
- Apply plaster as noted to 210 above.

GENERAL

418 CONTROL SAMPLES

- Complete sample areas, being part of the finished work, in locations to be agreed.

PREPARING SUBSTRATES

510 SUITABILITY OF SUBSTRATES

- Soundness: Free from loose areas and significant cracks and gaps.
- Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
- Tolerances: Permitting specified flatness/ regularity of finished coatings.
- Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

527 RAKING OUT FOR KEY

- Joints in existing masonry: Rake out to a depth of 13 mm (minimum).
  - Dust and debris: Remove from joints.

531 ROUGHENING FOR KEY

- Substrates: Roughen thoroughly and evenly.
  - Depth of surface removal: Minimum necessary to provide an effective key.

566 REMOVING DEFECTIVE EXISTING PLASTER

- Plaster for removal: Detached, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
  - Hollow, detached areas: To be agreed on site.

- Stained plaster: Remove.
- Removing defective plaster. Cut back to a square, sound edge.
- Faults in substrate (structural deficiencies, damp, etc.): Submit proposals.
- Cracks:
  - Fine hairline cracking/ crazing: Leave.
  - Other cracks: To be agreed on site.
- Dust and loose material: Remove from exposed substrates and edges.

BACKINGS/ BEADS/ JOINTS

600 ADDITIONAL FRAMING SUPPORTS FOR BACKINGS

- Framing: Accurately position and securely fix to give full support to fixtures, fittings and service outlets.
- Support board edges and perimeters: As recommended by board manufacturer to suit type and performance of board.

630 BEADS/ STOPS FOR INTERNAL USE

- Material: Galvanized steel to BS EN 13658-1.

636 BEADS/ STOPS FOR EXTERNAL USE

- Material: Stainless steel to BS EN10088-1, grade 1.4301.

640 BEADS/ STOPS TO GYPSUM PLASTER

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

646 CRACK CONTROL AT JUNCTIONS BETWEEN DISSIMILAR SOLID SUBSTRATES

- Locations: Where defined movement joints are not required. Where dissimilar solid substrate materials are in same plane and rigidly bonded or tied together.
- Crack control materials:
  - Isolating layer: Building paper to BS 1521.
  - Metal lathing: galvanised steel plain with spacers for internal use. Stainless steel plain with spacers for external use.
- Installation: Fix metal lathing over isolating layer. Stagger fixings along both edges of lathing.
- Width of installation over single junctions:
  - Isolating layer: 150 mm.
  - Lathing: 300 mm.
- Width of installation across face of dissimilar substrate material (column, beam, etc. with face width not greater than 450 mm):
  - Isolating layer: 25 mm (minimum) beyond junctions with adjacent substrate.
  - Lathing: 100 mm (minimum) beyond edges of isolating layer.

650 MOVEMENT JOINTS BEADS

- Manufacturer: Expamet movement joint bead, galvanised for internal use.
- Installation: Centred over joint in substrate.
  - Fixing: To manufacturer's recommendations.

673 PLASTERING OVER CONDUITS/ SERVICE CHASES

- General: Prevent cracking over conduits and other services.
- Services chased into substrate: Isolate from coating by covering with galvanized metal lathing, fixed at staggered centres along both edges.

INTERNAL PLASTERING

710 APPLICATION GENERALLY

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

715 FLATNESS/ SURFACE REGULARITY

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

718 JUNCTION OF NEW PLASTERWORK WITH EXISTING

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

720 DUBBING OUT

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

725 UNDERCOATS GENERALLY

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

742 THIN COAT PLASTER

- Preparation for plasters less than 2 mm thick: Fill holes, scratches and voids with finishing plaster.

777 SMOOTH FINISH

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

778 WOOD FLOAT FINISH

- Appearance: An even overall texture. Finish with a dry wood float as soon as wet sheen has disappeared..

VINCENT+GORBING

M50 Vinyl Floor and Wall Finishes, Carpet Finishes

To be read with Preliminaries, general conditions and Section A81.

TYPES OF COVERING

150 NON-SLIP SAFETY SHEET VINYL FLOORING – various types

Location: As indicated on RDS.
Base: Raised access floor / screed / levelling compound to existing screed all as to section M10.
- Preparation:
  - To raised access floor, prepare as specified in section B10 / C.3.2. Overlay the raised access floor with plywood to Clause 560.
  - To screeded floors, apply a levelling compound of the type recommended by the vinyl manufacturer, as necessary to ensure a totally smooth finish.

Sheet:
Manufacturer and reference: Various types and colours of safety flooring – see RDS.
Thickness: 2.5mm.
Method of laying: Adhesive (and primer if recommended by manufacturer): All to manufacturer's recommendations.
Seam welding: to match colour of sheet.
Accessories: Where indicated, 100mm high skirting formed by turning flooring sheet up wall on cove formers and capped with matching capping strip all as recommended by the sheet manufacturer. Where Whiterock wall cladding is required above the skirting, extend skirting up a further 20mm and omit the capping strip as the Whiterock is to overlap.
Carpet trims to all locations where different floor finishes adjoin - Gradus metal trim with coloured PVC top.
Finishing: See Clause 820.

151 BAREFOOT NON-SLIP SHEET VINYL FLOORING TO SHOWER AREAS

Location: As indicated on RDS.
Base: Raised access floor / screed / levelling compound to existing screed all as to section M10.
- Preparation:
  - To raised access floor, prepare as specified in section B10 / C.3.2. Overlay the raised access floor with plywood to Clause 560.
  - To screeded floors, apply a levelling compound of the type recommended by the vinyl manufacturer, as necessary to ensure a totally smooth finish.

Sheet:
Manufacturer and reference: See RDS - barefoot safety flooring.
Colour: TBA.
Thickness: 2mm thick.
Method of laying: Adhesive (and primer if recommended by manufacturer): All to manufacturer's recommendations.
Seam welding: to match colour of sheet.
Accessories: 100mm high skirting formed by turning flooring sheet up wall on cove formers and capping with matching capping strip all as recommended by the sheet manufacturer. Where Whiterock wall cladding is required above the skirting, extend skirting up a further 20mm and omit the capping strip as the Whiterock is to overlap.
Finishing: See Clause 820.

155 SEMI RIGID PVCu SHEET COVERING TO WALLS

Location: As indicated on RDS.
Base: Varies – see below.
Preparation:

TO EXISTING TILED MASONRY WALLS: Strip original finishes including plaster, render and tiling back to masonry. Line with 12mm WBP external quality resin bonded plywood screwed to wall on lines at 300mm vertical centres. Fix with countersunk non-corrosive screws with filled heads 150mm centres. Pack with nominal 6mm thick nominal continuous grip fill adhesive beads behind each fixing line. Prepare surface to Altro's recommendations.
TO PLASTERBOARD PARTITIONS: Prepare surface to Altro's recommendations.
Manufacturer and reference:
Altro Walls, Whiterock wall lining or equal approved Class 0 fire rated system.
Colour: TBA.
Thickness: 2.5mm.
Method of fixing: W139 adhesive applied continuously to manufacturer's recommendations. Use with double sided tape locally as recommended by manufacturer to prevent slippage prior to the adhesive drying. Apply firm, even pressure to the sheet with a roller.
Joints: Hot welded to manufacturer's recommendations. NB Joints to be smooth, with no sharp edges. **NB. Cover strips at joints are not an acceptable alternative.**
Corners: Thermoformed to manufacturer's recommendations.
Exposed ends: PVCu single part heavy duty start and edge trim, Altro G833 fixed to manufacturer's recommendations.
Joint to vinyl skirting: Overlap 20mm and use G835 transition trim below Whiterock and seal with silicone to manufacturer's recommendations.
Joint to ceiling: Seal with matching silicone to manufacturer's recommendations.
Finishing: Remove protective film and marks and apply antistatic solution to all surfaces to manufacturer's recommendations.

170 CARPET TILES

Location: As indicated on RDS.
Base: Raised access floor / screed / levelling compound to existing screed all as to section M10.
- Preparation:
  - Prepare raised access floor as specified in section B10 / C.3.2.
  - To screeded floors, apply a levelling compound of the type recommended by the vinyl manufacturer, as necessary to ensure a totally smooth finish.

Carpet:
- Manufacturer and reference: See RDS / Internal Finishes sheet.

Carpet adhesive (and primer if recommended by manufacturer): See clause 640.
Accessories: Carpet trims to all locations where different floor finishes adjoin - Gradus metal trim with coloured PVC top.
Other requirements: Tile layouts to be to manufacturer's recommendations.

200 NOSINGS AND EDGINGS TO STAIRS

See RDS / Internal Finishes sheet for details. Fix to manufacturer's recommendations.

300 BARRIER CARPET TO ENTRANCES

Base: Power floated concrete slab to falls or screed to spec M10 to falls within recess to power floated slab.
Preparation: See Clauses 375– 390.
Sheet:
Manufacturer and reference: Heckmondwike Vanquisher barrier carpet.
Thickness: 11.5mm.
Colour: TBA
Method of laying: Peel and release adhesive (and primer if recommended by manufacturer): All to manufacturer's recommendations.
Carpet trims to all locations where different floor finishes adjoin - Gradus metal trim with coloured PVC top.
Size: See plans.

GENERALLY

210 WORKMANSHIP GENERALLY

All bases must be rigid, dry, sound, smooth and free from grease, dirt and other contaminants before coverings are applied.

Finished coverings must be accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks and stains.

220 SAMPLES

Before placing orders, submit for approval a representative sample of each type of covering. Ensure that delivered materials match samples.

230 CONTROL SAMPLE(S)

Complete area(s) of the finished work in approved location(s) as follows, and obtain approval of appearance before proceeding:
All floor finishes - one small agreed area.

270 EXTRA MATERIAL

Provide a percentage (to be agreed) extra of each type of covering to be handed over to the Employer at completion.

310 MARKING

Ensure that materials are delivered to site in original packing, clearly marked with batch number.

320 STORAGE

Store materials in a clean, warm, dry, well ventilated place. Keep in original packing until conditioning commences.

330 COMMENCEMENT

Do not lay materials until building is weathertight, wet trades have finished their work, the building is well dried out, all paintwork is finished and dry, and floor service outlets, duct covers and other fixtures around which the materials are to be cut have been fixed. Inform PM not less than 48 hours before commencing laying.

340 CONDITIONING

Before laying commences thoroughly condition materials by unpacking and spreading out in the spaces where they are to be laid. Minimum time and temperature to be as recommended by manufacturer.

350 ENVIRONMENT

Before, during and after laying, maintain temperature and humidity approximately at levels which will prevail after the building is occupied.

PREPARING BASES

375 SUITABILITY OF NEW BASES AND CONDITIONS: Laying of coverings will be taken as joint acceptance by the Main Contractor and Subcontractor of the suitability of the bases and conditions within any given area.

380 DAMPNESS: Where coverings are to be laid on new wet-laid bases:
Ensure that drying aids have been turned off for not less than 4 days, then
Test for moisture content using an accurately calibrated hygrometer in accordance with BS 5325, Appendix A or BS 8203, Appendix A.
Take readings in all corners, along edges, and at various points over the area being tested.
Do not lay coverings until all readings show 75% relative humidity or less.

385 SUBSTRATES AND PREPARATION

The specification for the slab is a power floated finish.
Allowance is to be included for making good by application of a smoothing compound by and to the satisfaction of the flooring subcontractor in the event of the surface being unsuitable due to inadequate finishing or protection.
A uniform, smooth surface free from trowel marks and other blemishes, and suitable to receive the specified floor finish material.
Adequate protection from construction traffic.

390 SMOOTHING COMPOUND: Apply as necessary – all to specification M10.

560 PLYWOOD UNDERLAY

- Standard: An approved national standard.
- Bonding quality: To BS EN 314-2 class 1.
- Appearance: To BS EN 635 class IV
- Finish: Sanded
- Thickness: 6mm
- Sheet size: 2.4 x 1.2m minimum.
- Substrate: Raised access floor prepared as noted to spec B10 / C.3.2.
- Laying sheets: Stagger cross joints such that no joint within base and underlay is coincident and with a 0.5-1 mm gap between sheets.
- Fasteners: 25 mm ringed shank or twisted shank nails.
    - Spacing: Commencing at centre of one side of each sheet, at 150 mm grid centres over area of each sheet and at 100 mm centres along perimeter, set in 12 mm from edge.
    - Placement: Driven with heads set flush with surface, and not projecting through underside of base. Not deformed.

LAYING VINYL AND CARPET COVERINGS

620 COLOUR CONSISTENCY: In any one area/room use only coverings from the same production batch to prevent banding or patchiness resulting from colour/flash variation.

640 ADHESIVE FIXING GENERALLY

Adhesive: when not specified otherwise, type to be as recommended by covering manufacturer or, in the absence of such recommendation, type to be approved.
Use a primer where recommended by adhesive manufacturer. Allow to dry thoroughly before applying adhesive.
Spread adhesive evenly and lay covering, pressing down firmly and rolling (if recommended) to ensure full contact and a good bond overall.
Remove all surplus adhesive from exposed faces of coverings as the work proceeds.
Trowel ridges and high spots caused by particles on the substrate will not be accepted.

650 PATTERNS/ SEAMS

Patterns to be accurately matched at seams. There are to be no seams in the spike proof carpet.

670 BORDERS/FEATURE STRIPS OF SHEET MATERIAL

Cut strips along the length of the sheet to prevent curl.
Mitre joints at corners.

680 SEAM WELDING

Do not commence welding of coverings until adhesive has completely set.
Form a neat, smooth, strongly bonded joint, flush with finished surface.

720 DOORWAYS

Make joint on centre line of door leaf unless specified otherwise.

740 EDGINGS/COVER STRIPS

Manufacturer and ref: Gradus with coloured PVC insert.

770 VINYL SKIRTINGS:

Securely bond with top edge straight and parallel with floor. Accurately mitre at corners.

780 TRAFFIC: Keep floor covers free from traffic for at least seven days after laying as/if recommended by manufacturer.

COMPLETION

810 CLEANING GENERALLY

Remove all scrap, dust and dirt. Carefully remove adhesive and other marks from coverings and adjacent surfaces, using approved cleaning agents and methods.

820 FINISHING VINYL FLOORING

Wash floor using mops dampened with water containing neutral detergent. If necessary, lightly scrub heavily soiled areas using a brush or synthetic fibre web pad.
Thoroughly rinse with clean water, removing surplus to ensure no damage to adhesive, and allow to dry.
Apply two coats of emulsion polish of a type recommended by covering manufacturer.

870 PROTECTION

Cover flooring with clean dust sheets, hardboard or other suitable material to prevent damage from dirt and traffic prior to Practical Completion as necessary.

880 WASTE

Retain spare covering material suitable for patching. On completion hand over to Employer pieces selected by CA.

VINCENT+GORBING

M60 Painting / Clear Finishing

To be read with Preliminaries, general conditions and Specification A81

COATING SYSTEMS

110 EMULSION PAINT TO NEW PLASTER / PLASTERBOARD CEILINGS GENERALLY

- PREPARATION
- Thoroughly clean down the surfaces to remove all dirt grease and surface contaminants. Allow to dry. Carefully remove plaster splashes etc. Brush the surface to remove any loose deposits.
- MAKING GOOD
  Make good cracks, holes and other imperfections with Polycell Trade Easy Sand Interior Filler. Allow such making good to dry out thoroughly. Rub down smooth to match surrounding area and dust off.
  PRIMING
  Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Dulux Trade Metalshield Quick Dry Primer.
  Prime overall with: 1 coat of Dulux Trade Vinyl Matt of selected shade thinned up to 1 part Water to 10 parts of product as appropriate.
  FINISHING SYSTEM
  2 coats of Dulux Trade Vinyl Matt of selected shade.

111 EMULSION PAINT TO EXISTING PLASTER / PLASTERBOARD CEILINGS GENERALLY

- PREPARATION
  Thoroughly clean down the surfaces to remove all dirt grease and surface contaminants. Remove all blistered, poorly adhering or otherwise defective coatings. Powdery and friable surface coatings should be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate, rub down sound areas to produce the necessary 'key' for good adhesion and 'feather' broken edges of existing coatings. Dust off.
- MAKING GOOD
  Make good cracks, holes and other imperfections with Polycell Trade Easy Sand Interior Filler. Allow such making good to dry out thoroughly. Rub down smooth to match surrounding area and dust off.
- PRIMING
  Water staining or surfaces that remain powdery and friable after thorough preparation must be sealed with: 1 coat of Dulux Trade Stain Block Primer.
  Prime all sound bare areas and areas exposed by the removal of coatings with: 1 coat of Dulux Trade Vinyl Matt of appropriate shade thinned up to 1 part Water to 5 parts of product as appropriate. Bring forward all making good with: 1 coat of Dulux Trade Vinyl Matt of selected shade thinned up to 1 part Water to 5 parts of product as appropriate.
- FINISHING SYSTEM
  2 coats of Dulux Trade Vinyl Matt of selected shade.

120 DIAMOND EGGSHELL PAINT TO NEW PLASTER / PLASTERBOARD WALLS GENERALLY

- PREPARATION
  Thoroughly clean down the surfaces to remove all dirt grease and surface contaminants. Allow to dry. Carefully remove plaster splashes etc. Brush the surface to remove any loose deposits.
- MAKING GOOD
  Make good cracks, holes and other imperfections with Polycell Trade Easy Sand Interior Filler. Allow such making good to dry out thoroughly. Rub down smooth to match surrounding area and dust off.
  PRIMING
  Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Dulux Trade Metalshield Quick Dry Primer.

Prime overall with: 1 coat of Dulux Trade Diamond Eggshell of selected shade thinned up to 1 part Water to 10 parts of product as appropriate.

- FINISHING SYSTEM
  2 coats of Dulux Trade Diamond Eggshell of selected shade.

121 DIAMOND EGGSHELL PAINT TO EXISTING PLASTER / PLASTERBOARD TO WALLS GENERALLY

- PREPARATION
  Thoroughly clean down the surfaces to remove all dirt grease and surface contaminants. Remove all blistered, poorly adhering or otherwise defective coatings. Powdery and friable surface coatings should be completely removed by scraping, brushing and washing. Allow the surface to fully dry before proceeding. Where appropriate, rub down sound areas to produce the necessary 'key' for good adhesion and 'feather' broken edges of existing coatings. Dust off.
- MAKING GOOD
  Make good cracks, holes and other imperfections with Polycell Trade Easy Sand Interior Filler. Allow such making good to dry out thoroughly. Rub down smooth to match surrounding area and dust off.
- PRIMING
  Water staining or surfaces that remain powdery and friable after thorough preparation must be sealed with: 1 coat of Dulux Trade Stain Block Primer.
  Prime all sound bare areas and areas exposed by the removal of coatings with: 1 coat of Dulux Trade Diamond Eggshell of appropriate shade thinned up to 1 part Water to 5 parts of product as appropriate. Bring forward all making good with: 1 coat of Dulux Trade Vinyl Matt of selected shade thinned up to 1 part Water to 5 parts of product as appropriate.
- FINISHING SYSTEM
  2 coats of
  Dulux Trade Diamond Eggshell of selected shade.

140 GLOSS PAINT TO NEW EXTERNAL JOINERY

- Factory finished, brush applied, not sprayed - the following specification is a minimum standard but this is to be substituted with an alternative system if necessary to comply with the Timber Window Association and / or the window manufacturer’s guarantee requirements. This specification assumes non-resinous hardwood:
- PREPARATION
  Woods with a knot content above that specified in BS EN 942 should not be used. Thoroughly clean down to ensure all areas are free from dirt, grease and surface contaminants. Carefully remove any plaster or mortar deposits. Remove oils from surface by wiping with White Spirit. Abrade overall in the direction of the grain to remove any raised grain and round all sharp edges (a radius of 1 mm to 2 mm for timber other than sills and thresholds; 3mm for sills and thresholds) and dust off. Ensure all surfaces are fully dry before proceeding.
  Apply two thin coats of an appropriate knotting solution to all knots and resinous areas and allow to harden. Ensure all surfaces are fully dry before proceeding.
- MAKING GOOD
  Make good all cracks, nail-holes, open joints and other imperfections with Dulux Trade Weathershield Exterior Flexible Filler. When set carefully rub down and dust off. Glaze open rebates with an appropriate glazing compound compatible with the coating system. Follow the manufacturers instructions regarding 'firming off ' / overcoating period.
  In the case of bead glazing, ensure rebates and beads are treated on all faces as for the general areas. Bed beads onto flexible glazing mastic before fixing down firmly.
  Fillers, Stoppers & Glazing Compounds: Use only good quality/compatible materials and follow the manufacturers' recommendations for use, even if at variance with this spec.
- PRIMING
  Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Dulux Trade Metalshield Zinc Phosphate Primer. Liberally apply 2 coats of Dulux Trade Weathershield Preservative Primer + (BP) overall.
- FINISHING
  Exterior:Dulux Trade Weathershield Exterior High Gloss to Dulux spec D4032.
  Interior: 2 coat of Dulux Trade Undercoat of selected shade. 1 coat of Dulux Trade High Gloss of selected shade.

141 GLOSS PAINT TO EXISTING EXTERNAL JOINERY

- This specification assumes full / partial failure of existing paint and non-resinous softwood / hardwood:
- PREPARATION
  Completely remove all existing paint from all surfaces using a method to be agreed. Open-up all joints which are not tight fitting and rake out thoroughly. Rub down to 'feather' broken edges and dust off. Generally abrade overall in the direction of the grain, remove any, raised grain and round all sharp edges (a radius of 1 mm to 2 mm for timber other than sills and thresholds; 3mm for sills and thresholds) and dust off. Ensure full preparation of surfaces including application of knotting solution compatible with the paint type to all knots and resinous areas and allow to harden. Ensure all surfaces are fully dry before proceeding.
- MAKING GOOD
  Make good all cracks, nail-holes, open joints and other imperfections with Dulux Trade Weathershield Exterior Flexible Filler. When set carefully rub down and dust off.
- PRIMING
  Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Dulux Trade Metalshield Zinc Phosphate Primer. Prime all timber surfaces (already fully stripped) with 2 coats of Dulux Trade Weathershield Preservative Primer + (BP). Bring forward all primed and/or filled areas to match existing system build with: 1 coat of Dulux Trade Weathershield Exterior Flexible Undercoat of appropriate shade.
- FINISHING
  1 coat of Dulux Trade Weathershield Exterior Flexible Undercoat of selected shade.
  1 coat of Dulux Trade Weathershield Exterior High Gloss of selected shade..

150 GLOSS PAINT TO NEW INTERNAL JOINERY

- This specification assumes non-resinous hardwood:
- PREPARATION
  Woods with a knot content above that specified in BS EN 942 should not be used. Thoroughly clean down to ensure all areas are free from dirt, grease and surface contaminants. Carefully remove any plaster or mortar deposits. Remove oils from surface by wiping with White Spirit. Abrade overall in the direction of the grain to remove any raised grain and round all sharp edges (a radius of 1 mm to 2 mm for timber other than sills and thresholds; 3mm for sills and thresholds) and dust off. Ensure all surfaces are fully dry before proceeding.
  Apply two thin coats of an appropriate knotting solution to all knots and resinous areas and allow to harden. Ensure all surfaces are fully dry before proceeding.
- MAKING GOOD
  Make good all cracks, nail-holes, open joints and other imperfections with **a** Polycell Trade filler When set carefully rub down and dust off. Glaze open rebates with an appropriate glazing compound compatible with the coating system. Follow the manufacturer’s instructions regarding 'firming off ' / overcoating period.
  In the case of bead glazing, ensure rebates and beads are treated on all faces as for the general areas. Bed beads onto flexible glazing mastic before fixing down firmly.
  Fillers, Stoppers & Glazing Compounds: Use only good quality/compatible materials and follow the manufacturers' recommendations for use, even if at variance with this spec.
- PRIMING
  Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Dulux Trade All Purpose Primer. Generally prime with: 1 coat of Dulux Trade Wood Primer.
- FINISHING
- 1 coat of Dulux Trade Undercoat of selected shade. 1 coat of Dulux Trade High Gloss of selected shade.

151 GLOSS PAINT TO EXISTING JOINERY – INTERNAL SURFACES

- This specification assumes full / partial failure of existing paint and non-resinous softwood / hardwood:
- PREPARATION
  Including to window surrounds: Remove any blistered, poorly adhering or otherwise defective coatings. Open-up all joints which are not tight fitting and rake out thoroughly. Wash down remaining painted areas to the surrounds with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants, rinse off and allow to dry. Rub down overall to provide a 'key' and 'feather' broken edges of existing coatings. Dust off. Ensure full preparation of surfaces including application of knotting solution compatible with

the paint type to all knots and resinous areas and allow to harden. Ensure all surfaces are fully dry before proceeding.

- MAKING GOOD
  Make good all nail-holes, open joints and open grain etc. with a Polycell Trade filler appropriate to the surface and according to the manufacturer's instructions. Allow making good to dry before being rubbed down smooth and dusted off.
- PRIMING
  Spot prime any bare metal, metal fixings nail heads etc with: 1 coat of Dulux Trade All Purpose Primer. Prime all bare areas of the surrounds with: 1 coat of Dulux Trade Wood Primer.
- FINISHING
  1 coat of Dulux Trade Undercoat of selected shade. 1 coat of Dulux Trade High Gloss of selected shade.

152 GLOSS PAINT TO EXISTING STEEL EXTERNAL SURFACES

- PREPARATION
  Remove all poorly adhering and defective paint back to a firm edge. Avoid damaging the galvanised coating. Degrease where necessary and wash down the surfaces with a suitable detergent solution to remove dirt, chalking paint, corrosion products and other contaminants. Rinse off with clean water and allow to dry. Rub down sound paintwork with a suitable abrasive to remove nibs, feather existing paint edges and provide a mechanical key and *dust off. Where the galvanised surface is 'spent' and rust is observed power tool clean to St3. BS EN ISO 8501-1: 2007. Dust off. Ensure the surface is clean and dry before proceeding.
- PRIMING
  Prime all bare metal with: 1 coat of Dulux Trade Metalshield Zinc Phosphate Primer applied to give a minimum wet film thickness of 150 microns giving a minimum dry film thickness of 65 microns.
  Prior to priming galvanized surfaces, pre-treat the cleaned surface with Trade Mordant Solution which must be thoroughly washed off and allowed to dry before priming.
- FINISHING SYSTEM
  2 coats of Dulux Trade Metalshield Gloss each applied to give a minimum wet film thickness of 100 microns per coat, giving a minimum dry film thickness of 50 microns per coat.

154 GLOSS PAINT TO EXISTING INTERNAL FERROUS METALWORK

- PREPARATION
- Thoroughly clean down to remove all surface contamination. Carefully scrape back to a firm edge all areas of damaged paint coatings. Scrape and wire brush corroded steel to produce a clean metal surface. Rub down with a suitable abrasive and dust off.
- PRIMING: Prime all bare metal with: 1 coat of Dulux Trade Metalshield Zinc Phosphate Primer applied to give a minimum wet film thickness of 115 microns giving a minimum dry film thickness of 50 microns.
- FINISHING
  2 coats of Dulux Trade Metalshield Gloss each applied to give a minimum wet film thickness of 80 microns per coat, giving a minimum dry film thickness of 40 microns per coat.

161 DIAMOND GLAZE FINISH TO EXISTING INTERNAL STAINED JOINERY

- PREPARATION
- Completely remove all blistered, poorly adhering or otherwise defective coatings. Open-up all joints which are not tight fitting and rake out thoroughly. Wash down remaining areas in good condition with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants, rinse off and allow to dry. Rub down overall to provide a 'key' (this is particularly important when applying water based systems to previous coatings that are known, or suspected to be, solvent based) and 'feather' broken edges of existing coatings. *Dust off.
- MAKING GOOD
  Make good all nail holes (nails must be punched below the surface.), open joints and open grain with a suitable stopper / filler designed for use with a woodstain or varnish system. Allow the material to set before rubbing down and *dusting off.
  Fillers & Stoppers
  Use only good quality/compatible materials and follow the manufacturers' recommendations for use, even if at variance with this system.

- PRIMING: Prime all bare areas and areas exposed by the removal of coatings with 1 coat of Dulux Trade Diamond Glaze. (Gloss only) using either a brush or short pile mohair roller. Bring forward all primed and/or filled areas to match existing system build with: 1 coat of Dulux Trade Diamond Glaze of appropriate shade.
- FINISHING
  3 coats of Dulux Trade Diamond Glaze (Gloss or Satin) using either a brush or short pile mohair roller.

170 MASONRY PAINT TO EXTERNAL RENDER

- PREPARATION:
  Thoroughly clean down the surfaces to remove all dirt grease and surface contaminants. Allow to dry. Remove all blistered, poorly adhering or otherwise defective coatings. Remove all loose or powdery material by vigorously brushing down with suitable stiff brushes and dust off. (Do not use wire brushes) Where appropriate (not applicable to textured surfaces) rub down sound areas to produce the necessary 'key' for good adhesion. Dust off.
- MAKING GOOD:
  Cut out and make good cracks, holes and other imperfections with a suitable filler - see above. Allow to set and dry out thoroughly. Where appropriate, rub down the surface. Dust off.
- PRIMING:
  If surfaces remain powdery and friable after thorough preparation, they must be sealed with: 1 coat of Dulux Trade Weathershield Stabilising Primer to penetrate the surface and avoid leaving a glossy film.
  Prime all sound bare areas and areas exposed by the removal of coatings with: 1 coat of Dulux Trade Weathershield All Seasons Smooth Masonry of appropriate shade thinned up to 1 part white spirit to 10 parts of product as appropriate.
- FINISHING SYSTEM:
  2 coats of Dulux Trade Weathershield All Seasons Smooth Masonry of selected shade.

180 FLOOR COATING TO PLANT ROOM, ETC

- PREPARATION
  Concrete / screed must be clean and level, hard, free from dust, not friable and open textured – prepare as necessary.
  Where existing concrete needs to have the level raised or needs general repair / overlaying, refer to spec M10 for requirements. The overcoating must have a surface which complies with this specification.
- PRIMING
  Priming is not required as the product is self-priming.
- FINISHING SYSTEM
  Watco ‘Safety Coat Cold Cure’ non-slip epoxy paint finish. Two coats to be applied strictly in accordance with the manufacturer’s recommendations.
- SLIP RESISTANCE
  The coefficient of friction as measured using the TRRL slip resistance tester and 4s rubber as well as bare feet is to be as follows: dry 65, wet 45.

185 PAINTING TO NEW EXTERNAL GALVANISED STEELWORK

PREPARATION
Scrub the surfaces with Oil and Grease Remover to remove all dirt, oil, grease etc, rinse off with clean water and allow to dry.
PRETREATMENT
Pre-treat the cleaned surface with: Trade Mordant Solution which must be thoroughly washed off and allowed to dry before priming.
PRIMING
One coat of Dulux Trade Metal Primer Zinc Phosphate 65um DFT.
FINISHING SYSTEM
Two coats of Dulux Trade Micaceous Iron Oxide at 45um DFT followed by two coats of Dulux Trade High Gloss Finish at 25um DFT per coat.

190 SOLVENT BASED STAIN TO EXISTING EXTERNAL SURFACES OF EXISTING STAINED JOINERY

Surface Substrate: Exterior - EXT non resinous softwood / hardwood
Required Finish Coat: Sikkens Cetol Filter 7 Plus
No. of Finish System Coats based on surface condition: Previously woodstain - Good 2, Light failure 2, Partial failure 2.
Finish Type Solvent Based

- Comply at all times with BS 6150: 2006 Code of Practice for Painting of Buildings (or as amended) and BS EN ISO 12944: 1998 Paints and Varnishes - Corrosion Protection of Steel Structures by Protective Paint Systems (or as amended).
- AkzoNobel Decorative Paints will not accept responsibility for any unauthorised amendments or usage of the wording contained in this System sheet and in Akzonobel Decorative Paints Site Work Instructions vEXT1.
- In order to achieve the optimum results, it is extremely important to adhere to the systems and AkzoNobel Decorative Paints Site Work Instructions vEXT1 quoted.
- Products supplied for the carrying out of this specification are compliant with Statutory Instrument 2005 No.2773 (Environmental Protection) - The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products Regulations 2005
- Preparation:

The amount of preparatory work required on a Previously Coated Surface can vary considerably due to a variety of circumstances. This System is for Preparation up to and including partial failure/breakdown <50%. (See AkzoNobel Site Work Instruction vExt1 for further information.)
Thoroughly clean down the surfaces with soap and water, detergent solution or suitable solvent to remove all dirt, grease and surface contaminants. Remove all blistered, poorly adhering or otherwise defective coatings. Where flaking has occurred or coatings are defective, the entire member or section must be stripped back to the nearest joint. Open-up all joints which are not tight fitting and rake out thoroughly. Rub down to 'feather' broken edges and to provide a 'key' (This is particularly important when applying water based systems to previous coatings that are known, or suspected to be, solvent based.) Abrade overall in the direction of the grain to remove any grey denatured timber, raised grain and round all sharp edges (a radius of 1 mm to 2mm for timber other than sills and thresholds; 3mm for sills and thresholds). *Dust off.
Note
*When rubbing down dry and/or dusting off wear a suitable face mask to avoid the inhalation of dust.(See AkzoNobel Site Work Instruction vExt1. for further information.)
Some hardwoods contain high levels of natural wood extractives or exudates and some softwoods can be highly resinous.
Resinous deposits should be removed with a scraper. Wipe down with a sharp solvent such as cellulose thinners or methylated spirits (not White Spirit) on a lint-free cloth, frequently changing the face of the cloth and allow solvent to evaporate before overcoating.
Note: We do not recommend the use of shellac knotting beneath a semi-transparent woodstain system.
Making Good:
Punch home all exposed nails. Fill slightly "proud" with Sikkens Gupa Woodfiller. Allow to dry. Rub down with a medium grade (P120) wet or dry silicon carbide abrasive paper. Take care not to break through the surface of any surrounding coating system. Remove all dust.
Cut out and replace areas of decayed wood and / or seal any open joints using the appropriate Repair Care systems repair method.For further information or to arrange training contact Repair Care International Ltd (See clause SW 1.04).
Open joints should be filled with a suitable elastomeric (gun applied) sealant, such as acrylic in a suitable colour. Apply in accordance with manufacturer's instructions. Conventional fillers, whether one or two pack, are not flexible enough to cope withthe movement normally experienced in these areas.
Priming:
Base stain all bare timber and filled areas with one saturating/flood coat of Cetol HLS plus to satisfy the absorption of the surface, obtain uniform coverage and to match the colour of the

existing sound woodstain. Do not thin. Excess surface material should be re-distributed after 5 to 20 minutes, using a dry brush and the minimum number of strokes required to produce an even overall colour. The brush should be cleaned periodically with a dry cloth. Allow a minimum drying time of 18-24 hours in normal drying conditions before overcoating.
Finishing System:
Apply 2 coats of Cetol Filter 7 plus. The wet film thickness must not be less than 60 micrometres. Allow 16 hours drying time.

GENERAL CLAUSES

215 HANDLING AND STORAGE

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

220 COMPATIBILITY

- Coating materials selected by contractor:
  - Recommended by their manufacturers for the particular surface and conditions of exposure.
  - Compatible with each other.
  - Compatible with and not inhibiting performance of preservative/fire retardant pretreatments.

280 PROTECTION

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

300 CONTROL SAMPLES

- Sample areas of finished work: Carry out, including preparation, as follows:

  Types of coating Location: tba
  All types – one item / area, tba.
- Approval of appearance: Obtain before commencement of general coating work.

320 INSPECTION BY COATING MANUFACTURERS

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

PREPARATION

400 PREPARATION GENERALLY

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

  - If applied after priming: Patch prime.
- Oil based stoppers and fillers: Apply after priming.
- Doors, opening windows and other moving parts:
  - Ease, if necessary, before coating.
  - Prime resulting bare areas.

420 FIXTURES AND FITTINGS

- Removal: Before commencing work remove: All fixtures, fittings, ironmongery, etc and replace on completion as required.
- Replacement: Refurbish as necessary, refit when coating is dry.

425 IRONMONGERY

- Removal: Before commencing work: Remove ironmongery from surfaces to be coated.
- Hinges: Protect to avoid any paint being applied.
- Replacement: Refurbishment as necessary; refit when coating is dry.

430 EXISTING IRONMONGERY

- Refurbishment: Remove old coating marks. Clean and polish.

440 PREVIOUSLY COATED SURFACES GENERALLY

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

451 PREVIOUSLY COATED SURFACES - BLAST CLEANING

- Operatives:
  - Trained/ experienced in blast cleaning.
  - Submit evidence of training/ experience on request.
- Dust and nuisance: Minimize.

456 PREVIOUSLY COATED SURFACE - BURNING OFF (subject to agreement)

- Risk assessment and method statement: Prepare, and obtain approval before commencing work.
- Adjacent areas: Protect from excessive heat and falling scrapings.
- Exposed resinous areas and knots: Apply two coats of knotting.
- Removed coatings: Dispose of safely.

461 PREVIOUSLY COATED WOOD

- Degraded or weathered surface wood: Take back to provide suitable substrate.
- Degraded substrate wood: Repair with sound material of same species.
- Exposed resinous areas and knots: Apply two coats of knotting.

471 PREPRIMED WOOD

- Areas of defective primer: Take back to bare wood and reprime.

481 UNCOATED WOOD

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

490 PREVIOUSLY COATED STEEL

- Defective paintwork: Remove to leave a firm edge and clean bright metal.
- Sound paintwork: Provide key for subsequent coats.
- Corrosion and loose scale: Take back to bare metal.
- Residual rust: Treat with a proprietary removal solution.
- Bare metal: Apply primer as soon as possible.
- Remaining areas: Degrease.

500 PREPRIMED STEEL

- Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.

511 GALVANIZED, SHERARDIZED AND ELECTROPLATED STEEL

- White rust: Remove.
- Pretreatment: Apply one of the following:
  - Mordant solution to blacken whole surface.
  - Etching primer recommended by coating system manufacturer.

521 UNCOATED STEEL - MANUAL CLEANING

- Oil and grease: Remove.
- Corrosion, loose scale, welding slag and spatter: Remove.
- Residual rust: Treat with a proprietary removal solution.
- Primer: Apply as soon as possible.

531 UNCOATED STEEL - BLAST CLEANING

- Oil and grease: Remove.
- Blast cleaning:
  - Atmospheric conditions: Dry.
  - Abrasive: Suitable type and size, free from fines, moisture and oil.
  - Surface finish: To BS EN ISO 8501-1, preparation grade high quality.
- Primer: Apply as soon as possible and within four hours of blast cleaning.

541 UNCOATED ALUMINIUM/ COPPER/ LEAD

- Surface corrosion: Remove and lightly key surface.
- Pretreatment: Etching primer if recommended by coating system manufacturer.

552 UNCOATED PVC-U

- Dirt and grease: Remove. Do not abrade surface.

560 UNCOATED CONCRETE

- Release agents: Remove.

570 UNCOATED MASONRY/ RENDERING

- Loose and flaking material: remove.

580 UNCOATED PLASTER

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

590 UNCOATED PLASTERBOARD

- Depressions around fixings: Fill with stoppers/ fillers

601 UNCOATED PLASTERBOARD - TO RECEIVE TEXTURED COATING

- Joints: Fill, tape and feather out with materials recommended by textured coating manufacturer.

611 WALL COVERINGS

- Retained wall coverings: Check that they are in good condition and well adhered to substrate.
- Previously covered walls: Wash down to remove paper residues, adhesive and size.

622 ORGANIC GROWTHS

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

631 PREVIOUSLY PAINTED WINDOWS FRAMES

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

640 EXTERNAL POINTING TO EXISTING FRAMES

- Defective sealant pointing: Remove.
- Joint depth: Approximately half joint width; adjust with backing strip if necessary.
- Sealant:
  - Manufacturer: Adshead Ratcliffe
    Product reference: To be agreed to suit the heritage condition.
  - Preparation and application: As section Z22.

645 SEALING OF INTERNAL MOVEMENT JOINTS

- General: To junctions of walls and ceilings with architraves, skirtings and other trims.
- Sealant: Water-borne acrylic.
  - Manufacturer: Adshead Ratcliffe
  - Preparation and application: As section Z22.

651 EXISTING GUTTERS

- Dirt and debris: Remove from inside of gutters.
- Defective joints: Clean and seal with suitable jointing material.

APPLICATION

711 COATING GENERALLY

- Application standard: In accordance with BS 6150, clause 9.
- Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
- Surfaces: Clean and dry at time of application.
- Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
- Overpainting: Do not paint over intumescent strips or silicone mastics.
- Priming coats:
  - Thickness: To suit surface porosity.
  - Application: As soon as possible on same day as preparation is completed.
- Finish:
  - Even, smooth and of uniform colour.
  - Free from brush marks, sags, runs and other defects.
  - Cut in neatly.
- Doors, opening windows and other moving parts: Ease before coating and between coats.

720 PRIMING JOINERY

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

730 WORKSHOP COATING OF CONCEALED JOINERY SURFACES

- General: Apply coatings to all surfaces of components.

731 SITE COATING OF CONCEALED JOINERY SURFACES

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

740 CONCEALED METAL SURFACES

- General: Apply additional coatings to surfaces that will be concealed when component is fixed in place.

751 STAINING WOOD

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

770 EXTERNAL DOORS

- Bottom edges: Prime and coat before hanging doors.

780 BEAD GLAZING TO COATED WOOD

- Before glazing: Apply first two coats to rebates and beads.

790 LINSEED OIL PUTTY GLAZING

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

800 GLAZING

- Etched, sand blasted and ground glass: Treat or mask edges before coating to protect from contamination by oily constituents of coating materials.

810 WATER REPELLENT

Application: Liberally flood surface, giving complete and even coverage.

VINCENT+GORBING

N10 Fixtures, Fittings and Equipment

To be read with Preliminaries, general conditions and Section A81.

COMPONENTS

150 KITCHEN UNITS TO TEA POINTS, REST AREAS, ETC

Manufacturer and reference: Howdens, Greenwich Gloss White range. Base and wall units.
Worktop pattern/colour: 38mm thick with postformed front and mason mitred joints. Howdens 38mm Grey Oak Block Effect bullnosed.
Accessories: Frankie double bowl (1 ½ bowl) stainless steel sink with single drainer (965 x 500mm)and Frankie single action chrome monobloc ceramic disc swivelling mixer tap.
Chromed steel support legs and special upstands as / where indicated on drawings.
NB. Units to be adapted to suit the 850mm Part M worktop requirement to part of length where shown.
Wall units to have Howdens Greenwich pelmets above and below and end panels to all exposed ends. Finish to pelmets and end panels: to match doors.

151 DISHWASHERS

Bosch, freestanding unit, white, with simple knob controls.

152 UNDERCOUNTER FRIDGES

Bosch, freestanding unit, white, no freezer.

153 TALL FRIDGE / FREEZERS

Bosch, freestanding 50 / 50 unit, white, fridge 193 litres, freezer 107 litres, 1860mm tall.

154 HOB

Bosch, built-in electric induction hob, with simple knob controls.

155 COOKER EXTRACT UNIT

Bosch, 600mm wide, wall hung, stainless steel ‘chimney cooker hood’, precise model tba.

156 OVEN

Bosch, built-in electric fan oven, with simple knob controls.

170 BENCHES AND PEG RAILS (HOOKS) TO SHOWER AREAS

Manufacturer: Broxap Cloakroom Furniture
Product reference: Broxap floor mounted and fixed Seat, 300mm deep x length as shown on plans with standard Trespa solid laminate slats and matching Broxap Peg Rails (to be fixed above the bench, 3 Broxap T10 PPC finished hooks per shower).
Material: Solid laminate slats to benches and Peg Rail with PPC steel frame colour and pegs to be chosen from standard colour range.- Standard Grey

210 LOCKERS TO LOCKER ROOMS

Supplied by HC.

220 SHELVING UNITS TO STORES

Where supplied by Contractor, Stodec Dexion HI280, 1000 x 450 x 2100mm high interlocking units each with 6 adjustable galvanised shelves - see plan for overall length.

240 BLINDS GENERALLY TO EXTERNAL WINDOWS

Price to include the most expensive of the two options below but option to be agreed prior to ordering:

roller blinds option to Police area

- Standard: To BS EN 13120.
- Manufacturer: Waverley Blinds

  - Product reference: ShadeTech RBL-C Roller Blind System.
- Type: Roller Blind System.
- Dimensions: Site dimensions are to be taken to each window.
- Material: SigmaTex 60 fabric. Fabric and complete installation to comply with BS 8867: Part 2, Type B (spread of flame / fire rating).
- Operation: Stainless steel side chain control.
- Bottom bar: Fabric enclosed.
- Other requirements: The chain is to terminate 1.3m nominal from the floor.
- NB All details are subject to a sample blind and approval.

vertical slat blinds option to Police area

- Standard: To BS EN 13120.
- Manufacturer: Waverley Blinds
  - Product reference: VL-C / VL-M chord and stainless steel chain vertical slat blinds, with an option of mono control (single stainless steel chain controls draw of blind and tilt of blades).
- Type: Vertical slat blinds.
- Blade width: 89mm.
- Bottom weights: Weights in pockets to base of each blade linked by chains).
- Dimensions: Site dimensions are to be taken to each window.
- Material: SigmaTex 60 fabric. Fabric and complete installation to comply with BS 8867: Part 2, Type B (spread of flame / fire rating).
- Other requirements: The chain / chain and chord is to terminate nominal 1.3m nominal from the floor.

roller blinds WITH BLACK-OUT FABRIC to Watford Borough Council Area only

- Standard: To BS EN 13120.
- Manufacturer: Waverley Blinds
  - Product reference: ShadeTech RBL-C Roller Blind System.
- Type: Roller Blind System.
- Dimensions: Site dimensions are to be taken to each window.
- Material: Delta Block 30 fabric. Fabric and complete installation to comply with BS 8867: Part 2, Type B (spread of flame / fire rating).
- Operation: Stainless steel side chain control.
- Bottom bar: Fabric enclosed.
- Other requirements: The chain is to terminate 1.3m nominal from the floor.
- NB All details are subject to a sample blind and approval.

550 GLASS MIRRORS TO TOILETS

- Size: 1000mm high x length of vanity units. 600mm wide x 1000mm high in disabled persons toilets.
  Joints: none.
- Mirror material: Float glass, silvered to give maximum reflection, free from tarnishing, discoloration, scratches and other defects visible in the designed viewing conditions.
  Thickness: 6mm
  Backing: lead foil backing and safety backing
  Edge treatment: ground and polished.
- Background: blockwork/ studwork wall
- Fixing method: Concealed mirror fixings with polyethylene washers.
- Fix accurately and securely, but without overtightening fastenings, to provide a flat surface giving a distortion free reflection.

560 FREESTANDING HANGING RAIL UNIT TO DRYING ROOM

Morplan, Super Heavy Duty Clothing Rails,

- Engineered to be our strongest 6ft clothes rail ever
- Hard-wearing, black powder coated finish
- Extra strength guaranteed to hold up to 200kgs
- Fitted with large 12cm heavy duty, full-swivel castors (2 braked) with solid rubber tyres

- Chunky castors cope with kerbs, steps, ramps and pavements with ease
- Locking bolts keep the structure rigid
- Two large handles at each end of rail make it easy to manoeuvre when loaded
- Designed to nest together when not in use to save space
- Height 165cm
- Colour: Black
- Material: Steel
- Length Imperial: 6 Foot, 184cm
- Width: 53cm

Each unit is to have 10 Moreplan Captive Coat Hangers.
Locations and numbers as indicated.

610 RECEPTION COUNTER AND GLAZED DROP-DOWN SCREENS (including internal desk)

- Drawing reference: A-00-307.
- Design: To be completed a specialist contractor such as Lund Halsey (counter) and Safetell. (drop-down glazed screens). Drawings and samples to be provided to the CA for review and fabrication is only to proceed once the comments have been resolved.
- Generally: The counter and screen are to be robust and secure.
- Materials:
    - Solid laminate to main countertop with 3mm radiused edges and 70mm deep face.
    - Laminated MDF internal desk with PPC metal legs / framing.
    - Natural anodised aluminium frame to the glazed screen.
    - Natural anodised aluminium trims to the glazed screen.
    - Natural anodised aluminium sign plate above the screen with acrylic letters set off 30mm.
    - Natural anodised aluminium kick plate below the glazed screen.
    - Drop-down screens in laminated glass and polycarbonate.
- Drop-down screens: Safetell ‘CounterShield’ (or equivalent), with fast reactive powered closure mechanism certified to provide resistance to BSEN356, P4A. The powered closure mechanisms are to allow the screens to be set at any position between fully open and fully closed. Safety edges are required to prevent impact with people. Controls: Precise type to be agreed but to facilitate precise opening and closing as well as a panic mode for rapid closure.
- Fixings: All concealed to manufacturer’s design.

INSTALLATION

710 MOISTURE CONTENT

During delivery, storage, fixing and thereafter to practical completion maintain conditions of temperature and humidity to suit specified moisture content(s) of timber components. When instructed by CA, test components with an approved moisture meter to manufacturer's recommendations.

720 INSTALLATION GENERALLY

Methods of fixing and fastenings to be as section Z20 unless specified otherwise.

740 TAPS

Fix securely, making a watertight seal with the appliance. Place hot tap to left of cold tap as viewed by user of appliance.

750 WASTES/OVERFLOWS

Bed in waterproof jointing compound and fix with resilient washer between appliance and backnut.

760 SEALANT POINTING

Sealant: Silicone based to BS 5889, Type B with fungicide.
Colour: to be agreed.
Manufacturer and reference: Adshead Ratcliffe - Arbosil 1090 or similar approved.

Application: As section Z22.

770 TRIMS

Wherever possible to be in unjointed lengths between angles or ends of runs. Where running joints are unavoidable obtain approval of location and method of jointing. Mitre angle joints unless otherwise specified.

780 COMPLETION

Ensure that doors and drawers are accurately aligned and do not bind. Adjust as necessary to ensure smooth operation.
Check, adjust and lubricate ironmongery as necessary to ensure correct functioning.

VINCENT+GORBING

N13 Sanitary Appliances, Fittings

To be read with Preliminaries, general conditions and Section A81.

TYPES OF APPLIANCE / FITTING

110 WC PAN AND CISTERN (EXCEPT TO DIS WC)

Ideal Standard back to wall concealed cistern WC unit.
Pan: Contour 21 Wall Hung (standard height) - colour: white.
Seat: Contour 21- with cover (colour: white)
Pan connector: trap to suit connection to stack/drain.
Cistern: Conceala 2, 6/4 litre capacity with Freeflo plastic syphon fittings.
Valve and float: Microvalve HP/LP ballvalve.
Operating mechanism: Pneumatic finger push button.
Flush pipe (complete with connectors): white PVC.
Other accessories: overflow connectors, Simpla inlet connectors, floor mounting brackets.

121 DOC M PACK INCLUDING WC AND BASIN

Arrangement: Ideal Standard Standard Doc M Pack.
Accessories: All as pack, including cushioned backrest, china cistern, grabrails, etc. NB. Grab rail colour must contrast with wall colour – allow for either white or dark grey depending on the background colours.
Tap to basin: Dart Valley Systems no-touch electronic taps to M&E Spec.
Sealing: Sealant to back of basin as clause 750.

184 WASH BASIN (SEMI COUNTERTOP)

Type: Ideal Standard – Profile 21 semi countertop, 500mm wide.
Taps: Dart Valley Systems no-touch electronic taps to M&E Spec.
Trap: Plastic bottle trap with 75mm seal.
Other accessories: Overflow fitment, fixing plates and screws, fixed flip plug (not pop-up waste or plug and chain).
Sealing: Sealant to rim as clause 750.

210 CLEANER'S SINK

Type: Ideal Standard Alder Sink Ref: S5900. Complete with taps, grating, strainer waste and supply.

340 SHOWER TRAY

Type: Acrylic capped resin stone.
Manufacturer and reference: Mira Flight.
Sizes – see drawings for final sizes and numbers prior to ordering.

350 SHOWER FITTINGS

Electric shower to M&E Engineer's spec to all showers.

351 SHOWER DOOR

See spec K32/121.

401 PAPER TOWEL DISPENSERS

Manufacturer and reference: Supplied by HC.

402 TOILET PAPER HOLDER:

Manufacturer and reference: Supplied by HC.

403 SOAP DISPENSER

Manufacturer and reference: Supplied by HC.

404 HAND DRIER

Type: Warner Howard Air Force (to M&E Spec)

WORKMANSHIP

610 INSTALLATION GENERALLY:

Assemble and fix appliances and accessories so that surfaces designed to falls, drain as intended.
Use non-ferrous or stainless steel fastenings unless specified otherwise.
When not specified otherwise, use jointing and bedding compounds recommended by the manufacturers of the appliances, accessories and pipes being jointed or bedded.
Prevent use of appliances for any purpose until Practical Completion.
On completion, check for damage and defects and test for satisfactory operation. Replace damaged or defective components and accessories. Clean thoroughly.

620 NOGGINGS/BEARERS: Ensure that noggings, bearers, etc. required to support sanitary appliances and fittings are accurately positioned and securely fixed.

630 TILED BACKGROUNDS

Ensure that:

- Whiterock is complete before fixing appliances.
- Fixings do not overstress background.

650 WC PANS: ensure that seat and lid are stable when raised.

670 CISTERNS:

Unless specified otherwise obtain cistern operating components from cistern manufacturer. Ensure that ballvalve matches pressure of water supply.
Fix at the height recommended by manufacturer unless otherwise shown on drawings.
Ensure that overflow pipe is fixed to falls, and located to give visible warning of discharge. Agree position with CA where not shown on drawings.

710 TAPS: Fix securely, making a watertight seal with the appliance. Place hot tap to left of cold tap as viewed by user of appliance (where applicable).

720 WASTES/OVERFLOWS: Bed in waterproof jointing compound and fix with resilient washer between appliance and backnut.

750 SEALANT POINTING:

Sealant: silicone based to BS 5889, Type B with fungicide.
Manufacturer and reference: Adshead Ratcliffe Ltd or equal approved.
Colour: white.
Application: As section Z22.

VINCENT+GORBING

P10 Firestopping / Proofing

To be read with Preliminaries, general conditions and Section A81.

GENERAL REQUIREMENTS

110 SPECIALIST CONTRACTOR

All work is to be completed by a specialist contractor. Each firestopping / proofing instance is to be numbered, labelled, scheduled and photographed. A hard copy and electronic copy of the schedule, complete with the photographs is to be provided on completion.

SPECIFIC REQUIREMENTS

412 FIRE STOP SECTIONS TO STOP GAPS TO FIRE WALLS AND FLOORS

Manufacturer and reference: PFC Corofil C144 Firewall & Corofil C144 Cavity Firestop Strips and Blocks. See also F30/670.
Thickness: To suit and as required to achieve the fire resistance of the wall/ floor
Cut to fit tightly to provide a complete barrier to smoke and flame.
Fill any gaps at the perimeter with cavity barrier material tightly fitted.

416 FIRE STOPPING / SEALING AROUND SERVICE PENETRATIONS TO FIRE WALLS AND FLOORS

Select product from the PFC Corofil range to suit the type and size of the penetration including:

- 'GPG' Fire Stop Sealing Compound
- Fire Rated Silicone Sealant
- Intumescent Sealant
- Intumescent Firestop Collars
- Corofil Insulated Fire Sleeves
- Corofil Coated Panel System
- Corfil Firebreak Service Transits

Seal around cable penetrations where they pass through fire rated structure. Completely fill the space, leaving no gaps and finish neatly.
Install strictly manufacturers recommendations to maintain the fire integrity.
Fire certification: To be provided.

440 FIRE STOPPING TO GAPS

Ensure that any imperfections of fit between building elements which are required to have fire resistance and/or resist the passage of smoke, are completely sealed. Where not specified otherwise, tightly pack gaps and seal with and approved intumescent sealant using the products listed in 412 and 416 above.

450 CAVITY BARRIERS TO CEILING VOIDS

See spec K40/250.

460 CAVITY BARRIERS TO FLOOR VOIDS – BELOW ALL PARTITIONS – ALSO TO SUBDIVIDE RAISED FLOOR VOIDS WHICH EXCEED 20M IN ANY DIRECTION

- Foil faced, reinforced, rockfibre raised access floor cavity barriers.
- Fire resistance: 60 minutes, independently certified.
- Installation: Tightly butted to adjacent surfaces and at joints, with fixings all as recommended by the manufacturer.
- Possible manufacturer and ref, subject to compliant fire certification: ARC Raised Access Floor Barrier.

VINCENT+GORBING

P20 Unframed Timber Boards, Trims

To be read with Preliminaries, general conditions and Section A81.

110 PAINTED SOFTWOOD/ MDF PAINTED SKIRTINGS

Location and extent: As necessary to infill / replace existing and to new partitions / walls.
Quality of timber: To BS1186:Part 3
Class CHS.
Quality of MDF: To BS EN 622-5.
- Type: MDF.
- Formaldehyde class: To BS EN 622-1, Class E1.

Moisture content at time of fixing: 9-12%
Finish: Planed, painted to spec M60.

- Profile and size where new throughout the room: 100mm x 15mm, rounded to 3mm radius.
- Profile and size where infilling existing or to a new wall where skirtings exist to other walls: To match existing.
  NB All members to be in single lengths with no joints except where unavoidable to long skirting lengths.
- Fixing: to softwood grounds with lost-head nails and filler.

120 SOFTWOOD ARCHITRAVES / TRIM

Location and extent: Various locations as indicated on drawings.

- Quality of wood and fixing: To BS 1186-3.
- Class: CHS.
- Moisture content at time of fixing: 9-12%
- Profiles and size: See drawings – include a 3mm radius to the leading edge.
- Finish: Planed, painted to spec M60.
- Fixing: Concealed – adhesive plus screws at 450mm centres and pelleted with matching pellets.
  NB All members to be in single lengths with no joints except where unavoidable. Joint locations are then to be agreed.
- Fixing: Lost-head screws, filled over so as to be invisible.

150 PAINTED MDF PAINTED WINDOW CILL AND HEAD BOARDS

Location and extent: Not generally required but specification included as necessary.
Quality of MDF: To BS EN 622-5.
- Type: MDF.
- Formaldehyde class: To BS EN 622-1, Class E1.

Moisture content at time of fixing: 9-12%
Finish: Prepared, primed and painted to spec M60.

- Profile: Allow for leading edge of cill boards to be rounded to 3mm radius but match existing.
  Thickness: 20mm minimum but to match existing.
  NB All members to be in single lengths with no joints except where unavoidable.
- Fixing: to softwood grounds with lost-head screws, filled over so as to be invisible.

510 INSTALLATION GENERALLY

- Joinery workmanship to be as section Z10 unless specified otherwise.
- Methods of fixing and fastenings to be as section Z20 unless specified otherwise.
- Straight runs to be formed in single lengths wherever possible. Location and method of forming running joints to be approved by the CA where not detailed.
- All joints at angles to be mitred unless specified otherwise.
- Moisture content of timber and wood based boards to be maintained during storage and installation within the range specified for the component.

VINCENT+GORBING

P21 Ironmongery

To be read with Preliminaries, general conditions and Section A81.

GENERAL

121 IRONMONGERY FROM SINGLE PROPRIETARY RANGE

- Manufacturer: Allgoods Modric stainless steel range, subject to compliance with this specification. Alternatives are to be proposed in lieu of any non-compliant items.
- Guarantee: 25 years.
- Standard DD171, heavy duty.
- Principal material/ finish: Grade 316 stainless steel.
- Items unavailable within selected range: Submit proposals.

141 SAMPLE BOARDS

- General: Before placing orders with suppliers submit a sample board, containing labelled samples of ironmongery and showing methods of fixing.
- Range: Include lever handles, pull handles, push plates, locks, kick plates.
  - Conformity: Retain board on site in an approved location for the duration of the contract. Ensure conformity of ironmongery as delivered with labelled samples.

170 IRONMONGERY FOR FIRE DOORS

- Relevant products: Ironmongery fixed to, or morticed into, the component parts of a fire resisting door assembly.
- Compliance: Ironmongery included in successful tests to BS 476-22 or BS EN 1634-1 on door assemblies similar to those proposed.
  - Certification: Required.
- Melting point of components (except decorative non functional parts): 800°C minimum.

180 STRENGTH CLASS OR CATEGORY OF DUTY FOR DOOR IRONMONGERY

- Requirement: DD171, Heavy duty.
- General: Durability of ironmongery components to be compatible with stated category of duty of each door leaf.
  - Exclusions: Ironmongery with specific duty or 'category of use' defined elsewhere.
  - Documentation: Before placing orders with suppliers submit documentation showing product compliance with stated category of duty.

221 BASIC REQUIREMENTS FOR IRONMONGERY

1. Ironmongery to all internal doors be from the specified range as noted above unless any individual items are non-compliant with this specification, in which case, similar alternatives are to be proposed.
2. Finish: Grade 316 stainless steel.
3. Samples to be provided prior to ordering. See 141 above.
4. All locks to be mastered and sub-mastered. Details to be agreed.
5. HINGES – Allgood 8066 range, 100mm high, maintenance free range (25 year guarantee).
6. LEVER HANDLES – Allgood Modric safety handle.
7. LOCKS AND LATCHES – From the Allgood range. Where the locks are linked to access controls, the are to be Abloy locks with europrofile cylinder Series E460,E461,E560,E561
8. CYLINDERS – Allgood range, Europrofile (STC), mastered and sub mastered, matching finish.
9. CLOSERS – Allgood range, overhead, DDA compliant (with delayed action to appropriate locations). Closers to mounted to either push or pull side – details to be agreed.
10. PULL HANDLES – Allgood Modric, 400mm long, centre to centre.
11. PUSH PLATES – Allgood Modric range 450 x 76 x 3mm plate.
12. KICK PLATES – Allgood Modric range, size as scheduled/ noted below.

13. SIGNS – Including all fire signs from Allgood Modric range. Fire exit and fire door keep shut signs to be to BS 5499: Part 1: 2002, with symbols as shown on the Fire Strategy plans.
14. FLUSHBOLTS – Allgood Modric range (150mm high), to 2040mm high doors, TBA range (300mm high) in matching finish, to upper bolt to taller doors. Floor sockets TBA range in matching finish, to accompany all floor bolts.
15. DOORSTOPS – Allgood Modric range floor mounted.
16. FINGER PROTECTORS – Not required.
17. ALL OTHER IRONMONGERY – From the range.

HANGING DEVICES

310 HINGES

To BS 7352 and marked accordingly. Unless specified otherwise, select strength class to suit door weight, duty, number of hinges and other factors as recommended in BS 7352, Appendix C. Hinges to fire doors to be fire rated. All hinges to be washered.
Corrosion protection: Unless specified otherwise:
CP 24 for internal use
CP 48 for damp internal and unpolluted external use
CP 96 for polluted atmospheres.

330 NUMBER OF HINGES

Provide three butt hinges to each leaf unless specified otherwise.

OPERATING DEVICES

410 OVERHEAD CLOSERS GENERALLY

To Method of Building Performance Specification MOB H3 PS July 1989, 'Hardware for Internal Doorsets'
Type: heavy duty.
Finish: As scheduled.
Closers must:
- Be matched to the sizes and weights of doors
- Override latches and/or door seals when fitted
- Hold unlatched doors shut under normal working conditions.

420 OVERHEAD CLOSERS FOR FIRE DOORS

In addition to the general requirements for closers, overhead closers for fire resisting doors must:
Be types included in successful tests to BS 476:Part 22 of door assemblies similar to those for which the closers are proposed. Submit evidence of testing by an approved laboratory.
Hold a current fire Certificate.
Be fixed on the opening face of the door unless specified otherwise.
Have no mechanical hold open facility.
Close positively against smoke seals where fitted.
Have arms of iron, steel or other metal with melting point not less than 800 degC.

430 SWING FREE OVERHEAD CLOSERS

Must close the door when activated by the alarm system and/or failure of the the power supply. A test switch must be located in a convenient position adjacent to the door.

440 SURFACE MOUNTED CLOSERS

To be mounted on opening face of door except where they will be obstructed or where specified otherwise.

450 FLOOR SPRINGS GENERALLY

To Method of Building Performance Specification MOB H3 PS July 1989, 'Hardware for Internal Doorsets'
Finish: satin stainless steel.
Floor springs must:
- Be matched to the sizes and weights of doors.

- Override latches and/or door seals when fitted.
- Hold unlatched doors shut under normal working conditions.

480 DOOR SELECTORS

Must be fitted to all single swing double doors with rebated meeting stiles fitted with self closers. Provide types that:
Require the minimum amount of material to be removed from the door and frame
Are suitable for the size of rebates
Are from the same range as the closers and are of matching finish and colour.

SECURING

510 LOCKS SHALL ALL BE IN ACCORDANCE WITH SECURITY REQUIREMENTS

Locks shall generally be 5 lever security deadlocks.
Suiting is to be as indicated on the Ironmongery Schedule.
The locks shall satisfy all of the requirements of MOB standards for robustness and security.

540 LATCHES:

To BS 5872.
Latch springs must be strong enough to prevent unsprung lever handles drooping.

550 LOCKS/LATCHES FOR FIRE RESISTING DOORS:

Must not compromise the fire performance of the door and must be approved for the purpose by the door leaf manufacturer.
Components critical to the retention of the door in a closed position must not have a melting point lower than 800 degC.

560 ESCAPE LOCKS: Locks specified for security purposes on escape routes must be fitted with a means of withdrawing the bolt without use of a key.

570 EMERGENCY EXIT DEVICES:

Unless specified otherwise, to be panic bolts/latches to BS 5725:Part 1.

575 EMERGENCY EXIT DEVICES FOR FIRE DOORS:

Type included in successful tests to BS 476:Part 22 of door assemblies similar to those for which the closers are proposed. Submit evidence of testing by an approved laboratory.

585 BOLTS GENERALLY:

To match door furniture and sized to suit height, weight and function of door.
To secure the first closing leaf on double doors.

595 PRIVACY BOLTS:

Must incorporate an external emergency release facility.

WEATHERSTRIPS

850 THRESHOLD WEATHERSTRIP:

Manufacturer and reference: as recommended by the door manufacturer. Weather rating of door must be maintained.

855 WEATHERSTRIP to head and jambs:

Manufacturer and reference: as recommended by the door manufacturer. Weather rating of door must be maintained.

VINCENT+GORBING

Q40 External Works

To be read with Preliminaries, general conditions and Specification A81

110 SLAB PAVING TO RAMP AT ENTRANCE

- Manufacturer and reference: Marshalls Charnwood Textured Buff.
- Size: 600 x 600 x 50mm.
- Bedding: Minimum 50mm sharp bedding sand, fully compacted.
- Granular sub-base: Existing.
- Laying method: Vibrate slabs into the sand bedding layer.
- Jointing: Tight butt joints with fine dry sand to BS 7533-4, unbound.
- Bond: See plans.

111 CORDUROY PAVING

- Manufacturer and reference: Marshalls Corduroy Hazard Warning Tactile Standard, Natural
- Size: 400 x 400 x 50mm.
- Bedding: Minimum 50mm sharp bedding sand, fully compacted.
- Granular sub-base: Existing.
- Laying method: Vibrate slabs into the sand bedding layer.
- Jointing: Tight butt joints with fine dry sand to BS 7533-4, unbound.
- Bond: See plans.

112 PAVING TO STEP TREADS

- Manufacturer and reference: Marshalls Conservation X Step Textured Silver Grey with contrasting ribbed inset.
- Size: 400 x 400 x 50mm.
- Bedding: Lean mix concrete bedding.
- Sub-base: Concrete base to SE's details.
- Laying method: Vibrate slabs into the lean mix concrete layer.
- Jointing: Tight butt joints with fine dry sand to BS 7533-4, unbound.

113 BLOCK PAVING TO MATCH EXISTING

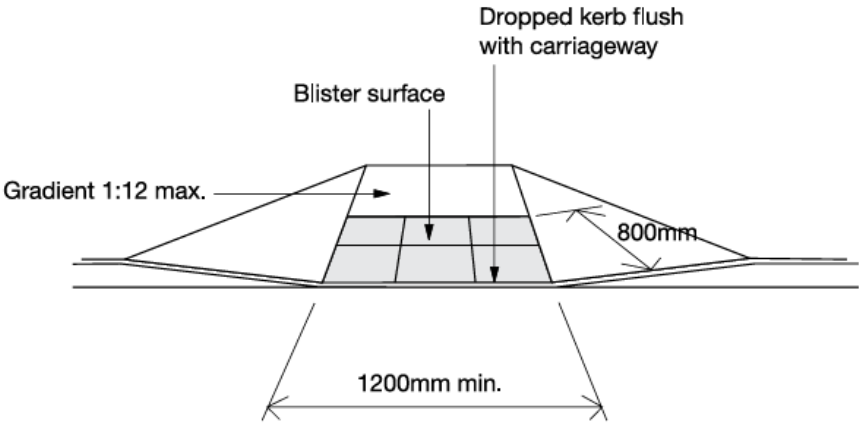
- Manufacturer and reference: Marshalls KeyBlock, Natural colour, subject to confirmation of match to existing.
- Size: 600 x 450 x 60/ 80mm to match existing.
- Bedding: Minimum 50mm sharp bedding sand, fully compacted.
- Granular sub-base: Existing.
- Laying method: Vibrate slabs into the sand bedding layer.
- Jointing: Tight butt joints with fine dry sand to BS 7533-4, unbound.
- Bond: To match existing.

150 PROPRIETARY PRECAST CONCRETE KERB

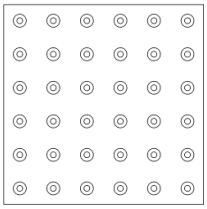
- Standard: To BS EN 1340.
- Special shapes: Corners – internal and external – see plans
- Size: 145 x 255mm
- Bedding: type HB2 with min 150mm thick concrete base and min 150mm wide concrete surround, concrete grade ST2 – see drawn detail. Subbase to kerb, minimum 100mm deep Type 1 fill to DTp specification for highway works.
- Joints generally: Tight butt joints with fine dry sand to BS 7533-4, unbound.

151 DROPPED KERB WITH TACTILE PAVING TO CROSSING POINT

- All to Building Regulations Part M, Diagram 1:

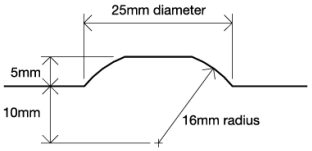


Dropped kerb at an uncontrolled crossing



Blister surface (with 36 domes)

Note: Full details of tactile paving are in "Guidance on the use of Tactile Paving Surfaces."



Dome profile

150 PROPRIETARY PRECAST CONCRETE TRIEF KERB

- Standard: To BS EN 1317, parts 1 and 2.
- Special shapes: Corners – internal and external – see plans
- Reference: GS2TA, 380mm wide x 415mm wide.
- Bedding: type HB2 with min 225mm thick concrete base and min 225mm wide concrete surround, concrete grade ST2 – see drawn detail. Subbase to kerb, minimum 100mm deep Type 1 fill to DTp specification for highway works.
- Joints generally: Tight butt joints with fine dry sand to BS 7533-4, unbound.

160 PRECAST CONCRETE PATH EDGING

- Standard: To BS EN 1340.
- Size (width x height x length): 50 X 250mm with bullnose to one edge
- Bedding: type HB2 with min 100mm thick concrete base and min 100mm wide concrete surround, concrete grade ST2 – see drawn detail. Subbase to edging, minimum 100mm deep Type 1 fill to DTp specification for highway works.
- Joints generally: Joints generally: Tight butt joints with fine dry sand to BS 7533-4, unbound.

190 GRAVEL FILL

- Free draining fill up to max 150mm of finished level sub-base: All to SE's specification.
- Gravel: Loose laid and raked to uniform thickness.
  - Type: Trent Pea Shingle.
  - Colour: Brown
  - Size: 15-20mm
  - Thickness: 150mm minimum.

FOR TARMAC, KERBS, IN-SITU CONCRETE, CONCRETE WALLS, RETAINING WALLS, DRAINAGE, ETC, REFER TO STRUCTURAL / CIVIL ENGINEER'S DRAWINGS (as applicable)

300 PROPRIETARY SOLID RECYCLED PLASTIC SCREEN TO BIN STORE

- Kedal View Protection Wall VPW01, including:
  - Posts and end posts in recycled mixed plastic;
  - 1900mm long (cut to suit as / if necessary) x 38mm thick x 130mm high recycled mixed plastic horizontal tongued and grooved boards slotted into the posts;
  - Centre wall support to the centre of each panel;
  - Panel height: 1950mm.

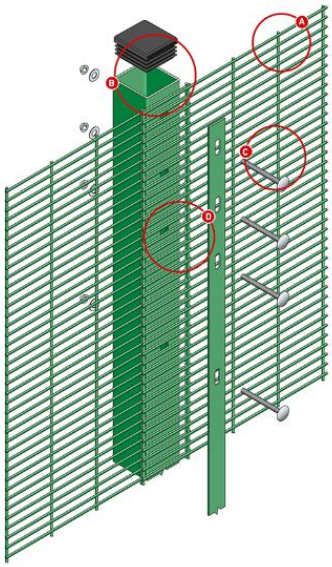
- Posts to extend minimum 600mm into the ground with concrete surround extending at least a further 100mm, to clause 620.
- Classification of flame spread: BS476: Class1.
- Colour of all elements: Brown, STC.

320 BALUSTRADE / HANDRAIL TO EXTERNAL STEPS ELSEWHERE AND AS SHOWN

- Generally: A blemish free product, with neatly dressed welds, etc with hot dipped galvanised and PPC finish.
- Handrails: 48mm diameter rails with12mm cantilevered rod supports (to underside of handrail and bent through 90°) fixed to the balusters.
- Mid rail and balusters to balustrades: 48mm diameter. Mid rails with12mm cantilevered rod supports fixed to the balusters to match the main handrail.
- The design is to be developed by a specialist contractor which is to provide drawings for comment. All comments are to be resolved prior to commencing fabrication.

350 MESH STEEL PANEL SECURITY FENCING AND GATE WITHIN BASEMENT

- Manufacturer: CLD Fencing Systems (or equal approved)
  - Product reference: Securus-Lite subject to compliance with this specification.
- Standard: To BS 1722-14, LPCB1175 SR1 and Police SbD approved (certification required).
- Height: Floor to soffit level – check on site.
- Panels: Produced using 358 mesh, galvanised and PPC finished, red, subject to confirmation.
- Maximum centres of posts: 2.5 m.
- Method of setting posts: Posts to have baseplates for surface fixing to the existing concrete slab.
- Bottom of fencing: As required to meet the standards noted above.
- Conformity: Submit manufacturer's and installer's certificates, to BS 1722-12/14, clause 9 and SbD and LPC.
- Guarantee: 5 years, materials and workmanship.



Gate

- Construction: Steel framed with all details, including mesh and finishes to match the fencing.
- Ironmongery:
  - 2-no hi-load hinges
  - 5 lever deadlock with Europrofile cylinder
  - Handle to pull side

  NB. Drawings of the gate are to be provided by the specialist contractor for comment. These are to include full details of the ironmongery. All comments are to be resolved prior to commencing fabrication.

351 TIMBER FENCE EXTENSIONS AND CLOSURE PANELS

- Drawings: External Works Plan A-00-364 and Fence Detail, A-00-302.

- Construction: Form fence extensions and closures in solid treated timbers to galvanised and PPC finished steel posts as noted below.
- Vertical timbers fixed to posts to enable fixing of the horizontal rails: 200 x 38mm pressure treated SW.
- Horizontal timber rails between posts: 100 x 75mm pressure treated SW with sloping tops.
- Vertical timber fence cladding timbers: 75 x 25mm pressure treated SW, screwed twice at each point of contact with the horizontal timbers, butt jointed.
- Capping: HW, size and profile as shown, screwed at 225mm centres to the vertical timbers.
- Standard of all timber:
    - Sawn softwood species to BS 5534, clause 4.11.1. Fully machine graded to the permissible characteristic requirements of BS 5534, Annex D. Moisture content not more than 22% at time of fixing.
    - Preservative treatment: In accordance with BS 8417: 2011 Usage Class 2 and/or as section Z12 and WPA Commodity Specifications C8.

360 NEW BI-FOLDING POWERED GATES FOR VEHICULAR ACCESS, UN-POWERED PEDESTRIAN ACCESS GATES

- Manufacturer: Tremorfa similar to Cova Security Gates Ltd Speedgate 604.
- Guarantee: 5 year guarantee required to the complete assemblies.

Vehicular Gates

- Product reference for vehicular gates: Motorised, bi-folding gate including posts.
- Height: 2400mm minimum.
- Infills: 358 mesh.
- Gate and post materials and finishes: Hot dipped galvanised steel to BS EN ISO 1461 and polyester powder coated, colour TBA.
- Controls: Programmable Logic Controls with safety photocells, live safety edges and vehicle detection loops in the road – all linked to G4S swipe controls access controls to Electrical Engineer's spec. Include a video and audio intercom linked to two control / monitoring stations in the building. Controls to be set on a PPC and galvanised control post located outside the gate.
- Method of setting posts: Concrete pads to manufacturer's specification.

Pedestrian Gate

- Construction: All details including mesh and finishes as to vehicle gate but single leaf, manual swing gate.
- Ironmongery:
    - 3-no hi-load hinges per leaf / heavy duty, high-use sliding mechanism where shown as sliding
    - heavy duty closer
    - deadlatch
    - electric strike linked to G4S swipe controls
    - internal electric release button for free exit linked to G4S swipe controls

NB. Drawings of all the gates are to be provided by the specialist contractor for comment. These are to include full details of the ironmongery to each instance. All comments are to be resolved prior to commencing fabrication.

380 HEIGHT RESTRICTOR TO BASEMENT RAMP

- Manufacturer and reference: Barriers Direct 18449, bespoke, with concreted in posts.
- Length: To site dimension, posts to be at least 150mm behind kerb / wall faces.

- Construction: Steel with galvanised and PPC finish. Hanging nudge bar(s) to be included across the width.
- Height: To site dimension but nominal 2m clear below nudge bar.
- The top of the barrier is to hinge open to allow maintenance vehicles to pass. A 'latch back post' is to be included to retain the barrier when open.
- Include a clear sign stating the height restriction in meters.

381 LOCALISED HEIGHT RESTRICTORS AND SIGNS WITHIN BASEMENT

- Specialist contractor to design restrictors and signs and to submit proposals for comment. Fabrication is not to commence until any comments have been resolved.
- Include clear signs stating the height restrictions in meters.
- Extent: To cover all restrictions which are lower than the general restriction to the entrance ramp.

390 CYCLE RACKS TO BASEMENT

- Cycle racking for at least 40 cycles – vertical hanging format.
- Manufacturer and reference: Bikedock Solutions, Free standing Wall Dock.
- Finish: Self finished.
- Fixings: Securely bolt anchor to floor.

395 CRASH PROTECTION BOLLARDS

- Locations as shown on plans.
- Manufacturer and reference: Barriers Direct Heavy Duty steel bollard, 1.0m high above ground x 139mm diameter, 'concrete-in' version.
- Material: Galvanised BS EN ISO 1461 steel with polyester powder coat finish in yellow and black.
- Installation: To manufacturer's recommendations. NB the bollards must be fixed upright.

450 WHITE YELLOW, BLUE AND RED LINING TO YARDS / CAR PARK

Thermoplastic with primer all to manufacturer's recommendations to lines, symbols, lettering, etc.
Burn off all existing lining in the area.
Include numbers to each parking space, 400mm high text.

EXECUTION OF PAVING WORK

501 LAYING GENERALLY

- Ensure that sub-bases are suitably accurate and to specified gradients before laying paving.
- Cut blocks/pavers neatly and accurately without spalling to give neat junctions at edge restraints and changes in bond.
- Select blocks/pavers vertically from at least 3 separate packs in rotation to avoid colour banding.
- Lay blocks/pavers on a well graded sand bed and vibrate to produce a thoroughly interlocked paving of even overall appearance with regular sand filled joints and accurate to line, level and profile.

505 CONTROL SAMPLE(S)

Complete sample area, being part of the finished work, in approved location and obtain approval of appearance before proceeding.

510 ADVERSE WEATHER

- Do not use frozen materials or lay bedding on frozen or frost covered sub base.
- Protect stockpiled bedding material to ensure it does not become saturated.
- Protect uncompacted areas of paving from heavy rainfall.

515 ACCEPTANCE OF BASE

Before starting work ensure that:

- The base is sound, clean and suitably close textured.
- The levels and falls of the base are as detailed, within the specified tolerance of +/-20 mm.
- Drainage outlets are within +0 to -10 mm of the required finished level.
- Edge restraints are complete, adequately bedded and haunched and to the required levels.
- Haunching to gullies, manholes and the inside face of edge restraints is vertical so that pavings do not 'ride up' when compacted.

520 BEDDING

- Refer to Civil engineer's details for bedding and sub-base.

525 JOINTING

- Granular fill as per manufacturer's recommendations

550 LAYING BEDDING

- In any one area of paving use only one of the following methods:
- Precompaction laying method: Lay, level and compact a layer of bedding material to a thickness of approximately 35 mm, then lay and screed to levels a further, uniformly loose layer with sufficient surcharge to give the required finished levels and an overall bedding thickness of not less than 50 mm after compaction of paving.
- Post-compaction laying method: Subject to approval of accuracy and regularity of the finished paving, the bedding may instead be laid in a single layer, thickness after compaction not less than 25 mm at any point.
  Maintain a prepared area of bedding not less than 1 m and not more than 3 m in advance of the laying face at all times, and not more than 1 m at the conclusion of any working period.
- Do not leave areas of bedding exposed: proceed with laying blocks/pavers immediately.
- Do not deliver bedding sand to working area over uncompacted paving. Prevent disturbance to the bedding course by pedestrian or wheeled raffic.
  Fill, rescreed and recompact any parts of the bedding layer disturbed by removal of screed rails or trafficking.

551 LAYING BLOCKS/PAVERS

- Commencing from an edge restraint, lay blocks/pavers hand tight with a joint width of 2-5 mm: do not use mechanical force to obtain tight joints. Place blocks/pavers squarely with minimum disturbance to bedding.
- Supply blocks/pavers to laying face over newly laid paving but stack at least 1 metre back from laying face. Do not allow plant to traverse areas of uncompacted paving.
- Continually check alignment of pavers with string lines as work proceeds to ensure maintenance of accurate bond.
- Infill at edge restraints as work proceeds. Wherever the type of bond and angle of edging permit, avoid very small infill pieces at edges by breaking bond on the next course in from the edge, using cut blocks/pavers not less than 1/3 full size.

555 CUT BLOCKS/PAVERS

With a masonry saw.

560 VIBRATING PLATE COMPACTOR FOR BLOCK PAVING

Plate area:	Force range:	Frequency range:
0.35 to 0.5 sq m	75 to 100 kN/sq m	75 to 100 Hz

Sole plate to be in neoprene.

565 COMPACTING AND JOINTING

- Thoroughly compact blocks/pavers with vibrating plate compactor as laying proceeds but after infilling at edges. Apply the same compacting effort over the whole surface.
- Do not compact within 1 m of the working face.
- Do not leave uncompacted areas of paving at the end of working periods, except within 1 metre of unrestrained edges.
- Check paving after compacting first few metres, then at frequent intervals to ensure that surface levels are as specified; if they are not, lift blocks/pavers and relay.

- Brush sand into joints, revibrate surface and repeat as required to completely fill joints.
- Avoid damaging kerbs and adjacent work during vibration. Do not begin vibration until kerbs have matured

570 LEVELS OF PAVING

Permissible deviation from specified levels to be +/- 6 mm generally. Paving at drainage outlets to be set 6 mm above outlet.

575 REGULARITY

- Sudden irregularities not permitted.
- Where appropriate in relation to the geometry of the surface, the variation in gap under a 3 m straight edge placed anywhere on the surface to be not more than 10 mm
- The difference in level between adjacent blocks/pavers to be not more than 2 mm.

580 REMEDIAL WORK

During the Contract or Defects Liability Period:
Any areas of paving which settle must be relaid as specified.
Where early trafficking leads to settlement of the jointing sand, refill the joints as specified.

590 AFTER COMPLETION OF PAVING

Do not use vacuum cleaning machines.
Spread a thin (12 mm) layer of jointing sand over the paving.

INSTALLATIONS

610 INSTALLATION OF FENCING

Set out and erect fencing:

- In straight lines or smoothly flowing curves as shown on drawings,
- With tops of posts following profile of the ground,
- With posts set rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
- With correct fastenings and all components securely fixed.

620 SETTING POSTS IN CONCRETE

- Mix: To BS 5328, Designated mix not less than GEN 3 or Standard mix not less than ST3 (alternative mix for small quantities: 50 kg Portland cement, class 42.5, to 120 kg fine aggregate to 200 kg 20 mm nominal maximum size coarse aggregate, medium workability). Do not use admixtures.
- Excavate holes neatly and with vertical sides.
- Position post/strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.
- Holes not completely filled with concrete to be backfilled with excavated material, well rammed and consolidated.

680 DAMAGE TO GALVANISED SURFACES

Touch up minor damage, including on fastenings and fittings, using low melting point zinc alloy repair rods or powders made for this purpose or at least two coats of zinc-rich paint to BS 4652. Apply sufficient material to provide a zinc coating at least equal in thickness to the original layer.

VINCENT+GORBING

Z10 Purpose Made Joinery

To be read with Preliminaries, general conditions and Specification A81

110 FABRICATION

- Standard: To BS 1186-2.
- Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
  - Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
- Joints: Tight and close fitting.
- Assembled components: Rigid. Free from distortion.
- Screws: Provide pilot holes.
  - Screws of 8 gauge (4 mm diameter) or more and screws into hardwood: Provide clearance holes.
  - Countersink screws: Heads sunk at least 2 mm below surfaces visible in completed work.
- Adhesives: Compatible with wood preservatives applied and end uses of timber.

120 CROSS SECTION DIMENSIONS OF TIMBER

- General: Dimensions on drawings are finished sizes.
- Maximum permitted deviations from finished sizes:
  - Softwood sections: To BS EN 1313-1:-
    Clause 6 for sawn sections.
  - Hardwood sections: To BS EN 1313-2:-
    Clause 6 for sawn sections.
    Clause NA.3 for further processed sections.

130 PRESERVATIVE TREATED WOOD

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

140 MOISTURE CONTENT

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

210 LAMINATED PLASTICS VENEERED BOARDS/ PANELS

- Fabrication: To British Laminated Plastics Fabricators Association Ltd (BLF) fabricating standards.
- Balancing veneer: From decorative veneer manufacturer and of similar composition. Applied to reverse side of core material.
- Finished components: Free from defects, including bow, twist, scratches, chipping, cracks, pimpling, indentations, glue marks, staining and variations in colour and pattern.
- Joints visible in completed work: Tight butted, true and flush.

220 WOOD VENEERED BOARDS/ PANELS

- Core material and veneers: Conditioned before bonding.
- Setting out: Veneer features and grain pattern aligned regularly and symmetrically unless instructed otherwise.
- Balancing veneer: Applied to reverse side of core material.
  - Moisture and temperature movement characteristics: As facing veneer.
- Veneer edges: Tight butted and flush, with no gaps.
- Tolerance of veneer thickness (maximum): ± 0.5 mm.

- Finished components: Free from defects, including bow, twist, scratches, chipping, splits, blebs, indentations, glue marks and staining.
- Surface finish: Fine, smooth, free from sanding marks.

250 FINISHING

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

VINCENT+GORBING

Z11 Purpose Made Metalwork

To be read with Preliminaries, general conditions and Specification A81

310 MATERIALS GENERALLY

- Grades of metals, section dimensions and properties: To appropriate British Standards. When not specified, select grades and sections appropriate for the purpose.
- Prefinished metal: May be used if methods of fabrication do not damage or alter appearance of finish, and finish is adequately protected.
- 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

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

330 STEEL PLATE, SHEET AND STRIP

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

340 HOT ROLLED STEEL PLATE, SHEET AND STRIP

- Flat products, high yield strength for cold forming: To BS EN 10149-1, -2 and -3.
- Carbon steel sheet and strip for cold forming: To BS EN 10111.
- 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

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

360 COATED STEEL FLAT PRODUCTS

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

370 STEEL STRUCTURAL HOLLOW SECTIONS (SHS)

- Non alloy and fine grain steels, hot finished: To BS EN 10210-1 and -2.
- Non-alloy and fine grain steels, cold formed welded: To BS EN 10219-2.
- Weather resistant steels, hot finished: To BS 7668.

380 OTHER STEEL SECTIONS

- Equal flange tees: To BS EN 10055.
- Equal and unequal angles: To BS EN 10056-1 and -2.
- Wire, carbon steel for general engineering purposes: To BS 1052.
- Wire and wire products, general: To BS EN 10218-2.
- Tubes:
  - Seamless circular: To BS EN 10297-1.
  - Seamless cold drawn: To BS EN 10305-1.
  - Welded and cold sized square and rectangular: To BS EN 10305-5.

  - Welded circular: To BS EN 10296-1.
  - Welded cold drawn: To BS EN 10305-2.
  - Welded cold sized: To BS EN 10305-3.

400 STAINLESS STEEL PRODUCTS

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

410 ALUMINIUM ALLOY PRODUCTS

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

420 COPPER ALLOY PRODUCTS

- Sheet, strip, plate and circles for general purposes: To BS EN 1652.
- Sheet and strip for building purposes: To BS EN 1172.
- Rods: To BS EN 12163.
- Profiles and rectangular bars: To BS EN 12167.
- Wire: To BS EN 12166.
- Tubes: To BS EN 12449.

FABRICATION

515 FABRICATION GENERALLY

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

520 COLD FORMED WORK

- Profiles: Accurate, with straight arrises.

525 ADHESIVE BONDING

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

527 WELDING

- Welding procedures:
  - Method and standard: TBA.
  - Welding Procedure Specification (WPS): TBA.
- Preparation:
  - Joint preparation: Clean thoroughly.
  - Surfaces of materials that will be self-finished and visible in the completed work: protect from weld splatter.
- Jointing:

  - Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks.
  - Dissimilar metals: TBA.
  - Strength requirements: Welds to achieve design loads.
  - Heat straightening: To be included.
  - Complex assemblies: Agree priority for welding members to minimize distortion caused by subsequent welds.
  - Tack welds: Use only for temporary attachment.
  - Jigs: Provide to support and restrain members during welding.
  - Filler plates: TBA.
  - Lap joints: Minimum 5 x metal thickness or 25 mm, whichever is greater.
  - Weld terminations: Clean and sound.

530 STAINLESS STEEL FABRICATION

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

555 BRAZING

- Standard: To BS EN 14324.
- Testing:
  - Destructive testing: To BS EN 12797.
  - Nondestructive testing: To BS EN 12799.

610 TESTING

- Testing standard: TBA
- Welding records and test results: Submit.

FINISHING

710 FINISHING WELDED AND BRAZED JOINTS VISIBLE IN COMPLETE WORK

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

745 PREPARATION FOR APPLICATION OF COATINGS

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

750 LIQUID ORGANIC COATING FOR ALUMINIUM ALLOY COMPONENTS

- Standard: To BS 4842.

760 ZINC AND CADMIUM PLATING OF IRON AND STEEL SURFACES

- Zinc plating: To BS EN ISO 2081.
- Cadmium plating: To BS EN ISO 2082.

770 CHROMIUM PLATING

- Standard: To BS EN ISO 1456.

780 GALVANIZING

- Standard: To BS EN ISO 1461.
- Preparation:

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

790 VITREOUS ENAMELLING

- Standard: To BS EN ISO 28722.
- Substrate metal: Steel to BS EN 10209.

COMPLETION

910 DOCUMENTATION

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

920 COMPLETION

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

VINCENT+GORBING

Z12 Preservative / Fire Retardant Treatment

To be read with Preliminaries, general conditions and Specification A81

110 TREATMENT APPLICATION

- Timing: After cutting and machining timber, and before assembling components.
- Processor: Licensed by manufacturer of specified treatment solution.
- Certification: For each batch of timber provide a certificate of assurance that treatment has been carried out as specified.

120 COMMODITY SPECIFICATIONS

- Standard: Current edition of the Wood Protection Association (WPA) publication 'Industrial wood preservation specification and practice'.

130 PRESERVATIVE TREATMENT SOLUTION STRENGTHS/ TREATMENT CYCLES

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

140 COPPER-ORGANIC PRESERVATIVE TREATMENT

- Solution:
  - Manufacturer and reference: To be agreed.
  - Colour: To be agreed.
  - Application: High pressure impregnation.
- Moisture content of wood:
  - At time of treatment: Not more than 28%.
  - After treatment: Timber to be surface dry before using.

150 WATER-BASED ORGANIC PRESERVATIVE TREATMENT

- Solution:
  - Manufacturer and reference: To be agreed.
  - Application: High pressure impregnation.
- Moisture content of wood:
  - At time of treatment: Not more than 28%.
  - After treatment: Timber to be surface dry before use.

160 ORGANIC SOLVENT PRESERVATIVE TREATMENT

- Solution:
  - Manufacturer and reference: To be agreed.
  - Application: Double vacuum + low pressure impregnation, or immersion.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be surface dry before use.

165 WATER-BASED MICROEMULSION PRESERVATIVE TREATMENT

- Solution:
  - Manufacturer and reference: To be agreed.
  - Application: Double vacuum + low pressure impregnation.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be surface dry before use.

167 BORON COMPOUND PRESERVATIVE TREATMENT

- Solution:
  - Manufacturer and reference: To be agreed.
  - Application: High pressure impregnation.
- Moisture content of wood:

  - At time of treatment: Not more than 28%.
  - After treatment: Timber to be surface dry before using.

180 RECYCLED TIMBER CONTAINING CREOSOTE OR CHROMIUM/ ARSENIC BASED PRESERVATIVE

- Usage: _____.

210 FIRE RETARDANT TREATMENT

- Solution type: TBA.
  - Manufacturer and reference: To be agreed.
  - Application: Vacuum + pressure impregnation.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.
  - After treatment: Timber to be redried slowly at temperatures not exceeding 65°C to minimize distortion and degradation.

220 LEACH RESISTANT FIRE RETARDANT TREATMENT

- Solution type: LR
  - Manufacturer and reference: To be agreed.
  - Application: Vacuum + pressure impregnation.
- Moisture content of wood:
  - At time of treatment: As specified for the timber/ component at time of fixing.

610 MAKING GOOD TO PRESERVATIVE TREATMENT ON-SITE

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

620 MAKING GOOD TO FIRE RETARDANT TREATMENT ON-SITE

- Fire retardant: Compatible with off-site treatment.
- Application: In accordance with fire retardant manufacturer's recommendations.

VINCENT+GORBING

Z20 Fixings and Adhesives

To be read with Preliminaries, general conditions and Specification A81

PRODUCTS

310 FASTENERS GENERALLY

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

320 PACKINGS

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

330 NAILED TIMBER FASTENERS

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

340 MASONRY FIXINGS

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

350 PLUGS

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

360 ANCHORS

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

370 OD SCREWS

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

380 MISCELLANEOUS SCREWS

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

390 ADHESIVES GENERALLY

- Standards:
  - Hot-setting phenolic and aminoplastic: To BS 1203.
  - Thermosetting wood adhesives: To BS EN 12765.

  - Thermoplastic adhesives: To BS EN 204.

410 POWDER ACTUATED FIXING SYSTEMS

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

EXECUTION

610 FIXING GENERALLY

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

620 FIXING THROUGH FINISHES

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

630 FIXING PACKINGS

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

640 FIXING CRAMPS

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

650 NAILED TIMBER FIXING

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

660 SCREW FIXING

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

670 PELLETED COUNTERSUNK SCREW FIXING

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

680 PLUGGED COUNTERSUNK SCREW FIXING

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

690 USING POWDER ACTUATED FIXING SYSTEMS

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

700 APPLYING ADHESIVES

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

VINCENT+GORBING

Z21 Mortars

To be read with Preliminaries, general conditions and Specification A81

CEMENT GAUGED MORTARS

110 CEMENT GAUGED MORTAR MIXES

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

120 SAND FOR SITE MADE CEMENT GAUGED MASONRY MORTARS

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

131 READY-MIXED LIME: SAND FOR CEMENT GAUGED MASONRY MORTARS

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

135 SITE MADE LIME: SAND FOR CEMENT GAUGED MASONRY MORTARS

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

160 CEMENTS FOR MORTARS

- Cement: To BS EN 197-1 and CE marked.
  - Types: Portland cement, CEM I.
    Portland limestone cement, CEM ll/A-L or CEM ll/A-LL.
    Portland slag cement, CEM II/B-S.
    Portland fly ash cement, CEM II/B-V.
  - Strength class: 32.5, 42.5 or 52.5.
- White cement: To BS EN 197-1 and CE marked.
  - Type: Portland cement, CEM I.
  - Strength class: 52.5.
- Sulfate resisting Portland cement:
  - Type: To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.
    To BS EN 197-1 fly ash cement, CEM ll/B-V and CE marked.
  - Strength class: 32.5, 42.5 or 52.5.
- Masonry cement: To BS EN 413-1 and CE marked.
  - Class: MC 12.5.

180 ADMIXTURES FOR SITE MADE CEMENT GAUGED MORTARS

- Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
- Other admixtures: Submit proposals.

- Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

190 RETARDED READY TO USE CEMENT GAUGED MORTAR

- Standard: To BS EN 998-2.
- Lime for cement:lime:sand mortars: Nonhydraulic to BS EN 459-1.
  - Type: CL 90S.
- Pigments for coloured mortars: To BS EN 12878.
- Time and temperature limitations: Use within limits prescribed by mortar manufacturer.
  - Retempering: Restore workability with water only within prescribed time limits.

200 STORAGE OF CEMENT GAUGED MORTAR MATERIALS

- Sands and aggregates: Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
- Factory made ready-mixed lime:sand/ ready to use retarded mortars: Keep in covered containers to prevent drying out or wetting.
- Bagged cement/ hydrated lime: Store off the ground in dry conditions.

210 MAKING CEMENT GAUGED MORTARS

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

LIME: SAND MORTARS

310 LIME: SAND MORTAR MIXES

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

320 SAND FOR LIME: SAND MASONRY MORTARS

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

330 READY PREPARED LIME PUTTY

- Type: Slaked directly from CL 90 quicklime to BS 890, using an excess of water.
  - Maturation: In pits/ containers that allow excess water to drain away.
  - Density of matured lime putty: 1.3 - 1.4 kg/litre.
- Maturation period before use (minimum): To manufacturer's recommendations.

335 READY PREPARED LIME PUTTY

- Manufacturer and reference: The Lime Centre, ref TBA.
- Maturation period before use (minimum): To manufacturer's recommendations.

340 POZZOLANIC ADDITIVES FOR NONHYDRAULIC LIME: SAND MORTARS

  - Manufacturer and reference: The Lime Centre, ref TBA.
- Mixing: Mix thoroughly into mortar during knocking up.

345 ADMIXTURES FOR HYDRAULIC LIME: SAND MORTARS

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

350 STORAGE OF LIME: SAND MORTAR MATERIALS

- Sands and aggregates: Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
- Ready prepared nonhydraulic lime putty: Prevent drying out and protect from frost.

- Nonhydraulic lime:sand mortar: Store on clean bases or in clean containers that allow free drainage. Prevent drying out or wetting and protect from frost.
- Bagged hydrated hydraulic lime: Store off the ground in dry conditions.

360 MAKING LIME: SAND MORTARS GENERALLY

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

370 SITE PREPARED NONHYDRAULIC LIME: SAND MORTARS

- Mixing: Mix materials thoroughly by compressing, beating and chopping. Do not add water.
  - Equipment: Roller pan mixer or submit proposals.
- Maturation period before use (maximum): To manufacturer's recommendations.

380 READY TO USE NONHYDRAULIC LIME: SAND MORTARS

- Manufacturer and reference: The Lime Centre, ref TBA.
- Materials: Select from:
  - Lime putty slaked directly from quicklime to BS EN 459-1 and mixed thoroughly with sand.
  - Quicklime to BS EN 459-1 slaked directly with sand.
- Maturation period before use (maximum): To manufacturer's recommendations.

390 KNOCKING UP NONHYDRAULIC LIME: SAND MORTARS

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

400 MAKING HYDRAULIC LIME: SAND MORTARS

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

VINCENT+GORBING

Z22 Sealants

To be read with Preliminaries, general conditions and Specification A81

PRODUCTS

310 JOINTS GENERALLY

- Primer, backing strip, bond breaker: Types recommended by sealant manufacturer.

EXECUTION

610 SUITABILITY OF JOINTS

- Presealing checks:
  - Joint dimensions: Within limits specified for the sealant.
  - Substrate quality: Surfaces regular, undamaged and stable.
- Joints not fit to receive sealant: Joints to heritage fabric unless specifically agreed.

620 PREPARING JOINTS

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

630 APPLYING SEALANTS

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